

# Seeking the Greatest Good

THE CONSERVATION LEGACY OF GIFFORD PINCHOT



## Documentary Curriculum Guide



PINCHOT  
INSTITUTE  
FOR CONSERVATION



Changing Lives Through Advances in Conservation

[pinchot.org](http://pinchot.org)

# Seeking the Greatest Good

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# Seeking the Greatest Good

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## Unit Rationale

The purpose of this unit is to incorporate the film *Seeking the Greatest Good* into classroom curriculum and bring about an awareness of the current state of our environmental resources and the impact of human development on future conservation and preservation efforts.

The film is an excellent resource for teachers to trace, with their students, the history of the conservation movement, the characteristics of Progressive Era reformers, and the centuries old (and ongoing) debate about how human beings impact our environment, what we need to do to balance economic and environmental needs, and what role governments should play in such a balance.

Similarly, this guide is designed to stimulate thought, debate and discussion among students and their teachers on how to balance the needs of a growing population with the need to preserve our environment and conserve our resources. This guide is also meant to encourage problem solving among students in addressing some of the current and potential concerns about our supplies of fresh air and clean drinking water, as well as the management of resources abroad that drastically affect the planet as a whole.

The activities and themes in this guide address all manner of content areas and can be utilized to supplement an already existing unit, or as a foundation for a completely new exploration into the key role that Pennsylvania has and is playing in the protection and regulation of a limited set of natural resources. Assessment suggestions, primary source material and other ideas can be incorporated however the classroom teacher sees fit.

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## **CONTENT AREAS**

### **History**

- Gilded Age
- Industrial Revolution and its impact on landscape and society
- The Progressives

### **Civics**

- Government intervention/legislation
- Constitutionality/Role of Government
- Role of Lobbyists
- Government funded reform?
- Call to action – what do we do NOW for LATER?
- The Global Community
- Service Learning opportunities

### **Biography**

- Gifford Pinchot
- Ansel Adams
- Theodore Roosevelt
- John Muir
- The Progressives

### **Art**

- Architecture
- Photography
- Painting

### **Science**

- Conservation
- Biology
- Ecology

### **Literature**

- Ralph Waldo Emerson
- Henry David Thoreau
- Dr. Seuss



## **PDE Academic Standards**

*The standards listed below are not an exhausted list of all that is contained in this unit, nor does the fact that they are listed guarantee they will always apply. Standards addressed depend on how the lessons are adapted and the contextual information addressed in class.*

### **Environment and Ecology**

#### **4.1 Watersheds and Wetlands**

4.1.7.A: Describe the relationships between biotic and abiotic components of an ecosystem; Compare and contrast different biomes and their characteristics; Describe symbiotic/prey relationships.

4.1.7.E: Identify factors that contribute to change in natural and human-made systems.

Explain the processes of primary and secondary succession in a given ecosystem

4.1.10.A: Examine the effects of limiting factors on population dynamics; Analyze possible causes of population fluctuations; Explain the concept of carrying capacity in an ecosystem; Describe how organisms become classified as threatened or endangered; Describe how limiting factors cause organisms to become extinct.

4.1.10.B: Explain the consequences of interruption natural cycles

4.1.10.E: Explain how humans influence the pattern of natural changes in ecosystems over time.

4.1.12.B: Research solutions to problems caused by interrupting natural cycles

4.1.12.E: Research solutions addressing human impacts on ecosystems over time. Analyze how technologies such as modern mining, harvesting, and transportation equipment affect the use of our natural resources.

#### **4.2 Renewable and Nonrenewable Resources**

4.2.7.A: Explain how water enters, moves through, and leaves a watershed.

Explain the concept of stream order.

Describe factors that affect the flow and water quality within a watershed.

4.2.8.A: Describe factors that affect the quality of ground and surface waters.

4.2.10.A: Examine the interactions between abiotic and biotic factors within a watershed.

Describe how topography influences the flows of water in a watershed.

Describe how vegetation affects runoff.

Investigate and analyze the effects of land use on the quality of water in a watershed.

4.2.12.A: Examine environmental laws related to land use management and its impact on the water quality and flow within a watershed.

#### **4.3 Environmental Health**

4.3.7.A: Explain how products are derived from natural resources.

4.3.10.A: Evaluate the factors affecting the use of natural resources; Evaluate the effect of consumer demands on the use of natural resources; Analyze how technologies such as modern mining, harvesting, and transportation equipment affect the use of our natural resources.

4.3.10.B: Analyze how humans manage and distribute natural resources; Describe the use of a natural resource with an emphasis on the environmental consequences of extracting, processing, transporting, using, and disposing of it; Analyze the impact of technology on the management, distribution, and disposal of natural resource

4.3.12.A: Evaluate the advantages and disadvantages of using renewable and nonrenewable resources.

Explain how consumption rate affects the sustainability of resources use.

Evaluate the advantages and disadvantages of using renewable resources such as solar power, wind power, and biofuels.

#### **4.5 Integrated Pest Management**

4.5.6.A: Examine how historical events have shaped the sustainable use of natural resources; Describe how the development of civilization affects the use of natural resources; Analyze the impact of technology on the management, distribution, and disposal of natural resources.

4.5.7.B: Describe the impact of pests in different geographic locations and techniques used to manage those pests.

Identify introduced species that are classified as pests in their new environments.

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Research integrated pest management.

4.5.7.D: Explain how biological diversity relates to the viability of ecosystems.

Compare and contrast monoculture with diverse ecosystems

Explain how biological diversity relates to the ability of an ecosystem to adapt to change

4.5.10.B: Describe the impact of integrated pest management practices on the environment.

4.5.12.B: Evaluate pest management using methods such as cost/benefit analysis, cumulative effects analysis, environmental impact analysis, and risk analysis.

## **4.8 Humans and the Environment**

4.8.7-12 A Describe/Analyze/Explain how the development/needs/technology relates to the environment and sustainability of natural resources

4.8.7-12 B Explain/Analyze how people use natural resources and the relationship between the use of natural resources /technology and sustaining our society/resource sustainability

4.8.7-12 C Explain/Analyze how human activities/pollution affect regional and national environments/changes in ecosystems and pollution

4.8.5-10 Explain the importance of maintaining natural resources and how the concept of supply and demand affects the environment.

## **4.9 Environmental Laws and Regulations**

4.9.7-10A Explain the role of environmental laws and regulations and why they are developed and enacted.

## **Reading, Writing, Speaking and Listening**

### **1.1.8/11 Learning to read independently**

C. Use knowledge of phonics/root words/words from literary works, as well as context clues/ glossaries to decode and understand new words during reading. Use these words accurately in writing/speaking

D. Identify basic ideas and facts/describe, evaluate and synthesize ideas in text using specific strategies

E. Expand/establish a reading vocabulary by identifying and correctly using idioms and words with literal and figurative meanings/or words acquired through the study of their relationships to other words. Use a dictionary or related reference.

F. Understand the meaning of and apply key vocabulary across the various subject areas.

G. Demonstrate after reading understanding and interpretation of both fiction and nonfiction text, including public documents.

H. Demonstrate fluency and comprehension in reading; Read a variety of genres, types of text

### **1.2.8/11 Reading Critically in All Content Areas**

A Read and understand essential content of informational texts and documents in all academic areas.

B. Use and understand a variety of media and evaluate the quality of material produced.

### **1.4.8 Types of Writing**

A/B Write multi-paragraph informational pieces/ Write persuasive pieces.

### **1.5.8 Quality of Writing**

A Write with a sharp, distinct focus.

B Write with controlled and/or subtle organization.

### **1.6.8/11 Listening and Speaking**

A Listen to others.

C Speak using skills appropriate to formal speech situations.

D Contribute to discussions.

F. Use media for learning purposes.

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## Mathematics

### 2.1.8 Numbers, Number Systems and Number Relationships

A. Represent and use numbers in equivalent forms (percents)

## Civics and Government

### 5.1.9 Principles and Documents of Government

J. Explain how law protects individual rights and the common good.

### 5.2.6/9/12 Rights and Responsibilities of Citizenship

C. Explain/Analyze skills used to resolve conflicts in society and government/interpret the cause of conflicts.

### 5.3.6/9/12 How Government Works

C. Explain how government actions affect citizens' daily lives.

G. Evaluate how the government protects or curtails individual rights and analyze the impact of supporting or opposing those rights.

H. Identify/Analyze how interest groups provide opportunities for citizens to participate in the political process/evaluate the impact of interest groups on the political process.

J. Analyze the importance of freedom of the press/Evaluate the role of media in political life in the United States and explain the role of the media in setting the public agenda.

## Economics

### 6.1.9/12 Economic Systems

A. Describe historical examples of expansion, recession and depression in the United States/ Evaluate the strengths and weaknesses of traditional, command and market economies.

### 6.2.6/9/12 Markets and the Systems of Government

H. Analyze/Evaluate the economic roles of governments in market economies. (Economic growth, stability)

### 6.3.9/12 Scarcity and Choice

A. Describe ways to deal with scarcity.

B Evaluate the economic reasoning behind a choice.

C. Explain how resources can be used in different ways to produce different goods and services

F. Explain how incentives affect the behaviors of workers, savers, consumers and producers

### 6.4.6/9/12 Economic Interdependence

A. Explain/analyze why specialization may lead to increased production and consumption/may increase the standard of living.

### 6.5.9/12 Work and Earnings

E. Define wealth and describe its distribution within and among the political divisions of the United States

## Geography

### 7.1.6/9/12 Basic Geographic Literacy

B. Describe/Explain and locate places and regions/Analyze the location of places and regions.

### 7.3.6/9/12 The Human Characteristics of Places and Regions

A. Describe/Explain the human characteristics/Analyze the significance of human activity of places and regions by their population characteristics.

B. Describe/Explain the human characteristics/Analyze the significance of human activity of places and regions by their cultural characteristics.

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D. Describe/Explain the human characteristics/Analyze the significance of human activity in shaping of places and regions by their economic activities.

## **7.4.6/9/12 The Interactions Between People and Places**

- A. Describe/Explain/Analyze the impacts of physical systems on people.
- B. Explain the impacts of people on physical systems.

## **History**

### **8.1.6 Historical Analysis and Skills Development**

- A. Understand chronological thinking and distinguish between past, present and future time.
- B. Explain and analyze historical sources.
- C. Explain the fundamentals of historical interpretation.
- D. Describe and explain historical research.

### **8.1.9/12 Historical Analysis and Skills Development**

- A. Analyze/Evaluate chronological thinking.
- B. Analyze/ interpret/synthesize historical sources.
- C. Analyze/Evaluate the fundamentals of historical interpretation.
- D. Analyze/ interpret/ Synthesize historical research

### **8.2.6/9/12 Pennsylvania History**

- A. Identify and Explain/Analyze/Evaluate political and cultural contributions to PA history from 1787 - 1914.
- B. Identify and analyze/evaluate primary docs, artifacts, historic sites important in PA history 1787-1914.
- C. Identify and explain/analyze/evaluate how continuity/change have influenced PA history from 1787-1914.
- D. Identify and explain/analyze/evaluate conflict & cooperation among social groups & organizations in PA history 1787-1914. (Domestic Instability; Ethnic and Racial Relations; Labor Relations; Immigration)

### **8.3.6/9/12 United States History**

- A. Identify and Explain/analyze/Evaluate the political/cultural contributions to US history 1787-1914.
- B. Identify and explain/analyze/evaluate primary documents, material artifacts and historic sites important in
- C. Analyze how continuity and change has influenced United States history from 1787 to 1914.
- D. Identify and analyze conflict and cooperation among social groups and orgs in US history 1787-1914.

### **8.4.6/9/12 World History**

- A. Identify and Explain/Analyze/Evaluate the significance of individuals and groups who made major political and cultural contributions to world history since 1450.
- B Identify, explain important documents, material artifacts and historic sites in world history.

## **Arts and Humanities**

### **9.2.5/8 Historical and Cultural Contexts**

- A Explain the historical, cultural and social context of an individual work in the arts.
- B. Relate works in the arts chronologically to historical events
- D Analyze a work of art from its historical and cultural perspective.
- F Know and apply appropriate vocabulary used between social studies and the arts and humanities.
- I Identify, explain and analyze philosophical beliefs as they relate to works in the arts

### **9.3.8/12 Critical Response**

- C Identify and classify styles, forms, types and genre within art forms/Apply systems of classification for interpreting works in the arts and forming a critical response.

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## Overarching (Key) Questions

### Prior to Viewing:

What is an ecosystem?

What is the difference between a biotic and abiotic component of an ecosystem? How do they interact?

What factors influence an ecosystem?

### Chapter I

What happens to a community when they overuse their resources?

How is it that the problem of deforestation was actually too many resources rather than too few as described in the film?

What is the difference between a renewable and non renewable resource? How do management practices differ for each?

How do human activities influence ecosystems?

Describe the nation's attitude toward conservation in the years before Pinchot and the years after Pinchot.

How do we balance the needs of a population with the needs of the planet? How does population growth impact your answer?

Similarly, how do we balance then needs of the environment with the needs of the economy? Is one more important than the other or are they equally important?

Explain how the danger of overuse really came from an overabundance of resources rather than the scarcity of them? (Describe the concept of inexhaustibility)

### Chapter II

Discuss the various philosophies of man's relationship with nature. How do they conflict? Have they changed with time? Where do you fit? Are you a "conqueror" or a "steward"? Are you a conservationist or a preservationist? Should the land be used, protected or both?

### Chapter III

Define the phrase "Application of common sense to common problems for the common good"

Describe the unique partnership between TR and Pinchot. Explain how such a partnership provided the necessary foundation of government intervention in conservation.

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Does the government have a right or a responsibility to govern land use? Should/can the government constitutionally legislate conservation or preservation?

How did the Gilded Age ironically bring about the Progressive Era both in terms of people and attitude?

## **Chapter IV**

Which is the “better” approach - conservation, preservation, or private enterprise? Is there even a “better”?

Compare and contrast the terms “preservation” and “conservation”. Is one more feasible or necessary than the other?

## **Chapter V**

Should what humans have done through industrialization be considered “progress” or “adaptation” or something else? Explain

Has the definition of “practical conservation” changed? If so, how? How does practical conservation fit within the context of the phrase “The greatest good for the greatest number in the long run”?

What are the major ecosystem types in your region?

What are the major ecological factors that influence local ecosystems in your region?

## **Chapter VI**

How did the attitudes of conservationists contrast with the attitudes of railroad and mine owners and other special interests of the time? How different or similar are these attitudes and interests in today’s conversations?

How do forests protect watersheds and why is it important to protect watersheds?

What happens when you force an ecosystem to do something other than what it was intended by nature?

Why are healthy ecosystems important for society?

## **Cumulative Questions**

How do we maintain sustainability in a world of materialism and consumption?

Will we be able to live within our limits and safeguard the natural world in the decades ahead? Do human beings even have the ability to think bigger than themselves?

Are humans part of, or separate from, ecosystems?

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<b>I Life and Legacy of Gifford Pinchot</b>	<b>7:42</b>
<b><u>Addresses:</u></b>	
Consistent Issues regarding sustainability and the practical use of natural resources	
The Historical Context of Conservation	
The Gilded Age	
<b>II Influences and The Birth of American Forestry</b>	<b>13:45</b>
<b><u>Addresses:</u></b>	
Ideas of Land stewardship, Climate and landscape change, Consequences of deforestation	
Inspirations of Gifford Pinchot; Establishing a Forestry Program	
The Concept of The National Forest and Sustainable use of national resources	
<b>III The Progressives and the Conservation Movement</b>	<b>6:36</b>
<b><u>Addresses:</u></b>	
Progressives: Privilege and purpose	
The Birth of the Conservation Movement	
The Pinchot – TR Connection	
The National Forests: Sustainable Use and Management	
Denver Public Lands Convention	
<b>IV Conservation vs Preservation; Public Service and Social Justice</b>	<b>6:28</b>
<b><u>Addresses</u></b>	
Preservation and the National Parks	
Conservation vs Preservation	
John Muir and the Hetch Hetchy Valley Controversy	
The Taft Administration and the resilience of the Forest Service	
Pinchot as Public Servant and advocate	
<b>V The Modern Conservation Legacy: Practical Conservation</b>	<b>8:34</b>
<b><u>Addresses</u></b>	
The Modern Conservation Era	
Issues Today	
Grey Towers National Historic Site and the Milford Experimental Forest	
<b>VI Practical Conservation II The Air we breathe and the water we drink</b>	<b>10:00</b>
<b><u>Addresses</u></b>	
Over the long term: Conservation Challenges; Environmentally, Economically, Socially	
Pinchot Institute for Environmental Studies	
Common Waters Partnership	
Forest health-Human Health Initiative	
Ecosystem Management and the Ecomodera Project	
Effect of Deforestation	

**Pre - Lesson:** Where it all begins: Forest Ecology

**Grade level:** 7-10

**Time:** One 45m class

**\*\*This lesson is designed to be done prior to students viewing the film *Seeking the Greatest Good***

**Cross Curricular/Cross Lessons:** Can be used with Lesson 1A *The Gilded Age*; Lesson 1B *Ecological Consequences*

**PDE Academic Standards:** 1.6.8/11A,C,D; 4.1.7.A; 4.1.10.A

**Objectives:**

--Students will understand the relationship between biotic and abiotic components of an ecosystem by examining concrete examples of both and sorting them into categories

--Students will understand the main factors driving forest ecosystems in the northeastern U.S. by researching the effects of their materials on the environment

**Materials:**

*Seeking the Greatest Good*

Forest ecology PowerPoint presentation (found at [wvia.org](http://wvia.org))

**Anticipatory Set:** (2min) “Moment of Zen” Discuss the quote as it relates to both students and the topic.

“*Lasting peace can be based only on a genuine understanding of the relationship between people and planet.*”

-Jonathon Porritt, *Seeing Green*

**Procedure:**

This activity will give students an introduction to Forest Ecology in preparation for watching *Seeking the Greatest Good*. Ask each student to bring one item that they find in nature to class. For example, a rock, a bottle of water from a local stream, a leaf, a feather, etc. As you use the PowerPoint presentation to discuss forest ecology with the students, use the materials they brought as examples of abiotic and biotic components of an ecosystem. Discuss how the various items are related: for example, the rock will eventually degrade into soil that provides minerals for plants. Plants (leaf) provide food, oxygen, and habitat for birds (feather). Birds eat pests that harm plants, and so on.

Have the students sort their items into abiotic or biotic categories. Assign students the task of creating presentations, posters or graphs/charts listing other examples that they did not have with them as well as the uses and characteristics of biotic and abiotic objects.

**Follow-up activity/Reinforcement:** Ask students to write short essays describing the significance of their item to an ecosystem. How does it impact other parts of the ecosystem and how do those other impacts affect it?

For homework, have the students bring in additional objects from nature that fit these categories or have them pick one object and research what its role is in nature, bringing in examples of it and creating a poster or ppt. presentation. Where did you find it? What is its purpose? (This may allow them greater awareness of their surroundings now that they know what they are looking at)

**Closure/Summary:** (3min)

Answer the Key Questions:

What is an ecosystem?

What is the difference between a biotic and abiotic component of an ecosystem? How do they interact?

What factors influence an ecosystem?

**\*\* Film Connection:** Whenever the students watch the film, have them list the biotic and abiotic elements they see or discussed in the film and how it relates to the forest ecosystem. **What will the effects be if it is removed or disturbed?**

**Evaluation:**

Students will be evaluated on the quality of their project/presentation/essay

*“A nation deprived of liberty may win it; A nation divided may reunite; but a nation whose national resources are destroyed must inevitably pay the penalty of poverty, degradation, and decay.....Conservation.....is the key to the future.”*

--President John F. Kennedy, quoting Gifford Pinchot, Grey Towers Dedication Speech

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## I Life and Legacy of Gifford Pinchot: “For the greatest good for the greatest number in the long run”

### A The Natural World

1. Consistent Issues: Sustainability and the Practical use of natural resources
  - Practical conservation
  - “Application to common sense to common problems for the common good”

### B As It Was: Historical Context of Conservation

- 1629 – First land regulation in America
- 1687 – PA William Penn 1 acre preserved for every one cleared
- Regulating or managed project 1840s
  - Hunting and fishing become a sport
- 1850s – NY Game Protection Association
  - Established users and uses, controversial

### C The Gilded Age

1. James and Mary Pinchot (retired) “Cut and Run”
2. Inspiration and Thoughtfulness “Concept of Enough”
  - Simsbury, CT, Grey Towers
    - Architecture/Inspiration
  - Hudson River School of Artists ASTHETIC – PRACTICAL
  - Gifford named after Sanford Gifford 8-11-1865
  - “Life of the Mind”
3. Attitudes – turn of the century:
  - Dynamic outlook, optimism, confidence, industrial growth, inventions, technology, transportation, communication – SF earthquake, Immigration, Titanic disaster, Wright Brothers, science, land rush, etc
4. Land Use
  - Government giveaways of land to mining, RR, Hardwood forests,
    - Timber and Stone Act of 1878: \$2.50/acre to RR companies
  - No policing of lands: Massive theft
  - Overgrazing

### Terms to Know or Revisit:

Spoils System	Survival of the Fittest	Social Darwinism	Exploitation
George Caitlin	Hudson River School	Henry David Thoreau	Ralph Waldo Emerson
Social Gospel	Manifest Destiny	Individualism	Initiative
Laissez-faire	Machine politics	Timber and Stone Act of 1878	

**Lesson 1A:** The Gilded Age

**Grade level:** 6-10

**Time Length:** One 45m class

**Cross Curricular/Cross Lessons:** Pre-Lesson: *Forest Ecology*; Lesson1B: *Ecological Consequences*; 3A: *Progressives*

**PDE Academic Standards:** 1.1.8/11; 1.6.8/11; 4.8.7/11; 6.3.9/12; 7.3.9-12; 8.1.6; 8.1.9/12; 8.3.6/9/12

**Objectives:**

--Students will list and discuss Industrialization and the Gilded Age and describe the conditions of that Era as they relate to the use of natural resources

--Students will examine local and regional towns and the effect of that era on their local community and relate those consequences to present day

**Materials:**

*Seeking the Greatest Good*

Milford/Williamsport/Scranton Power point (Pinchot1.ppt available at wvia.org)

Newspaper/Magazine/Journal articles related to the natural gas industry and/or Hydraulic Fracturing

*The Lorax* by Dr. Seuss: <http://www.youtube.com/watch?v=ZA4k2E0ZzTk>

**Anticipatory Set:** (2min) “Moment of Zen” Discuss the quote as it relates to both students and the topic.

“History repeats itself because nobody listens”

-Anonymous

**Procedure:**

--This lesson is to supplement a unit on the Gilded Age. It is assumed that the students are already familiar with this time period as well as the myriad of changes that were taking place in society during the Industrial Revolution. Do a quick review activity to connect what the students already know: (see materials/adaptations for lesson 1 from the *Extraordinary Journey*)

Make two columns in a prominent place – one for positive breakthroughs, one for negative consequences of Industrialization and the Gilded Age. Revisit the attitudes of the turn of the century. Ask the students to review some of the major events and breakthroughs of this time period and write them in a prominent place: Stress how *this was the world that James and Mary Pinchot experienced.*

--View Chapter I of the film *Seeking the Greatest Good*

--Compare photos of various areas from the pre industrial era, the industrial era and post industrial era. Discuss how the towns or landscapes changed in the photographs and explain what was going on in the country at the time.

--Examine the state of these and other towns places that experienced booms at the turn of the century (Williamsport, Scranton, Hazleton, Nanticoke, etc). What are they struggling with? What have they been doing to “turn things around” or have they? What would you suggest? Have students create a written comparison/topical paper on a local town for extra extension.

--Ask the students to find photos or newspaper clipping regarding hydraulic fracturing and natural gas exploration. Are these the same issues or are they different? What are the proponents and opponents of this type of natural resource use? Have the students include this information in their papers. (Some political cartoons can be found in polcar1.ppt at wvia.org)

**Extension:** Watch with your students the 1972 animated adaptation of Dr. Seuss’ *The Lorax* and discuss the following:

**How does Dr. Seuss make fun of the following:**

--The greed and “needs” of a consumer society

--Marketing

-- The glory of Industrialization and celebrated Industrialists

--Progress

**How is he more obviously critical of the following:**

--Garbage and pollution left behind

--The effect on wildlife

--The “out of sight, out of mind” mentality

--Criticism of the environmental movement

**How does this relate to the Gilded Age, even though it was created in 1972?**

**Closure/Summary:** (3min)

Key Questions

What happens to a community when they overuse or do not regulate the use of their resources?

How is it that the problem of deforestation was actually too many resources rather than too few as described tin the film?

How did the Pinchot’s ancestors (logging – cut and run) ironically make the fortune that allowed Gifford to become what he did. What was the effect?

**Evaluation:** Students will be evaluated on their responses during class discussions and the written assignment.

**Lesson 1B:** Ecological Changes and Consequences of Land Use **Grade level:** 7 – 12 **Time Length:** 2-3 class period

**Cross Curricular/Cross Lessons:** Pre-Lesson: *Forest Ecology*; Lesson 1A: *The Gilded Age*; 1D: *Consistent Issues*; Lesson 2C: *Stewardship, Consequences and New Ideas*; 5B/C: *Current Environmental Challenges*; 6A: *Sustaining Forests*; 6D: *That's a Wrap*; 6G: *What Might Have Been*

**PDE Academic Standards:** 4.5.6.A; 4.5.6.A; 4.1.10.B; 4.1.10.E; 4.3.10.B; 4.1.12.B; 4.1.7.E; 1.1.8/11; 1.2.8/11; 1.6.8/11; 6.3.9/12; 7.3.9/12; 7.4.9/12; 8.1.9/12; 8.2.9.12; 8.3.9/12

**Objectives:**

--Students will understand how land use has and is impacting ecosystems and use of natural resources.

--Students will understand the difference between renewable and non-renewable resources

--Students will understand how ecosystems change and that they are always changing

**Materials:**

*Seeking the Greatest Good*

Explore PA history: Pennsylvanians and their Environment: Chapter 1 and Chapter 2:

<http://explorepahistory.com/story.php?storyId=1-9-E&chapter=1>

<http://explorepahistory.com/story.php?storyId=1-9-E&chapter=2>

<http://explorepahistory.com/story.php?storyId=1-9-E&chapter=3>

Map of deforestation: [http://conservationreport.files.wordpress.com/2011/11/anim\\_area-of-virgin-forest-usa\\_.gif](http://conservationreport.files.wordpress.com/2011/11/anim_area-of-virgin-forest-usa_.gif)

Harvard Forest dioramas: <http://harvardforest.fas.harvard.edu/dioramas>

Gifford Pinchot's *Primer of Forestry Part II: Work in the Woods*, pages 38 -42.

<https://play.google.com/books/reader?id=f38menAlUyIC&printsec=frontcover&output=reader&authuser=0&hl=en&pg=GBS.PA21>

**Anticipatory Set:** (2min) "Moment of Zen" Discuss the quote as it relates to both students and the topic.

*"A Nation deprived of liberty may win it; A Nation divided may reunite; but a Nation whose national resources are destroyed must inevitably pay the penalty of poverty, degradation, and decay...Conservation...is the key to the future."*

-President John F. Kennedy, Grey Towers Dedication Speech

**Procedure:**

--Watch chapter one of *Seeking the Greatest Good*

--Explain the processes of forest succession to the class

--Break the students into groups, and have them read *Explore PA history*. Write the following questions on the board or hand them to the students to answer in groups:

What do you think were the environmental impacts of the land use of settlers?

-Deforestation, silt, wildlife, plant life, etc

Using what you learned about forest ecology, what do you think the ecological consequences were at the time?

--Ask the students in class, or for homework, to draw a picture of what they thought the area looked like before and after, using the descriptions in *Explore PA history* and have them describe the consequences. If feasible, ask students to create their own time lapse map and describe the impact on the ecosystem via the loss of these species.

--Have students read the selected pages in Gifford Pinchot's *Primer of Forestry Part II*. Then have students work in groups of 3-4 to answer the following questions:

-List 5 uses of wood -Is it bad to cut trees? Explain.

-How does "Conservation lumbering", more commonly called "sustainable forestry", differ from traditional lumbering?

-How does sustainable forestry ensure a future supply of trees?

**Advanced Extension (recommended for 11-12 grade elective)**

--Break students into 8 nearly equally-sized groups. Give each group images of two consecutive Harvard Forest Dioramas with the accompanying description. Ask them to read the description and analyze the images as a group. What is different between the two images? What caused the changes? Are the changes bad? Have groups present their findings to the class. Project the consecutive images for each group so that students can point out changes to their peers.

--If feasible, ask students to create their own time lapse map and list the impacted species and the impact on the ecosystem via the loss of these species.

**Closure/Summary:** (3min)

Answer the Key Question:

How do human activities influence ecosystems?

**Evaluation:**

Students will be evaluated on the quality of their responses and projects

**Lesson 1C:** The Historical Context of Conservation

**Grade level:** 6-8

**Time Length:** 1-2 class periods

**Cross Curricular/Cross Lessons:** 1A: *The Gilded Age*; 2C: *Consequences and New Ideas*; 3B: *Conservationists, Preservationists and Capitalists*; 3C: *Government Power*; 4A: *Conservation vs Preservation*; 5A: *The Modern Era*; 6E: *Pol. Cartoons*; 6G: *What Might Have Been*.

**PDE Academic Standards:** 1.1.8/11; 1.2.8/11; 1.6.8/11; 5.1.9; 5.2.9/12; 6.3.9/12; 7.4.9/12; 8.1.6; 8.1.9/12; 8.3.6/9/12

**Objectives:**

- Students will develop a sense of chronology of conservation attitudes and practices
- Students will examine the evolution of methods of conservation through laws and policies
- Students will gain an overall picture of conservation through the last 150 years and find their own place in it

**Materials:**

*Seeking the Greatest Good*

PDEP Website:

[http://www.portal.state.pa.us/portal/server.pt/community/environmental\\_heritage\\_timeline/13844/history\\_1600\\_%E2%80%93%93\\_present/588309](http://www.portal.state.pa.us/portal/server.pt/community/environmental_heritage_timeline/13844/history_1600_%E2%80%93%93_present/588309)

Library of Congress Website: <http://memory.loc.gov:8081/ammem/amrvhtml/conshome.html>

The Gilder Lehrman Institute website: <http://www.gilderlehrman.org/history-by-era/politics-reform/resources/theodore-roosevelt-and-conservation>

**Anticipatory Set:** (2min) “Moment of Zen” Discuss the quote as it relates to both students and the topic.

*“The aim of the historian is to know the elements of the present by understanding what came into the present from the past. For the present is simply the developing past...the goal of the historian is the living present.*

-Frederick Jackson Turner

**Procedure:**

Pre-Activities Discussion Questions (\*Adapted from the The Gilder Lehrman Institute website)

These questions are designed to stimulate interest in the Conservation Movement. If the class cannot answer some of the questions, the teacher may give the students the answer or require the answers to be found.

- What do you know about early conservationists? What does it mean to conserve?
- What does it mean to reclaim something? What do you think a national forest /grassland is?
- What does the word "green" mean in the context of conservation and politics today?
- What grade would you give our nation on the conservation of natural resources?
- About how many national parks are in the US today? (Fifty-eight national parks)
- About how many are national forests and grasslands are there in America?
- What does our government do to protect threatened animals, birds and fish?
- Can you think of wildlife that our government has had to protect?
- What does Theodore Roosevelt have to do with or natural resources in America?

--Show Chapter I of *Seeking the Greatest Good*

--Create an environmental timeline using the chronology available on the Pennsylvania State and Library of Congress website as a resource. Have the students divide their work into three Eras – 1600-1850 (Pre Pinchot); 1850-1950 (Gilded Age, Progressive Era and Public Works); 1950-present. **Or**, create a timeline as a class that is visible around the entire room for reference throughout the unit. Be sure to include other events the students are familiar with in order for them to gain a context.

--Discuss:

How can we trace the attitude toward conservation by looking at the timeline? (quantity/quality/frequency)

What do you want to know about past and current conservation policies? Have they worked?

Have past and present conservation practices always been based on scientific knowledge? Why or why not? What do we know now that they did not know then?

**Closure/Summary:** (3min)

Key Question:

Describe the nation’s attitude toward conservation in the years before Pinchot and the years after Pinchot.

**Evaluation:** Students will be evaluated on their responses to the Key Questions and the class discussion.

**Lesson 1D:** Consistent Issues: Sustainability and Practical Use **Grade level:** 8-12 **Time:** 1-2 45m class  
**Cross Curricular Components:** 1A: *The Gilded Age*; 1B: *Ecological Changes*; 1C: *Historical Context of Conservation*; 2A: *Influence*; 2B: *Sustainable Forestry*; 2C: *Stewardship, Consequences and New Ideas*; 3B: *Conservationists, Preservationists and Capitalists*; 4A: *Conservation vs Preservation*; 5A: *The Modern Era: Controversy and Strife*; 6A: *Sustaining Forests*; 6C: *Managing the Forests*; 6D: *That's a Wrap*; 6G: *What Might Have Been*  
**PDE Academic Standards:** 4.2.10/12; 4.8.7-12; 1.1.8/11; 1.2.8/11; 1.6.8/11; 5.1.9; 5.2.6/12; 6.1.9/12; 6.2.9/12; 7.3.9; 7.4.9/12; 8.1.6/9; 8.2.69/12; 8.3.9/12

**Objectives:**

- Students will compare and connect current environmental issues to those of the past
- Students will begin to formulate their own stance on current issues and ways of solving them

**Materials:**

*Seeking the Greatest Good*

**Anticipatory Set:** (2min) "Moment of Zen" Discuss the quote as it relates to both students and the topic.  
"Human beings, by changing the inner attitudes of their minds, can change the outer aspects of their lives"  
-William James

**Procedure:**

- Watch Chapter I of the film *Seeking the Greatest Good*
- Revisit the conclusions from lesson #1A regarding the impact of industrialization. Then have the students (in small groups) research, collect evidence and describe the current environmental issues and proposed solutions in the following areas, by presentation of the teacher's choice:

Food Production	Sustainability	Biodiversity	Industrialization	Suburban sprawl
Population	Technology	Air/water quality	Wildlife	inexhaustibility
Climate Change	Energy Production			

- Connect these current issues to those facing towns today and the policies of the Gilded Age from lesson #1. What are were/are we confronting? Then ask the students to discuss what the following phrase from the film means:

"Application of common sense to common problems for the common good"

- Have the students offer solutions for their assigned problems that reflect this ideal. Discuss the following Key Questions and have the students write a persuasive essay defending their point of view:
  - How do we balance the needs of a population with the needs of the planet? How does population growth impact your answer?
  - Similarly, how do we balance then needs of the environment with the needs of the economy? Is one more important than the other or are they equally important?

**Closure/Summary:** (3min)

Students can present their findings and revisit them at the end of the unit.

**Evaluation:**

Students will be evaluated on the quality of their writing and responses.

# Seeking the Greatest Good

THE CONSERVATION LEGACY OF GIFFORD PINCHOT



## II Influences and The Birth of American Forestry

### A Inspiration

1. *Man and Nature* by Marsh
  - Land stewardship (Mediterranean devastated)
  - Climate change and landscape change
  - Consequences of deforestation
  - conquerors vs stewards
2. Grey Towers
  - Effected Gifford, love for wilderness
  - Architecture/Inspiration
  - Renewed landscape
  - Conservation practice and ethic

### B. European Forestry Model

1. "Robin Hood"
2. Scientific Management
3. Need for proof of other long term benefits
  - Fighting idea of inexhaustibility
  - Lumber was crops "sustained yield" (modern global sustainability)
4. Danger of the concept of inexhaustibility
5. \*\* Federal gov't had a big part to play

### C. Establishing a solid base

1. Vanderbilt Estate Forest
2. Publications and the press
  - *Biltmore Forest Publication*
  - *The White Pine: A Study*
  - *Government Forestry Abroad*

### D. Yale Endowment

1. Forestry program
2. Grey Towers training ground 1901
  - ID trees, habitats, etc
  - "prepared and inspired"

### E. The Concept of The National Forest

1. Sustainable use of national resources

### Terms to Know or Revisit:

National Forestry Commission 1896  
Frontier hangover

Endowment

*Man and Nature* by George Marsh 1864

**Lesson 2A:** Influence and Sustainable Forestry **Grade level:** 8-12 **Time Length:** Two class periods

**Cross Curricular Component:** Lesson 1D: *Consistent Issues*; 2C: *Stewardship, Consequences and New Ideas*; 4B: *Influence of the Arts*; 5A: *Modern Era: Controversy and Strife*; 6E: *Pol. Cartoons*; 6F: *How Do Others See Us?*

**PDE Academic Standards:** 1.1.8/11; 1.2.8/11; 1.6.8/11; 4.1.12.E; 4.3.7.A; 4.3.10.A; 4.3.12.A; 5.2.9/12; 6.3.9/12; 8.1.9/12; 8.2.9/12; 8.3.9/12

**Objectives:**

--Students will become familiar with the work *Man and Nature* by George Perkins Marsh and discuss how literature and other arts can be a great influence in our society

--Students will compare writings from Gifford Pinchot and Marsh and note parallels

--Students will develop an understanding of the term “sustainable management” and how it pertains to sustainable forest management.

**Materials:**

*Seeking the Greatest Good*

Excerpts from *Man and Nature* by George Perkins Marsh (Appendix B)

The US Forest Service Mission

<http://www.fs.fed.us/aboutus/mission.shtml>

Gifford Pinchot’s *The Fight for Conservation*, Chapters I, IV, VI, IX (Appendix B)

Original: [http://memory.loc.gov/cgi-bin/query/r?ammem/consrv:@field\(DOCID+@lit\(amrvgvg11\)\)](http://memory.loc.gov/cgi-bin/query/r?ammem/consrv:@field(DOCID+@lit(amrvgvg11))):

**Anticipatory Set:** (2min) “Moment of Zen” Discuss the quote as it relates to both students and the topic.

“The future of mankind lies waiting for these who will come to understand their lives and take up their responsibilities to all living things.”

-Vine Deloria Jr.

**Procedure:**

--View Chapter II of *Seeking the Greatest Good*

--One of Gifford Pinchot’s greatest influences was Marsh’s *Man and Nature*. In small groups, have the students analyze parts of the work and draw connections to past and current conservation topics utilizing the worksheets and questions provided (Appendix B) Share out to the class and make a list of all the connections the students can come up with.

--Next, break students up into 5 equal groups, each with a different publication that Gifford Pinchot used to advocate for a national forest or for conservation of forest reserves. Each document group should also be assigned a group color. When students are done answering questions as a group, have each group member find a group member with a different color (eg: group colors were red, yellow, blue, green, and orange. Now you should have 5 different groups, with each group member holding a different color – and a different document). Each group member will now school the others in their part of Pinchot’s extensive publications. Have each new group answer the Round 2 questions (Appendix B) utilizing all 5 resources.

--Have each group share out. Then, compare their findings with what they found in Marsh’s work and with the Mission statement of the US Forest Service. Discuss how one influential work can indeed make a huge difference when the right person believes in it.

1. How does the mission of the USFS mirror both Gifford Pinchot and George Perkins Marsh?
2. Compare the phrase in the USFS motto “...quality land management under the sustainable multiple-use management concept to meet the diverse needs of people.” with Pinchot’s phrase of “The greatest good for the greatest number in the longest run.” Are they the same? Different? Why or why not?
3. Which of the principles listed under the *motto* reflects the beliefs of Pinchot and Marsh?
4. Which guiding principles are the best reflections of the Forest Service as originally intended by Pinchot?

**Extension:** This lesson can be extended into Lesson 5A utilizing Rachel Carson’s *Silent Spring*

**Closure/Summary:** (3min)

Ask students to think about influences in their lives thus far and whether or not they chose to follow that influence and why.

**Evaluation:**

Students will be evaluated on the quality of their responses both in group work and in the discussion

**Lesson 2B:** Stewardship, Consequences and New Ideas **Grade level:** 7-10 **Time:** One 45m class  
**Cross Curricular Components:** Lesson 1C: *The Historical Context of Conservation*; 1D: *Consistent Issues*; 3A: *The Progressives*; 4A: *Conservation vs Preservation*; 6A: *Sustaining Forests*  
**PDE Academic Standards:** 1.1.8/11; 1.2.8/11; 1.6.8/11; 4.1.12.E; 4.3.7.A; 4.3.10.A; 4.3.12.A; 5.2.9/12; 6.3.9/12; 6.5.9/12; 8.1.9/12; 8.2.9/12; 8.3.9/12

**Objectives:**

- Students will examine and discuss the various philosophies of the relationship between man and nature and defend their stance through evidence and argument
- Students will decide on the merit of past conservation decisions and apply them to today's issues

**Materials:**

*Seeking the Greatest Good*

Environmental Questionnaire (Appendix C)

*Encounters with the Archdruid* by John McFee

**Anticipatory Set:** (2min) "Moment of Zen" Discuss the quote as it relates to both students and the topic.  
"A people who values its privileges over its principles soon loses both."  
-Dwight D. Eisenhower

**Procedure:**

- View Chapter II of *Seeking the Greatest Good*
- Spend a brief moment having students list some of the "Short sighted financial gains" described in the film and relate them to today's debate on climate change and environmental protection. This should be review.
- Pass out the questionnaire found in Appendix C. Ask the students to write in the top right corner what their philosophy is about the environment. Have the students take the questionnaire and share their results as a class. Are they surprised how they rank?
- Next, have the students work in groups to find different primary sources that describe the different philosophies of man's relationship with nature. Suggestions include the Sioux Native Americans, George Marsh, Gifford Pinchot, John Muir, John Rockefeller and Teddy Roosevelt. Students will be assigned to groups based on where they fall in their own environmental philosophy of preservationist, conservationist or *laissez faire* capitalist, conqueror or steward.
- Using primary source documents and current research, have the students present their stance on the environment. After each group has presented their "platform", students will have the opportunity to change groups. The students must then debate each other, supporting their "platform" with evidence from as many sources as possible and advocating for solutions to current problems (if they believe there is a problem) and countering the solutions of others that they deem incorrect. Students can "tag" each other in and out of the debate. (Hopefully this will give each student a sub specialty in their group) After a second round, students who have been persuaded otherwise will then be given an opportunity to change groups. Debate ends after the instructor feels that all variables have been discussed.

**Cross-Curricular extension (Language Arts, grades 10-12)**

Assign student groups each a chapter of John McPhee *Encounters with the Archdruid*

Working in groups, the students will answer the questions given and will then discuss the merits and differences of the approaches to the environment from each main character (Appendix C)

**Closure/Summary:** (3min)

Using notes taken during their debate and in creation of their platforms, students will then be required to answer one of the following essay prompts:

- Were early warnings about the environment from men like Muir and Pinchot true? What evidence did they have at the time that we were headed for "disaster"? Compared with what we know now and the philosophies put forth in debates today, were they prophetic or alarmist? ***Should the National Forests have been created?***
- Discuss the various philosophies of man's relationship with nature. How do they conflict? Have they changed with time? Where do you fit? Are you a conqueror or a Steward? Are you a conservationist or a preservationist? Should the land be used, protected or both? ***Should the National Forests have been created?***

**Evaluation:**

Students will be evaluated on their responses to the discussion and to the quality of their essays.

# Seeking the Greatest Good

THE CONSERVATION LEGACY OF GIFFORD PINCHOT



## III The Progressives and Conservation: *The Greatest Good of the Greatest Number in the Longest Run*

### A Progressives: Privilege and purpose

1. Public service – reform for the privileged
2. Thirst to prove themselves, Jane Addams – genuine achievement
3. Gilded age crashes into ills of industrialization
  - Luxury to experimentation
  - Democratic Ideals (For Everyone)

### B. Conservation Movement

#### Conservation Concept:

1. Management of total environment
2. Development and use of natural resources
3. Prevention of Waste (science and technology)  
\*\*All as a part of the public interest (true democracy)
4. US was a world power BECAUSE of its resources
  - EG: economy built on wood (pics of huge walls of timber)
5. “Island approach -> comprehensive, long range administrative policy”

### C. The Pinchot – TR Connection

1. Outdoorsmen/Friends/ “Sons of Wealth”/Easterners
2. Understood the political implications of sustainability/ “The Little Guy”
3. President -- Cabinet Member

### D The National Forests

1. Sustainable Use and Management
  - \*\*Key to Public Support
2. Opposition was fierce
  - Taking land from financial interests
  - Special Interests vs Government intervention
    - ranchers/RR/-Mining
  - Congress pass law stopping right of TR
3. Foresters and mapping
  - “Midnight Forests” - 21 New National Forests 16 million acres
  - Huge outcry
  - George Woodruff – Lawyer
4. Forest Reserve Act 1891
  - allowed the President to set aside forest reserves from the land in the public domain.
  - 151 million acres of Forest reserves under TR
  - \*\*was a huge shift in government involvement
5. Pinchot moved forest reserves from Dept of Interior to the Dept of Agriculture
  - Forest an agricultural resource
  - Transfer Act of 1905 created Bureau of Forestry
  - Department of the Interior Corrupt, no management
    - Transfer Act created US Forest Service and concept of a “National Forest”
    - Model agency of modern Federal Government (Progressives)
    - “Elliott Ness” of the Forest
    - Forests were nationally owned, controlled, regulated

# Seeking the Greatest Good

THE CONSERVATION LEGACY OF GIFFORD PINCHOT



## E Denver Public Lands Convention

Originally to repeal the Federal Govt right over public lands

Pinchot speech on sustainability

--Reasons for stewardship

“The Greatest Good of the Greatest Number in the Longest Run”

## Terms to Know/Revisit

Mugwump

Protectionism

Muckrakers

Populist

Frederick Jackson Turner

Sherman Anti Trust Act of 1890

New Nationalism

Forest Reserve Act 1891

Suffrage

WCTU

Imperialism

Conservation

Progressivism

Deal

Bull Moose Party

Executive Orders

Election of 1896

Sociological Jurisprudence

Interstate Commerce Commission

Forest Management Act 1897

Pragmatism

Hepburn Railway Act

Utilitarianism

**Lesson 3A:** The Progressives – Who Were They?

**Grade level:** 6-10

**Time:** Several class periods

**Cross Curricular/Cross Lessons:** 1A: *The Gilded Age*; 2C: *Stewardship, Consequences and New Ideas*; 3B: *Conservationists, Preservationists and Capitalists*; 3C: *Government Power*; 6E: *Pol. Cartoons*

**PDE Academic Standards:** 1.1.8/11; 1.2.8/11; 1.6.8/11; 5.1.9/12; 5.2.9/12; 5.3.9/12; 7.4.9/12; 8.1.9/12; 8.2.9/12; 8.3.9/12

**Objectives:**

- Students will gain a better understanding of Theodore Roosevelt's presidency and the Progressive movement
- Students will be able to explain and evaluate the legacy of Theodore Roosevelt as it relates to conservation
- Students will understand the reasons behind the conservation movement in the first part of the 20th century
- Students will draw connections and develop a sense of continuity between two different time periods

**Materials:**

*Seeking the Greatest Good*

Progressive Reformers lists:

<http://quizlet.com/12521396/progressive-reformers-list-flash-cards/>

<http://www.thenation.com/article/154783/fifty-most-influential-progressives-twentieth-century#>

Timeline for Progressive Era reforms:

<http://www.shmoop.com/progressive-era-politics/timeline.html>

**Anticipatory Set:** (2min) “Moment of Zen” Discuss the quote as it relates to both students and the topic.

“*There is properly no history; only biography.*”

-Ralph Waldo Emerson

**Procedure:**

--View Chapter III of *Seeking the Greatest Good*

--Give the class a list of Progressive Era reformers (found from link above) and ask them to choose one to research. Be sure to make it mandatory that students research their background and upbringing. Ask students to present their findings, either in an oral presentation of a research paper, a power point, or another type of presentation. List all the assigned subjects across the top of a large table and list important aspects of each person and the years in which they lived. As a class, find what they all have in common and where they differ. Discuss what causes worked and why? Have the students access the link above and read the timeline of Progressive Era reforms. Which ones were created during TR’s administration? Compare the list with a list of reforms that were instituted during TR’s administration. How large of a role did Theodore Roosevelt fill as president in making many of these causes into law?

**Closure/Summary:** (3min)

As a class, based on student findings, answer the Key Question:

- How did the Gilded Age ironically sow the seeds for the Progressive Era, both in terms of people and general attitude?
- Describe the unique partnership between TR and Pinchot. Explain how such a partnership provided the necessary foundation of government intervention in conservation.

**Evaluation:**

Students will be evaluated based on the quality of their projects and presentation

**Lesson 3B:** Conservationists, Preservationists and Capitalists      **Grade level:** 7-12      **Time:** 3 class periods  
**Cross Curricular/Cross Lesson:** 1C: *Context of Conservation*; 1D: *Consistent Issues*; 2C: *Stewardship, Consequences and New Ideas*; 3A: *The Progressives*; 4A: *Conservation vs Preservation*; 6A: *Sustaining forests*; 6E: *Pol. Cartoons*  
**PDE Academic Standards:** 1.1.8/11; 1.2.8/11; 1.4.8/10; 1.6.8/11; 4.2.8/10; 4.3.7/10; 4.8.7/10/12; 5.1.9/12; 5.2.9/12; 5.3.9/12; 6.2.9; 6.4.9; 6.5.9/12; 7.4.9/12; 8.1.9/12; 8.2.9/12; 8.3.9/12

**Objectives:**

- Students will experience the many facets and opinions of the conservation debate
- Students will research a role in the conservation debate and defend the role through argument
- Students will explore the reasons why each approach was supported or rejected

**Materials:**

*Seeking the Greatest Good*  
*Encounters with the Archdruid* by John McFee

**Anticipatory Set:** (2min)      “Moment of Zen”      Discuss the quote as it relates to both students and the topic.  
*"The conservation of natural resources is the fundamental problem. Unless we solve that problem it will avail us little to solve all others."*

- President Theodore Roosevelt

**Procedure:**

- View Chapter III of *Seeking the Greatest Good*
- Students will be assigned a role play identity and a part for this activity. Students can be paired up or put in groups of three (max). Each student (or group of students) will receive one of the following parts:

John D. Rockefeller	Andrew Carnegie	Gifford Pinchot	Theodore Roosevelt
John Muir	Woodrow Wilson	John McGowan	Mine Owner
RR Boss	Western rancher	Any other key player of the conservation movement	

- After each student is assigned their role and a primary source document with quotations from that person, they will research more about their role.
- After the students have gotten to know their character they will all answer the following question *as their character*: Should land be set aside for preservation or conservation purposes and does the government have a right or a responsibility to do so? Would you vote for the passage of the Forest Reserve Act of 1891 which authorized the government to reserve land as “forest reserves”? Tally the class’s vote. Next, ask them to vote as themselves and compare the outcomes.

**Cross-Curricular extension (grades 10-12)**

Assign student groups each a chapter of John McPhee *Encounters with the Archdruid*  
Working in groups, the students will answer the questions given and will then discuss the merits and differences of the approaches to the environment from each main character (Appendix C)

**Closure/Summary:**      (3min)

Answer the Key Question

- How did the attitudes of conservationists contrast with the attitudes of railroad and mine owners and other special interests of the time? How different or similar are these attitudes and interests in today’s conversations?
- Does the government have a right or a responsibility to govern land use? Should/can the government constitutionally legislate conservation or preservation?
- Which is the “better” approach - conservation, preservation, or private enterprise? Is there even a “better”?

**Evaluation:**

Students will be evaluated based on the quality of their responses

**Reflection:**

This lesson and Lesson 2C: *Stewardship, Consequences and New Ideas* can act as an extension of each other if the instructor wishes. Lesson 3C: *Government Power* also has a strong tie to the Key Questions and overlaps somewhat.

**Lesson 3C: Government Power**    **Grade:** 9-12 (adaptations required for 6-8)    **Time:** Two class periods  
**Cross Curricular Components:** 1C: *Historical Context of Conservation*; 3A: *The Progressives*; 4A: *Conservation vs Preservation*; 6E: *Pol. Cartoons*; 6G: *What Might Have Been*  
**PDE Academic Standards:** 1.1.8/11; 1.2.8/11; 1.4.8/10; 1.6.8/11; 4.2.8/10; 4.3.7/10; 4.8.7/10/12; 4.9.11; 5.1.9/12; 5.2.9/12; 5.3.9/12; 6.2.9; 6.4.9; 6.5.9/12; 7.1.9/12; 7.4.9/12; 8.1.9/12; 8.2.9/12; 8.3.9/12

**Objectives:**

- Students will understand the conflicts in society between economic and environmental interests and the role of the citizen in government as well as the interpretation of these roles in the media.
- Students will compare and contrast the ideas behind the *laissez-faire* attitude of big business at the turn of the century and the concerns of environmentalists today.
- Students will explain Roosevelt's view of the role of individual citizens in dealing with economic and environmental concerns and how the media perceived that role. They will agree or disagree.

**Materials:**

- Seeking the Greatest Good*
- The New Nationalism* Speech by Theodore Roosevelt (Appendix H)
- List of Critical Issues (Appendix D)
- The U.S. Constitution (Appendix F)
- Political Cartoon Analysis Worksheet (Appendix E)
- Political Cartoon ppt (policar1)
- North Carolina Digital History Educators Guide: <http://www.learnnc.org/lp/editions/nchist-eg/6460>
- Theodore Roosevelt Association website: <http://www.theodoreroosevelt.org/research/curriculum5to12.htm>

**Anticipatory Set:** (2min)    “Moment of Zen”    Discuss the quote as it relates to both students and the topic.  
*“The movement for the conservation of wild life and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose, and method.”*  
- President Theodore Roosevelt

**Procedure:**    \*Adapted from the Theodore Roosevelt Association website

- View Chapter III of *Seeking the Greatest Good*
- Ask students to examine the list of critical issues addressed by Theodore Roosevelt’s Presidency. Have them select one of the issues listed; then using a variety of sources, draw a comparison as a report or a chart showing a critical question within the issue; then identify opposing arguments as well as individuals/groups on both sides of the argument. Have students read the portion of the U.S. Constitution regarding the powers of the executive branch. (many of the same issues, arguments and opposition faced by Americans at the dawn of the 20th century, are major issues one hundred years later.) Finally, have students assess whether the action taken by the President in addressing the issue moved beyond the executive powers as defined by the Constitution.
- As a class, answer the following questions:
  - What were the long-term impacts of Roosevelt's conservation efforts?
- Next, show students the power point that contains political cartoons from this Era, and ask them to analyze them, using the Political Cartoon Worksheet. How does the cartoon address: Gifford Pinchot, TR and their relationship?
- Give each student a copy of Roosevelt's speech. In groups of three, have students read the essay and discuss the following in their group:
  - List which people in society were likely to oppose Roosevelt's ideas. Why?
  - List arguments for and against Roosevelt's statement, "Public rights come first...private interests second," and give an example from history and the current day to illustrate each side.
- As a class, discuss the following questions:
  1. What should be done to preserve the natural surroundings in your area? Is it a public issue or private concern? Did the media accurately portray Roosevelt’s intentions and the constitutionality of his actions? Does the media accurately portray current issues?
  2. Examine the concept of “executive orders”. Are these constitutional? Ethical? A justifiable means to a greater end? Describe the power shift in government vs the private sector and how it was portrayed by the media. How similar or different are these debates to the ones currently happening in the US?

3. Does the Federal Government have a RIGHT to set aside lands for public use? What would the U.S. look like if TR had not done so? Should we be doing more?

**Closure/Summary:** (3min)

Key Questions

--Does the government have a right or a responsibility to govern land use? Should/can the government constitutionally legislate conservation or preservation?

--Which is the "better" approach - conservation, preservation, or private enterprise? Is there even a "better"?

**Extension:**

--Ask the students to find and present at least one current issue/event that is similar and draw their own political cartoon about it.

**Evaluation:**

Students will be evaluated by the quality of their responses

# Seeking the Greatest Good

THE CONSERVATION LEGACY OF GIFFORD PINCHOT



## IV Conservation vs Preservation; Public Service and Social Justice

### A Preservation and the National Parks

1. Conservation vs Preservation
2. The National Parks Service formed in 1916
  - Conservation key to getting public support vs ranchers opposition
  - 1872- Yellowstone first National Park
  - Recreational agenda for Forest Service
  - Summer homes/automobile made them popular
3. John Muir -Hetch Hetchy Valley Controversy
  - \*\*First National Debate on the use of natural resources
  - Yosemite, clash on certain landscapes and usage.. 1906 quake
  - Public debate of development vs preservation NAT STAGE
  - first time the debate was in public

### B Taft

1. The Big Blowup – August 20, 1910
  - Three million acres burn in Montana and Idaho
  - Policy of the Forest Service (fell fire suppression)
    - After the devastation of the Big Blowup, it was decided that the U.S. Forest Service was to prevent and battle against every wildfire
    - No advocates of controlled burns
  - Pinchot Fired as Forester in 1910
2. Forest Service Agency remained successful
  - Weeks Act of 1911Purchased deforested land for cheap
  - decentralized
  - grass roots
  - management for nations good
  - sound principles
    - a. Benefit of future generation
    - b. Keep integrity of resources
    - c. Make resources available for all people
    - d. Premise of Social justice

### C Pinchot as Public Servant

1. As Governor of PA
  - 1922 and 1930 – 2<sup>ND</sup> TERM AS GOVERNOR, Great Depression
  - Pinchot Roads
  - FDR Advisor
    - Civilian Conservation Corps
  - Aldo Leopold -Game Management, 1930s

### D Pinchot as Advocate

1. FDR Civilian Conservation Corps
  - Tree wind breaks in Dust Bowl
  - Trees more than economic value
  - Common ethics of care for the land
2. Seeking Greatest Good
  - 1914 – Married Cornelia Brice
  - suffragette, politics, congressional candidate

# Seeking the Greatest Good

THE CONSERVATION LEGACY OF GIFFORD PINCHOT



## -Grey Towers

- gathering people and having conversations
- stakeholders around issues
- develop solutions

## E Post WWII Boom

- Japanese float balloons to set forest fires
- postwar needs greater for timber
- outdoor recreation boom

## Terms to Know/Revisit

John Muir

Yosemite 1890

Henry David Thoreau

National Parks

Sierra Club 1892

Ralph Waldo Emerson

Yellowstone 1872

Ansel Adams



**Lesson 4B:** The Influence of the Arts on Policy

**Grade level:** 6-10

**Time:** One class period

**Cross Curricular /Cross Lesson:** 2A: *Influence*; 6E: *Pol. Cartoons*; 6F: *How Do Others See Us?*

**PDE Academic Standards:** 1.6.8/11; 4.8.7-12; 7.1.9; 7.4.9; 8.3.9; 9.2.8/11; 9.3.8/12

**Objectives:**

- Students will examine the influence of the arts and culture on policy making
- Students will determine the value of the arts in society

**Materials:**

*Seeking the Greatest Good*

Power point of Ansel Adams photographs (Adams1.ppt)

Excerpts from Emerson and Thoreau (Appendix J)

Brief history of Adams' role in the creation of the the Kings Canyon National Park

**Anticipatory Set:** (2min) "Moment of Zen" Discuss the quote as it relates to both students and the topic.

*"We do not inherit the earth from our ancestors – We borrow it from our children."*

-CHS Hallway

**Procedure:**

--View Chapter IV of *Seeking the Greatest Good*

--Show the students excerpts from the works of Ralph Waldo Emerson and Henry David Thoreau. How do they think such works contributed to the attitude shift of the general population regarding the environment?

--Show students the power point that contains an opening quote by Ansel Adams, describing one of his photographic experiences. Show students the photographs and ask them to write for each photograph a one word, brief description of what they feel when they see the photograph.

--When the slideshow is complete, Ask the students to share some of their emotions and their thoughts on the photographs and then ask them as a class these questions, eventually determining Ansel Adam's role in the conservation movement:

--Consider the quote and then the photographs taken by Adams.

--What does the cliché mean then, that "a picture is worth 1000 words"

--How did these photographs influence you? How did they make you feel?

--How do you think Adams' photographs influenced policy makers as opposed to the documents you have read describing the landscapes that would eventually become the national parks?

--Have the students read the one page narrative on the life of Ansel Adams and then ask them to explain:

--How are Adams' pictures are called a "double-edged sword" of sorts – "anachronisms" of the "last confident and deeply felt pictures of their tradition"

--Why does the author assert that "...It does not seem likely that a photographer of the future will be able to bring to the heroic wild landscape the passion, trust, and belief that Adams has brought to it."

--Do you consider Adams a Progressive? Thoreau? Emerson? Why or why not? Determine their role in the conservation movement. Were they more for preservation or conservation? Why?

**Closure/Summary:** (3min)

Follow-up Activity:

For homework or as an extension group project, have students find evidence of current uses of art (illustration, cartooning, and photography) to influence policy or attitude. Have them present the issue, the artwork and the outcome.

**Evaluation:**

Students will be evaluated on the quality of their responses.

**Reflection:**

This activity does not address any of the chosen Key Questions for this unit, however value can be found in connecting the arts to students' academic subjects and the instructor can formulate their own questions as deemed appropriate.

# Seeking the Greatest Good

THE CONSERVATION LEGACY OF GIFFORD PINCHOT



## V The Modern Conservation Legacy: Practical Conservation

### A 1960s

1. Controversy and Strife
2. “Silent Spring” Rachel Carson
  - clean air and water
  - pesticides
  - industrial polluters vs environmental health
3. US Forest service ally with lumber industry
4. Changing attitudes
  - 1963: Pinchot Institute for Conservation Studies
  - Gift of Grey Towers for Conservation education
  - emerging conservation challenges of our own time
  - multitude of laws and policies
5. President Johnson, Wilderness Act

### B Issues Today

1. Biodiversity
2. Climate Change
3. Sustainability
4. Suburban Sprawl
5. Population increase
6. Protecting “The Greatest Good of the Greatest Number in the Longest Run”

### C Grey Towers National Historic Site

1. Convener
2. Meaningful dialogue about difficult issues
3. Resolutions
4. Education programs
5. Inspiration

### D Milford Experimental Forest

- The American Chestnut
- Fungus
- Human Connection with nature

## Terms to Know/Revisit

Carbon sequestration

biomass

**Lesson 5A:** The Modern Era: Controversy and Strife    **Grade level:** 10-12    **Time Length:** Three class periods

**Cross Curricular Component:** 1C: *Historical Context of Conservation*; 1D: *Consistent Issues*; 2A: *Influence*; 3B: *Conservationists, Preservationists and Capitalists*; 6H: *Climate Change*

**PDE Academic Standards:** 1.1.11; 1.2.11; 1.4.11; 1.6.11; 4.2.12; 4.3.10/12; 4.8.12; 4.9.12; 5.1.12; 5.2.12; 5.3.12; 6.3.12; 8.1.12; 8.1.12; 8.2.12; 8.3.12;

**Objectives:**

- Students will examine and discuss the role of media in current issues
- Students will trace a change in attitude and urgency throughout the 20<sup>th</sup> century
- Students will utilize their knowledge to create an environmental advocacy plan/proposal

**Materials:**

*Seeking the Greatest Good*

USDA Forest Service – The First Century

[http://www.foresthistory.org/ASPNET/Publications/first\\_century/index.htm](http://www.foresthistory.org/ASPNET/Publications/first_century/index.htm)

Rachel Carson's *Silent Spring*: Chapters 1 and two (Questions found in Appendix K)

[http://books.google.com/books/reader?id=6sRtTjwwWYEC&printsec=frontcover&output=reader&source=gbs\\_atb\\_hover&pg=GBS.PR20](http://books.google.com/books/reader?id=6sRtTjwwWYEC&printsec=frontcover&output=reader&source=gbs_atb_hover&pg=GBS.PR20)

**Anticipatory Set:** (2min)    “Moment of Zen”    Discuss the quote as it relates to both students and the topic.

“By idolizing those whom we honor, we do a disservice to both them and to ourselves...we fail to recognize that we could go and do likewise.”    -Charles V. Willie

**Procedure:**

- View Chapter V of *Seeking the Greatest Good*
- Have students research (or revisit) the multitude of laws and policies in the modern era (since 1950)
- Have students also compare excerpts of Rachel Carson's “*Silent Spring*” with earlier attempts to use the media by Muir and Pinchot. How is Carson's work a both a sign of the times she was living in and a sign of a change in attitude?

**EXTENSION Media activity – poll and platform comparison \*\*It is strongly suggested that this activity coincide with Lesson 6H: Introduction to Climate Change**

- Have students research the Earth's temperature over the last 150 years as well as other facts relating to Global Warming and Climate Change. Host a debate on whether human activity is the cause of the weather phenomena we have been experiencing. Have them also research proposed solutions.
- Ask the students to correspond each solution and opinion to various political parties, comparing party platforms and opinion polls as they change over time. Create a chart or graph illustrating these comparisons and changes
- Compare public opinion with the public political and media debate and find any correlations between the two.

**Extension:** Corner activity – research, choose – debate – re-choose **\*\*It is strongly suggested that this activity coincide with Lesson 6H: Introduction to Climate Change**

- Based on their research, ask the students to sort themselves into a corner of the room – one that climate change exists but naturally, one that climate change exists due to man's actions, one that climate change does not exist at all.
- Debate for a time and then allow the students to change their corner based on the first part of the debate
- In their new groups, have the students create their own proposals that may or may not involve government intervention and should include the most effective way to address these issues as they have learned from the film and the previous lessons.
- Have the class vote for their favorite proposal. Some aspects of the winning proposal should include aspects the students can do at home, school, or advocate for in their community. All effort should be made for the students to follow through with their chosen proposal. Stress that they are the future of the conservation movement

**Closure/Summary:**    (3min)    Answer the Key Questions

- Has the definition of “practical conservation” changed? If so, how? How does practical conservation fit within the context of the phrase “The greatest good for the greatest number in the long run”?
- Should what humans have done through industrialization be considered “progress” or “adaptation” or something else?
- Will we be able to live within our limits and safeguard the natural world in the decades ahead? Do human beings even have the ability to think bigger than themselves?

**Evaluation:** Students will be evaluated on the quality of their proposals, research and debate.

**Lesson 5B:** Current Environmental Challenges: Invasive Species    **Grade:** 7 – 12    **Time:** Two class periods

**Cross Curricular/Cross Lessons:** 1B: *Ecological Changes and Consequences*; 6C: *Managing the Forests*

**PDE Academic Standards:** 1.1.11; 1.2.11; 1.6.11; 4.5.7.D; 4.5.7.B; 4.5.10.B; 4.5.12.B

### **Student Objectives:**

- Students will discover invasive species and their economic and environmental consequences in forests through research
- Students will understand how invasive species impact forest ecology through research
- Students will by improve their geography skills by tracking such invasive species via mapping

### **Materials:**

*Seeking the Greatest Good*

Invasive species PowerPoint Presentation

Your school library

Article in “The Day”: <http://www.theday.com/article/20110620/NWS01/306209953/-1/NWS>

**Anticipatory Set:** (2min)    “Moment of Zen”    Discuss the quote as it relates to both students and the topic.

“Change is uncomfortable, but without it, you may as well be a plant.”    -Anonymous

### **Procedure:**

--View chapter V of *Seeking the Greatest Good*

--Introduce students to invasive species through the Invasive Species PowerPoint.

--Have students reach the article “Scientists link invasive barberry to Lyme disease”. Working in groups of 3-4, have students answer the following questions:

Explain the relationship among Japanese barberry, deer ticks, and white-tailed deer.

What impact does Japanese barberry have on Lyme disease?

What other ecological problems does Japanese barberry cause?

What indirect economic problems might Japanese barberry cause?

Why do you think it is still legal to sell Japanese barberry and other ornamental invasive plants in this country?

How was Japanese barberry introduced into this country? Why?

Describe two manners in which Japanese barberry is spread.

Describe two ways people are slowing the spread of Japanese barberry in Connecticut.

--Put students into groups of 3-4 and assign each group one invasive species from the following list:

Chestnut blight fungus, *Cryphonectria parasitica*

Thousand cankers disease, caused by the walnut twig beetle *Pityophthorus juglandis* and an associated fungus,

[\*Geosmithia morbida\*](#)

Asian long horned beetle, *Anoplophora glabripennis*

Emerald ash borer, *Agrilus planipennis*

Multiflora rose, *Rosa multiflora*

Japanese Barberry, *Berberis thunbergii*

--Have each group work together to research their particular invasive species. Groups should put together a 10 minute oral presentation (PowerPoint if resources are available) to answer four questions:

Explain the biology of your invasive species.

Explain how your invasive species was introduced to North America and how it spread

What are the ecological impacts of your species?

What are the economic impacts of your species?

Describe what is being done to mitigate the impact of your invasive species?

### **Closure/Summary**

-As a class, create a map of the different invaders, where they came from and how they spread, along with their current estimated trajectory and impact into other areas of North America.

### **Key Question:**

What are the major ecological factors that influence local ecosystems in your region?

### **Evaluation**

Students will be evaluated based on their presentations and how well they grasp the material.



## VI Practical Conservation II The Air We Breathe and the Water We Drink

A Over the long term: Conservation challenges of managing demand on natural resources  
“Environmentally sound, economically viable and socially responsible”

B Pinchot Institute for Environmental Studies

*“This approach is not about vilifying one approach or another, it is about recognizing the legitimacy of a wide range of values and perspectives in society and facilitating a process by which practical and broadly supported solutions can be worked out.”*

1. 2007: Common Waters Partnership

- Sharing information/making better decisions
- Identifying areas most crucial to water quality
  - The Common Waters Fund
    - Provide direct financial assistance to private owners in critical zones
    - Keep forest healthy/encourage stewardship
      - Invasive species, over logging, insects, overgrazing, sediment
    - Forest stewardship plan: connecting professionals with landowners

2. Delaware River Watershed Model

- Fresh water drinking source
- Ecosystems – habitat, recreation, drinking water
- Suburban sprawl / energy exploration
- NY/NJ/DE share “source water protection agency”
- 25 billion/year 16.2 million people on water
- Direct value of forests in protecting that forest

3. Forest health-Human Health Initiative

- Landowners → carbon markets → healthcare
- Private/non industrial lands losing 6000 acres/day
- Vernonia, Oregon Change of Practices
  - History of the “timber town”
  - Family Forest Landowners
  - Rebuilding agenda – transitioning to a different mindset
- “Carbon sequestration”
- “biomass”

3. Ecosystem Management and the Ecomodera Project

- Local and global
- Rural poverty
- 50% carbon emissions come from tropical deforestation
- Effect of Deforestation

**Lesson 6A: Sustaining Forests to Sustain Communities** **Grade level:** 10 – 12 **Time Length:** One class period

**Cross Curricular/Cross Lessons:** 1B: *Ecological Changes and Consequences*; 1D: *Consistent Issues*; 2C: *Stewardship, Consequences and New Ideas*; 3B: *Conservationists, Preservationists and Capitalists*; 6B: *How Forests Protect Water*; 6C: *The realities of protecting land*; 6D: *That’s a Wrap*

**PDE Academic Standards:** 4.3.10.A; 4.1.12.E

### **Objectives:**

Students will understand the connection between environments and human prosperity

Students will understand how complex environmental problems can be

Students will understand how poverty/prosperity and the environment connect

### **Materials**

*Seeking the Greatest Good*

**Anticipatory Set:** (2min) “Moment of Zen” Discuss the quote as it relates to both students and the topic.

*“Without natural resources, life itself is impossible. From birth to death, natural resources, transformed for human use, feed, cloth, 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.”*

– Gifford Pinchot, *Breaking New Ground*

### **Procedure:**

--Watch Chapter VI of *Seeking the Greatest Good*

--As a class, answer the following questions:

1. How did the Forest Health-Human Health Initiative come into being and how is it an example of the complex problems facing conservation and the partnership between private and public enterprise?
2. What are the advantages of putting a “dollar value” to abstract things like clean air?
3. Explain what it takes to transition from a natural resource based economy to one of sustainability?
4. Address the problem in this chapter: How do you keep an industry alive, support a community and do it all while sustaining natural resources and forest ecosystems? How do we *balance*?
5. Describe and explain the difference between correlation and causation when it comes to deforestation and the economy?
6. How does the Ecomadera project address the complex problem of tropical deforestation?

--For further research, develop your own solution to deforestation in either the tropical rainforests or the hardwood forests of the U.S.

### **Closure/Summary**

Students will answer the Key Questions:

What happens when you force an ecosystem to do something other than what it was intended by nature?

Why are healthy ecosystems important for society?

### **Evaluation**

Students will be evaluated on their responses to the questions and their solutions.

**Lesson 6B:** How Forests Protect Water

**Grade level:** 7-12

**Time Length:** 2-3 class periods

**Cross Curricular/Cross Lessons:** Lesson 1A: *The Gilded Age*; 6A: Sustaining Forests ; 6C: Managing the Forests; 6G: What Might Have Been

**PDE Academic Standards:** 4.2.7.A; 4.2.8.A; 4.2.10.A; 4.2.12.A:

### Objectives

- Students will discover the path that water takes in a watershed by researching and building their own model
- Students will understand the impacts of trees and forests on a healthy watershed through research

### Materials

*Seeking the Greatest Good*

Gifford Pinchot's *Primer of Forestry Vol II*: <http://archive.org/stream/aprimerforestry06pincgoog#page/n111/mode/1up>

**Anticipatory Set:** (2min) "Moment of Zen" Discuss the quote as it relates to both students and the topic.

"They say I'm old fashioned, and live in the past, but I think progress progresses too fast! They say I'm a fool to contest things like these, but I'm going to continue to speak for the trees!" -Dr. Seuss *The Lorax*

### Procedure:

--Watch Chapter VI of *Seeking the Greatest Good*

--Two options: show students an image of a watershed and explain how water flows through it, or have students build a model watershed (<http://www.canadiangeographic.ca/watersheds/map/?path=english/learning-resources/making-a-watershed-model>) so they can see how water flows through it.

--Find your local watershed: <http://pacd.org/education/pa-watersheds/>

--Have students read the section titled "Fallen Rain" from pages 67 – 78 in Gifford Pinchot's *Primer of Forestry Vol II*: <http://archive.org/stream/aprimerforestry06pincgoog#page/n111/mode/1up>

--Have students work together in teams of 4-5. Each group will draw (on a white board or a large piece of paper) a picture showing a tree on a hill with a stream below. Students will draw the multiple pathways rain falling on the tree can take, based on the Gifford Pinchot reading. For example, a drop of rain may fall into the canopy, drip down the bole of the tree, into the soil, and be absorbed by the tree roots. What other pathways are possible?

--Hold a class discussion:

-Discuss the various pathways a drop of rain can take when falling into a tree canopy.

-What would happen to the water if the hillside was cleared of trees?

-How do trees reduce the amount of water flowing down the hillside?

-How does the forested hillside impact the flow of water in nearby streams? Immediately after a flood? Several weeks after a flood?

-How does a forested hillside impact the transportation of soil into nearby streams?

-What do you think happens to rain that falls on pavement?

-How does the "Common Waters" program, described in *Breaking New Ground*, help protect water quality of Delaware River?

--\***Extension:** Revisit Lesson 1A: *The Gilded Age* and reexamine the photos from Williamport. Discuss the economical and environmental consequences of the town due to the booming lumber industry at the turn of the century.

### Closure/Summary

Students should be able to answer the Key Question:

How do forests protect watersheds and why is it important to protect watersheds?

### Evaluation

Students will be evaluated on the quality of their models and discussion



**Lesson 6D:** That’s a Wrap      **Grade level:** 6-10      **Time Length:** 1-2 class periods  
**Cross Curricular/Cross Lessons:** 1B: *Ecological Changes*; 1D: *Consistent Issues*; 6A: *Sustaining Forests*; 6E: *Pol. Cartoons*; 6H: *How Do Others See Us?*  
**PDE Academic Standards:** 1.1.8/11; 1.2.8/11; 1.4.8/10; 1.6.8/11; 4.2.8/10; 4.3.7/10; 4.8.7/10/12; 4.9.11; 5.1.9/12; 5.2.9/12; 5.3.9/12; 6.2.9; 6.4.9; 6.5.9/12; 7.1.9/12; 7.4.9/12; 8.1.9/12; 8.2.9/12; 8.3.9/12

**Objectives:**

- Students will trace human interaction with the environment over the last several centuries and evaluate its consequences
- Students will use language to connect emotion with human action
- Students will make a value judgment on the capabilities of human beings to grapple with daunting issues

**Materials:**

*Seeking the Greatest Good*

**Anticipatory Set:** (2min)      “Moment of Zen”      Discuss the quote as it relates to both students and the topic.

*What we make of ourselves and of our society is linked to what we make of the Earth and how we let the Earth make us*

- David Landis Barnhill

**Procedure:**

- View the film *Seeking the Greatest Good* in its entirety
- What word would you use to describe human activity over the last 200 years?  
Progress      adaptation      manipulation      abuse      prosperous      advantageous      inventiveness
- Students should use their historical and scientific knowledge from the unit as evidence.  
<https://www.gilderlehrman.org/history-by-era/politics-reform/resources/theodore-roosevelt-and-conservation>
- Give each student a "theme word" or have them pick. The theme words are listed below. Once students have their words, they must make a written connection between their words and the conservation movement from 1850- present, and explain how their word applies or does not apply. Students should include historical facts as well as their own views. It is up to the instructor if students can use the opposite of their theme word in the writing.
- Students must then make a connection between their theme word and the current agencies and policies of the United States government. This written connection can be one to two paragraphs in length.

**Theme Words**

Prosperity	Change	intervention	Fear	Anger	loss
Power	Greed	Freedom	Aggression	Trust	opulence
Pride	Loyalty	Shame	Pain	Ambition	democracy
Invention	strength	bully	awe	wealth	compromise

- Discuss how word choice affects how we feel about a certain topic. Did the word that the student was assigned make them think positively or negatively? Did that affect their line of thinking?
- Ask them to find other examples of how writing and language affect the way we tend to view certain subjects or viewpoints

**Closure/Summary:**      (3min)

Students should answer the Key Question:  
Should what humans have done through industrialization be considered “progress” or “adaptation” or something else?  
Explain

*In the end, the biggest question remains for our students:*

Will we be able to live within our limits and safeguard the natural world in the decades ahead? Do human beings even have the ability to think bigger than themselves?

**Evaluation:**

Students will be evaluated on the quality of their responses



appropriate candidates. Instruct students to create their own political cartoons and to accompany each with a written explanation of the cartoon's main idea and the techniques used to convey that idea. Provide the following advice: Start with a single, clear idea. Avoid cluttering the cartoon with too many elements (unless central to its meaning). Use words and visual elements to make a single point. Be sure that the most important visual element stands out. Exaggerate for a reason, and don't overdo it. Avoid using too many words, and make sure the ones you use are legible.

Extension: Connecting to the Newspaper

Organize students into small groups and direct them to brainstorm current environmental issues being debated at the local, state, national and global levels. Record their results on four lists and display the lists where the entire class can view them. As a whole class, identify those issues that could be considered reform ideas. Assign students the task of looking through newspapers and periodicals for political cartoons relating to these issues. Instruct them to mark the source and date on each cartoon. Encourage them to add to the list as they encounter cartoons about issues not previously identified. Collect and post the cartoons on a bulletin board and at the end of the designated period, discuss their findings and how they might relate to the issues of the Progressive Era.

**Closure/Summary:** (3min)

Students should answer the Key Question:

Describe the nation's attitude toward conservation in the years before Pinchot and the years after Pinchot.

**Evaluation:**

Students will be evaluated on their responses and projects/presentations

**Lesson 6F:** How Do Others See Us?

**Grade level:** 7-10

**Time:** One class period

**Cross Curricular Components:** 2A: *Influence*; 4B: *Influence of the Arts on Policy*; 6H: *Intro to Global Climate Change*

**PDE Academic Standards:** 4.1.7.A; 4.1.10.A; 1.6.8/11; 4.8.7-12; 7.1.9; 7.4.9; 8.3.9; 9.2.8/11; 9.3.8/12;

**Objectives:**

- Students will examine and discuss the view other nations have of U.S. Environmental policy
- Students will gain a perspective of the United States' role and place in the global community
- Students will be forced to evaluate their own perspectives on U.S. Environmental policy

**Materials:**

*Seeking the Greatest Good*

Powerpoint Slide Show polcar3 (available at [www.wvia.org](http://www.wvia.org))

**Anticipatory Set:** (2min) "Moment of Zen" Discuss the quote as it relates to both students and the topic.

*"Always do the right thing. This will gratify some and astonish the rest."*

-Mark Twain

**Procedure:**

- View Chapter VI of *Seeking the Greatest Good*
- Show the students a successive map of the deforestation in Ecuador
- Ask the students to share how they feel about the deforestation of the tropical rain forests in Ecuador.
- Show students the power point that includes political cartoons from other countries. Using the Cartoon Interpretation worksheet (if necessary), ask the students what each cartoon is trying to say and to record their feelings about the cartoon.
- Have the students answer the following questions (either as a discussion or writing assignment)
  1. What is the overall view of other countries toward US environmental policy?
  2. Why do you think Europe and Canada have an especially harsh view of the US environmental policies?
  3. How does that relate to Gifford Pinchot's early search for a comprehensive forestry plan in Europe?
  4. What are the top three criticisms other countries have with US policy? Does their economy and location matter? Why?
  5. Given its history, does the U.S. have less of or more of a right to influence other countries in how they manage their natural resources?

**Closure/Summary:** (3min)

Ask the students how they feel about the cartoons. Do they feel it is justified or unjustified? Ask them to compare how their own environmental philosophy coincides with their feelings of justification and whether or not the US has a responsibility to the rest of the world. Does their opinion now change about the deforestation of the rain forests?

**Evaluation:**

Students will be evaluated based on the quality of their responses.

*And at that very moment we hard a loud whack  
From outside in the fields came a sickening smack  
Of an axe on a tree, and then we saw the tree fall  
The very last truffula tree of them all...*

*...Unless someone like you cares a whole, awful lot,  
nothing's going to get better, its not...*

*...You're in charge of the last of the truffula seeds,  
and truffula trees are what everyone needs.*

*Plant a new truffula, treat it with care,  
give it clean water, feed it fresh air.*

*Grow a forest, protect it from axes that hack.*

*Then the Lorax and all of his friends may come back.*

**-Dr. Seuss *The Lorax***

**Lesson 6G:** What Might Have Been: IMPACT !

**Grade level:** 10-12

**Time Length:** 3-4 class periods

**Cross Curricular /Cross Lessons:** 1B: *Ecological Changes*; 1C: *Historical Context of Conservation*; 1D: *Consistent Issues*; 3C: *Government Power*; 4A: *Conservation vs Preservation*; 6B: *How Forests Protect Water*; 6D: *That's a Wrap*; 6H: *Introduction to Global Climate Change*

**PDE Academic Standards:** 1.1.8/11; 1.2.8/11; 1.4.8/10; 1.6.8/11; 4.2.8/10; 4.3.7/10; 4.8.7/10/12; 4.9.11; 5.1.9/12; 5.2.9/12; 5.3.9/12; 6.2.9; 6.4.9; 6.5.9/12; 7.1.9/12; 7.4.9/12; 8.1.9/12; 8.2.9/12; 8.3.9/12

**Objectives:**

- Students will synthesize information obtained from several subject areas in the past unit and create their own interpretation of the variable past and future through additional research
- Students will evaluate the change in human needs over time and the way in which those needs are met.
- Students will report on the impact of government intervention

**Materials:**

*Seeking the Greatest Good*

**Anticipatory Set:** (2min) "Moment of Zen" Discuss the quote as it relates to both students and the topic.

*"Somehow our schoolbooks always seemed to make the flow of history appear to have its own logic – as if it could not have been any other way."*

**Procedure:**

-Anonymous

--View *Seeking the Greatest Good* in its entirety

Cross curricular extension activity:

--If feasible, the Social Studies and Science teachers can join together and craft units that will allow students to complete the following culminating activity. Students will need information on ecology, forest management and other areas as well as the historical and civic lessons from previous lessons in this guide in order to complete the project.

--From your research, write a description of what you think the world would be like now if conservation had not been started in the 1880s and government mandates had not been applied. Use scientific research on biology and ecology as well as historical information to support your description. Present your findings to the class along with recommendations for a sustainability plan that may or may not include governmental mandates, incentives, community partnerships, educational initiatives, etc. Be sure to include a snapshot (visuals are helpful) of what our world will look like 150 years from now? What challenges will we face? What evidence do you have to support this?

**Civics Extension:** Research any government mandated protection 6 ways people are influenced by environmental laws: zoning permits, building permits, water treatment plants, hydro electric power stations, sewer bills, fuel efficiency mandates, hunting, emissions, etc. How do these support the "Greatest Good"?

**Closure/Summary:** (3min)

Judging by the students plans, ask them the Key Question

- Has the definition of "practical conservation" changed? If so, how?
- How does today's practical conservation fit within the context of the phrase "The greatest good for the greatest number in the long run"?
- Should what humans have done through industrialization be considered "progress" or "adaptation" or something else? Explain

**Evaluation:**

Students will be evaluated based on the creativity of their assignment, the overall presentation and the inclusion of research and film information.

**Lesson 6H:** Introduction to Global Climate Change      **Grade Level:** 9 – 12      **Time Length:** 2-3 classes  
**Cross Curricular/Cross Lessons:** 5A: *The Modern Era*; 6D: *That’s a Wrap*; 6F: *How Do Others See Us?*; 6G: *What Might Have Been*  
**PDE Academic Standards:** 1.1.11; 1.2.11; 1.6.11; 3.3.10.A2, 4.1.10.B; 4,3.12; 4.8.12; 7.1.12; 7.3.12; 7.4.12

**Objectives:**

- Students will make a judgment about the causes and impacts of global climate change.
- Students will understand the potential impacts of climate change on physical and biological systems.
- Students will discuss potential solutions to climate change.

**Materials:**

Seeking the Greatest Good  
Science Learning’s carbon cycle diagram:  
<http://www.sciencelearn.org.nz/Contexts/The-Ocean-in-Action/Sci-Media/Animations-and-Interactives/Carbon-cycle>  
Union of Concern Scientists climate change PowerPoint presentation: <http://www.ucsusa.org/gulf/gulf-1-climate.ppt>  
Union of Concerned Scientists Hot Map: <http://www.climatehotmap.org/>  
Intergovernmental Panel on Climate Change’s 4<sup>th</sup> Assessment Report on Climate Change:  
[http://www.ipcc.ch/publications\\_and\\_data/ar4/syr/en/main.html](http://www.ipcc.ch/publications_and_data/ar4/syr/en/main.html)

**Anticipatory Set:** (2min)      “Moment of Zen”      Discuss the quote as it relates to both students and the topic.  
“Only when the last tree is cut, the last fish is caught, and the last river is polluted; when to breathe the air is sickening, you will realize, too late, that wealth is not in bank accounts and that you can’t eat money.  
--Alanis Obomsawin

**Procedure:**

1. Show and discuss the carbon cycle with your students, using Science Learning’s carbon cycle diagram. Ensure the students understand how carbon is sequestered:
  - By the ocean                      -In soil                              -In plants/trees
2. Use the Union of Concerned Scientists climate change PowerPoint to introduce the concept of climate change, its causes, and impacts to your class. **Suggested reading for advanced classes:** Chapters 1 and 2 of the Intergovernmental Panel on Climate Change’s 4<sup>th</sup> Assessment Report on Climate change
3. After giving the climate change presentation, discuss the following questions as a group:
  - What is climate change?
  - What are the primary factors causing climate change?
  - What is the proof that climate change is due to human activities?
  - What is the Intergovernmental Panel for Climate Change?
  - Describe several observed effects of climate change.
  - Describe several impacts climate change is having on physical systems.
  - Describe several impacts climate change is having on biological systems.
  - How might climate change impact human health?
  - How do you think we can reduce the rate of climate change?
4. Group projects:  
Break students in groups of 3-5 and ask each group to choose a hot spot of their choice on the Union of Concerned Scientists Hot Map, making sure no two groups use the same hotspot.
5. Ask the groups to read the entire hot spot description (making sure they know to click on *details* to open an expanded webpage for their particular hot spot. Ask them to write answer the following questions
  - Where is your hot spot?
  - What is the climate-change related issue for your hot spot?
  - Explain how a changing climate is impacting your hot spot.
  - Which of the following is impacted: humans, biological systems, physical systems? Describe the impact for each that applies.
6. After students complete the assignment, discuss this question:
  - Does climate change only impact the environment?
7. Watch “Forest health-Human health” section of Chapter VI of *Seeking the Greatest Good*. Discuss the following questions as a class:
  - How do trees sequester and store carbon?

- How is carbon sequestration connected to climate change?
- What happens to the carbon when trees are cut and processed into wooden products?
- Explain one of the primary reasons described in the documentary that private landowners sell forest lands?
- How does The Pinchot Institute for Conservation's "Forest health-Human health" program work?
- How does "Forest health-Human health" help keep carbon sequestered and how does this impact climate change?
- How does "Forest health-Human health" help private landowners?
- How does "Forest health-Human health" help the general public?

***Reiterate the importance of finding conservation solutions that work not only for the environment, but also the humans that inhabit that environment***

6. Discuss with your class how individual students can reduce their carbon footprint. For ideas, visit [myfootprint.org](http://www.myfootprint.org):  
[http://www.myfootprint.org/en/take\\_action/reduce\\_your\\_footprint/](http://www.myfootprint.org/en/take_action/reduce_your_footprint/)

**Extension: Media activity – poll and platform comparison **\*\*It is strongly suggested that this activity coincide with Lesson 5A: The Modern Era****

- Have students research the Earth's temperature over the last 150 years as well as other facts relating to Global Warming and Climate Change. Host a debate on whether human activity is the cause of the weather phenomena we have been experiencing. Have them also research proposed solutions.
- Ask the students to correspond each solution and opinion to various political parties, comparing party platforms and opinion polls as they change over time. Create a chart or graph illustrating these comparisons and changes
- Compare public opinion with the public political and media debate and find any correlations between the two.

**Extension: Corner of the room activity – research, choose – debate – re-choose**

**\*\*It is strongly suggested that this activity coincide with Lesson 5A: The Modern Era**

- Based on their research, ask the students to sort themselves into a corner of the room – one that climate change exists but naturally, one that climate change exists due to man's actions, one that climate change does not exist at all.
- Debate for a time and then allow the students to change their corner based on the first part of the debate
- In their new groups, have the students create their own proposals that may or may not involve government intervention and should include the most effective way to address these issues as they have learned from the film and the previous lessons.
- Have the class vote for their favorite proposal. Some aspects of the winning proposal should include aspects the students can do at home, school, or advocate for in their community. All effort should be made for the students to follow through with their chosen proposal. Stress that they are the future of the conservation movement

**Evaluation:** Students will be evaluated on their responses during discussion following the climate change presentation and following the "Forest health-Human health" discussion, as well as their written hot spot answers.

# Seeking the Greatest Good

THE CONSERVATION LEGACY OF GIFFORD PINCHOT



## Additional Activity Ideas

### Debate Critique

Use the following phrases to make signs for your students. In any kind of debating activity or class discussion, ask the students to hold up his/her sign whenever one of their classmates commits one of these no-nos for historians:

Over generalization

Evidence deficit

Utopian standards

Unexamined nostalgia

Romanticization

Binary categorization

Presentism

Teleology

### Forest History Society

“...In the aftermath of 1910, Chief Graves staked the agency’s continued existence on the belief that it could in fact defeat fire. Toward that end, Graves embraced a cooperative approach with state and private associations to fight fire...and soon launched a fire protection campaign that involved removing fire from the landscape...The campaign, which would lead to the creation of Smokey Bear, would last for more than half a century and completely change forest ecology throughout the country during its lifetime..Now the folly of fighting backcountry fires is widely accepted and the role of fire in maintaining forest health is understood. The impact of the campaign is the most important legacy of the 1910 Fires and the Big Blowup—and it is a legacy that we are still coping with today.”

Examine the ecosystem of a forest and the role that fire plays in that ecosystem.

<http://www.foresthistory.org/ASPNET/Policy/Fire/FamousFires/1910Fires.aspx>

### Service Learning

Find ways to help in your community. Examine the policies and layout of your town or borough and think of ways to make the water cleaner or spruce up a public space.

### Learning the National Parks

Ask individual students to choose one of the national parks or forests existing today, anywhere in the national system. Have students prepare a brochure and a fact sheet for that park. The fact sheet should include when the park was created, its location, major features and any problems, controversies, etc. Ask students to predict what might have happened to the land if it hadn’t been designated as a conservation site. In the classroom have students locate the park they chose on a large map of the US with pushpins, flags or other devices. They might also outline the area covered by their various parks. Design a display of the student brochures.

### Hey, Map!

As President, TR funded 21 reclamation projects, and established 150 national forests, 51 bird preserves, 4 game preserves, 5 national parks, and 18 national monuments. In order to give students a visual tool illustrating TR’s achievements in conservation, provide each student with a map of the US (including Alaska, Hawaii, and Puerto Rico). Using the map key (Appendix F), have each student fill in the states with letters representing lands/projects set aside by TR.

### Bill Moyer’s Journal

Examines Rachel Carson’s *Silent Spring*

<http://www.pbs.org/moyers/journal/educators/rachelcarson.html>

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## Additional Resources

### The U.S. Forest Service

*“The Forest Service is committed to connecting kids with nature and the outdoors by providing students, parents and teachers with youth-oriented information and resources related to natural resources and the environment. Our Agency wants to encourage more kids to go outdoors by having fun, being healthy and learning more about nature. This can instill kids to create an awareness of the value of public lands, seek careers in natural resources and land management as well as enthusiastically participate in physical activities”*  
<http://www.fs.fed.us/>

### Gilder Lehrman Institute of American History

*“Founded in 1994 by Richard Gilder and Lewis E. Lehrman, the Gilder Lehrman Institute of American History is a nonprofit organization devoted to the improvement of history education. The Institute has developed an array of programs for schools, teachers, and students that now operate in all fifty states, including a website that features the more than 60,000 unique historical documents in the Gilder Lehrman Collection. Each year the Institute offers support and resources to tens of thousands of teachers, and through them enhances the education of more than a million students. The Institute’s programs have been recognized by awards from the White House, the National Endowment for the Humanities, and the Organization of American Historians.”*

### The Pinchot Institute for Conservation

*“The mission of the Pinchot Institute is to strengthen forest conservation thought, policy, and action by developing innovative, practical, and broadly-supported solutions to conservation challenges and opportunities. We accomplish this through nonpartisan research, education, and technical assistance on key issues influencing the future of conservation and sustainable natural resource management.”*  
<http://www.pinchot.org/>

### Grey Towers National Historic Site

*“Grey Towers is the ancestral home of Gifford Pinchot, first chief of the US Forest Service and twice Governor of Pennsylvania. Today Grey Towers serves as a conservation education and leadership center, with programs that interpret the lives of the Pinchot family... The US Forest Service at Grey Towers offers a variety of curriculum-based conservation education programs for students in grades 2-12. These programs are designed to increase students’ awareness, appreciation and understanding of natural resource conservation, which we hope will foster a sense of individual responsibility for land stewardship. We tailor each program so that it is grade appropriate and otherwise meets your needs. Our programs are offered **free of charge**...”*  
<http://www.fs.fed.us/gt/>

### The National Park Service

<http://www.nps.gov/index.htm>

Specific to TR: <http://www.nps.gov/thro/historyculture/theodore-roosevelt-and-conservation.htm>

### The Gifford Pinchot Task Force

*The Gifford Pinchot Task Force supports the biological diversity and communities of the Northwest through conservation and restoration of forests, rivers, fish and wildlife. We work in conservation, restoration, and policy.*  
<http://www.gptaskforce.org/>

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## **Theodore Roosevelt Conservation Partnership**

*“In order to guarantee all Americans quality places to hunt and fish, we strengthen laws, policies and practices affecting fish and wildlife conservation by leading partnerships that influence decision makers.”*

<http://www.trcp.org/>

## **Gifford Pinchot National Forest**

*“The Gifford Pinchot National Forest is one of the oldest National Forests in the United States. Included as part of the Mount Rainier Forest Reserve in 1897, this area was set aside as the Columbia National Forest in 1908. It was renamed the Gifford Pinchot National Forest in 1949.”*

<http://www.fs.usda.gov/giffordpinchot>

## **The Evolution of the Conservation Movement: Library of Congress**

*A “one stop shop” for the modern conservation movement which includes a timeline, primary sources and links to other resources*

<http://memory.loc.gov:8081/ammem/amrvhtml/conshome.html>

## **Mapping the National Parks: Library of Congress**

*“The Mapping the National Parks collection documents the history, cultural aspects and geological formations of areas that eventually became National Parks. The collection consists of approximately 200 maps dating from the 17th century to the present, reflecting early mapping of the areas that would become four National Parks, as well as the parks themselves. Production of this collection is being supported by a generous gift from The Rockefeller Foundation.”*

<http://memory.loc.gov/ammem/gmdhtml/nphhtml/nphome.html>

<http://www.loc.gov/teachers/classroommaterials/connections/mapping-national-parks/thinking5.html>

## **Pennsylvania Department of Environmental Protection**

[http://www.portal.state.pa.us/portal/server.pt/community/dep\\_home/5968](http://www.portal.state.pa.us/portal/server.pt/community/dep_home/5968)

## **Teaching American History.org**

*Document libraries, professional development and more – all relating to American history.*

<http://teachingamericanhistory.org/>

## **National Archives Education**

<http://www.archives.gov/education/>

## **Dust Bowl: The Southern Plains in the 1930's**

*“In the mid 1930s, North America's Great Plains faced one of the worst man-made environmental disasters in world history. Donald Worster's classic chronicle of the devastating years between 1929 and 1939 tells the story of the Dust Bowl in ecological as well as human terms.”*

## **Search for the Ultimate Sink by Joel A Tarr**

*“In this collection of his essays, Professor Tarr surveys what technology has done to, and for, the environment of the American city since 1850. In studies ranging from the horse to the railroad, from infrastructure development to industrial and domestic pollution, from the Hudson River to the smokestacks of Pittsburgh, his constant theme is the tension between the production of wastes and the attempts to dispose of them or control them with minimal costs.”*

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## **Encounters with the Archdruid by John McFee**

“...The four men portrayed here have different relationships to their environment, and they encounter each other on mountain trails, in forests and rapids, sometimes with reserve, sometimes with friendliness, sometimes fighting hard across a philosophical divide.”

## **One Million Trees**

“Communities within the state’s 14 metropolitan areas can obtain trees for streets, parks and streamsides.” TreVitalize can provide trees, training, mulch and soil, plan assistance, site preparation and planting assistance.

[www.treevitalize.net](http://www.treevitalize.net)

## **Department of Conservation and Natural Resources**

<http://www.dcnr.state.pa.us/index.aspx>

<http://www.dcnr.state.pa.us/wrcp/wildnotes/spring11/index.html>

## **USDA Forest Service: The First Century**

Beautifully concise and general overview of the beginnings of the National Forest Service.

[http://www.foresthistory.org/ASPNET/Publications/first\\_century/index.htm](http://www.foresthistory.org/ASPNET/Publications/first_century/index.htm)

## **The Lorax by Dr. Seuss**

This classic by Dr. Seuss is a satirical look at Industrialization, corporate greed, marketing, consumer culture, pollution and environmental advocacy.

<http://www.youtube.com/watch?v=ZA4k2E0ZzTk>

## **Sustaining Penn’s Woods**

“In the fall of 2000, Pennsylvania schools received "Sustaining Penn's Woods - A Sound Use of the Land." This curriculum is designed to help you and your students in grades five through 10 to meet Pennsylvania's new Academic Standards for Environment & Ecology.”

<http://www.hlma.org/pennswoods/info.htm>

## **PA Land Choices**

“PA Land Choices is a curriculum, a collection of activities that guides learners in understanding the forces and choices that shape a community and region. It challenges participants to become involved in their community and to conserve their natural resources.”

<http://conservationtools.org/guides/show/18>

## **Pennsylvania Museum and Historical Commission: Historic Agricultural Resources of Pennsylvania c 1700-1960**

This introductory summary discusses the organization, content, and development of the context. It defines historical farming systems and how historical regions are identified. It contains basic principles that will be applied throughout the Commonwealth. The time frame for analysis extends to 1960, a watershed decade that saw dramatic transformations in production agriculture.

[http://www.portal.state.pa.us/portal/server.pt/community/pennsylvania%27s\\_agricultural\\_history/2584](http://www.portal.state.pa.us/portal/server.pt/community/pennsylvania%27s_agricultural_history/2584)



## Teacher Survey/Feedback Form

1. For what grade did you use this unit?
2. Did you utilize all or part of the activities/resources suggested? Which ones?
3. Were you able to modify the activities/discussions listed to fit your curriculum/grade level?  
If so, how did you modify it?
4. What was the student's reaction to this content? Would you say it held their attention and helped them learn? Why or why not?
5. Do you feel this is a necessary resource in the WVIA school district membership?  
-Why?  
  
-Rank this from 1-10, please. One being the least important aspect of WVIA membership, 10 being the most important.
6. Do you have any suggestion for subject matter in the future? What do you feel is lacking in terms of the availability of good instructional resources and ideas?
7. Overall, was this resource helpful in adding, supplementing or creating new content for your classroom?

Would you say it is unique compared to your other resources?

## Breakthroughs from the Gilded Age and the Industrial Revolution

*\*\*Note that this is not an exhaustive list. Teachers should add to and subtract from this list as they see fit for time and lesson.*

<b>Breakthroughs</b>	<b>Consequences</b>
industrial growth	Child Labor
inventions	Pollution
transportation	Urban sprawl
communication	Tenements
Edison	Monopolies
Ford	poverty
New fuels	Overgrazing
The Titanic	Special interests
Wright Brothers	tycoons
land rush	Land giveaways
Prosperity- Wealth	Lack of policing
Dynamic outlook	Massive land theft
optimism	“Cut and Run”
confidence	RR price fixing
Social Science	Labor strikes
Leisure	Labor violence
Gold Rush	
aesthetics	
energy	

**Man and nature; or, Physical geography as modified by human action. By George P. Marsh...**

*Educators should use this first paragraph as a “warm up” for students who are not used to reading or understanding the vernacular of the 19<sup>th</sup> century. Have the students define first the underlined words in the piece and then, as a class, summarize the paragraph line by line. This will be the way they will “translate” each section in later groups.*

“...Only for the sense of landscape beauty did unaided nature make provision. Indeed, the very commonness of this source of refined enjoyment seems to have deprived it of half its value; and it was only in the infancy of lands where all the earth was fair, that Greek and Roman humanity had sympathy enough with the inanimate world to be alive to the charms of rural and of mountain scenery. In later generations, when the glories of the landscape had been heightened by plantation, and decorative architecture, and other forms of picturesque improvement, the poets of Greece and Rome were blinded by excess of light, and became, at last, almost insensible to beauties that now, even in their degraded state, enchant every eye, except, too often, those which a lifelong familiarity has dulled to their attractions...”

Define:

-provision

-Commonness

-humanity

-inanimate

-picturesque

1. What is Marsh saying in this paragraph? What happened? Why did it happen?

**Man and nature; or, Physical geography as modified by human action. By George P. Marsh...**

The Roman Empire, at the period of its greatest expansion, comprised the regions of the earth most distinguished by a happy combination of physical advantages. The provinces bordering on the principal and the secondary basins of the Mediterranean enjoyed a healthfulness and an equability of climate, a fertility of soil, a variety of vegetable and mineral products, and natural facilities for the transportation and distribution of exchangeable commodities, which have not been possessed in an equal degree by any territory of like extent on the Old World or the New. The abundance of the land and of the waters adequately supplied every material want, ministered liberally to every sensuous enjoyment...

Of these manifold blessings the temperature of the air, the distribution of the rains, the relative disposition of land and water, the plenty of the sea, the composition of the soil, and the raw material of some of the arts, were wholly gratuitous gifts...toil was nowhere else rewarded by so generous wages; for nowhere would a given amount of intelligent labor produce so abundant, and, at the same time, so varied returns of the good things of material existence. The luxuriant harvests of cereals that waved on every field from the shores of the Rhine to the banks of the Nile, the vines that festooned the hillsides of Syria, of Italy, and of Greece, the olives of Spain...all these were original products of foreign climes, naturalized in new homes, and gradually ennobled by the art of man...

Define:

- provinces
- “Old World”
- liberally
- sensuous
- manifold
- gratuitous
- generous
- abundant
- varited
- luxuriant
- festooned

1. Summarize the piece (“Translate” it!)

2. What advantages do the “temperature of the air, the distribution of the rains, the relative disposition of land and water, the plenty of the sea, the composition of the soil, and the raw material of some of the arts...” have to do with natural resources and the wealth of humans?

**Man and nature; or, Physical geography as modified by human action. By George P. Marsh...**

...If we compare the present physical condition of the countries of which I am speaking, with the descriptions that ancient historians and geographers have given of their fertility and general capability of ministering to human uses, we shall find that more than one half of their whole extent...is either deserted by civilized man and surrendered to hopeless desolation, or at least greatly reduced in both productiveness and population. Vast forests have disappeared from mountain spurs and ridges; the vegetable earth accumulated beneath the trees by the decay of leaves and fallen trunks, the soil of the alpine pastures which skirted and indented the woods, and the mould of the upland fields, are washed away; meadows, once fertilized by irrigation, are waste and unproductive, because the cisterns and reservoirs that supplied the ancient canals are broken, or the springs that fed them dried up; rivers famous in history and song have shrunk to humble brooklets; the willows that ornamented and protected the banks of the lesser watercourses are gone, and the rivulets have ceased to exist as perennial currents, because the little water that finds its way into their old channels is evaporated by the droughts of summer, or absorbed by the parched earth, before it reaches the lowlands; the beds of the brooks have widened into broad expanses of pebbles and gravel, over which, though in the hot season passed dryshod, in winter sealike torrents thunder; the entrances of navigable streams are obstructed by sandbars, and harbors, once marts of an extensive commerce, are shoaled by the deposits of the rivers at whose mouths they lie; the elevation of the beds of estuaries, and the consequently diminished velocity of the streams which flow into them, have converted thousands of leagues of shallow sea and fertile lowland into unproductive and miasmatic morasses.

Besides the direct testimony of history to the ancient fertility of the regions to which I refer--Northern Africa, the greater Arabian peninsula, Syria, Mesopotamia, Armenia, and many other provinces of Asia Minor, Greece, Sicily, and parts of even Italy and Spain--the multitude and extent of yet remaining architectural ruins, and of decayed works of internal improvement, show that at former epochs a dense population inhabited those now lonely districts. Such a population could have been sustained only by a productiveness of soil of which we at present discover but slender traces; and the abundance derived from that fertility serves to explain how large armies, like those of the ancient Persians, and of the Crusaders and the Tartars in later ages, could, without an organized commissariat, secure adequate supplies in long marches through the territories which, in our times, would scarcely afford forage for a single regiment.

Define: -capability	-ministering	-deserted	-civilized
-mould	-desolateion	-skirted	-indented
-cisterns	-resivouirs	-perennial	-dryshod
-obstructed	-miasmatic	-sustained	-slender
-abundance			

1. Summarize the piece ("Translate" it!)
2. What are the consequences of the Empire? What does he describe?
3. What does he infer about the population that once inhabited the region compared to ours?

**Man and nature; or, Physical geography as modified by human action. By George P. Marsh...**

It appears, then, that the fairest and fruitfulest provinces of the Roman Empire...is now completely exhausted of its fertility...to be no longer capable of affording sustenance to civilized man. If to this realm of desolation we add the now wasted and solitary soils of Persia and the remoter East, that once fed their millions with milk and honey, we shall see that a territory larger than all Europe...has been entirely withdrawn from human use...

The decay of these once flourishing countries is...either the result of man's ignorant disregard of the laws of nature, or an incidental consequence of war, and of civil and ecclesiastical tyranny and misrule...

[Note : \* The temporary depopulation of an exhausted soil may be, in some cases, a physical, though, like fallows in agriculture, a dear-bought advantage. Under favorable circumstances, the withdrawal of man and his flocks allows the earth to clothe itself again with forests, and in a few generations to recover its ancient productiveness. In the Middle Ages, worn-out fields were depopulated, in many parts of the Continent, by civil and ecclesiastical tyrannies, which insisted on the surrender of the half of a loaf already too small to sustain its producer. Thus abandoned, these lands often relapsed into the forest state, and, some centuries later, were again brought under cultivation with renovated fertility.] has been half awakened to the necessity of restoring the disturbed harmonies of nature, whose well-balanced influences are so propitious to all her organic offspring, of repaying to our great mother the debt which the prodigality and the thriftlessness of former generations have imposed upon their successors--thus fulfilling the command of religion and of practical wisdom, to use this world as not abusing it.

...Perhaps the most interesting field of speculation, thrown open by the new school to the cultivators of this attractive study, is the inquiry: how far external physical conditions, and especially the configuration of the earth's surface, and the distribution, outline, and relative position of land and water, have influenced the social life and social progress of man..."

Define: -sustenance	-desolation	-ignorant	-disregard
-ecclesiastical	-tyranny	-fallows	-sustain
-cultivation	-propitious	-organic	-prodigality

1. Summarize the piece ("Translate" it!)

2. What is responsible for the "decay of these once flourishing countries"?

3. What is the ironic advantage that populations of people tend to desert "used up" land? Give one real world example of this.

**Man and nature; or, Physical geography as modified by human action. By George P. Marsh...**

“...The supply of moisture derived from the snow, augmented by the rains of the following seasons, keeps the forest ground, where the surface is level or but moderately inclined, in a state of saturation through almost the whole year. The rivers fed by springs and shaded by woods are comparatively uniform in volume, in temperature, and in chemical composition. Their banks are little abraded, nor are their courses much obstructed by fallen timber, or by earth and gravel washed down from the highlands. Their channels are subject only to slow and gradual changes, and they carry down to the lakes and the sea no accumulation of sand or silt to fill up their outlets, and, by raising their beds, to force them to spread over the low grounds near their mouth. In this state of things, destructive tendencies of all sorts are arrested or compensated, and tree, bird, beast, and fish, alike, find a constant uniformity of condition most favorable to the regular and harmonious coexistence of them all.

With the disappearance of the forest, all is changed. At one season, the earth parts with its warmth by radiation to an open sky--receives, at another, an immoderate heat from the unobstructed rays of the sun. Hence the climate becomes excessive, and the soil is alternately parched by the fervors of summer, and scarred by the rigors of winter. Bleak winds sweep unresisted over its surface, drift away the snow that sheltered it from the frost, and dry up its scanty moisture. The precipitation becomes as regular as the temperature; the melting snows and vernal rains, no longer absorbed by a loose and bibulous vegetable mould, rush over the frozen surface, and pour down the valleys seaward, instead of filling a retentive bed of absorbent earth, and storing up a supply of moisture to feed perennial springs. The soil is bared of its covering of leaves, broken and loosened by the plough, deprived of the fibrous rootlets which held it together, dried and pulverized by sun and wind, and at last exhausted by new combinations. The face of the earth is no longer a sponge, but a dust heap, and the floods which the waters of the sky pour over it hurry swiftly along its slopes, carrying in suspension vast quantities of earthy particles which increase the abrading power and mechanical force of the current, and, augmented by the sand and gravel of falling banks, fill the beds of the streams, divert them into new channels and obstruct their outlets. The rivulets, wanting their former regularity of supply and deprived of the protecting shade of the woods, are heated, evaporated, and thus reduced in their summer currents, but swollen to raging torrents in autumn and in spring. From these causes, there is a constant degradation of the uplands, and a consequent elevation of the beds of watercourses and of lakes by the deposition of the mineral and vegetable matter carried down by the waters. The channels of great rivers become unnavigable, their estuaries are choked up, and harbors which once sheltered large navies are shoaled by dangerous sandbars. The earth, stripped of its vegetable glebe, grows less and less productive, and, consequently, less able to protect itself by weaving a new network of roots to bind its particles together, a new carpeting of turf to shield it from wind and sun and scouring rain. Gradually it becomes altogether barren. The washing of the soil from the mountains leaves bare ridges of sterile rock, and the rich organic mould which covered them, now swept down into the dank low grounds, promotes a luxuriance of aquatic vegetation that breeds fever, and more insidious forms of mortal disease, by its decay, and thus the earth is rendered no longer fit for the habitation of man.

Define:--augmented	-inclined	-uniformed	-abrated
--tendencies	-arrested	-harmonious	-coexistence
--immoderate	-bibulous	-fibrous	-pulverized
--divert	-degradation	-consequent	-unnavigable
--barren	-sterile	-insidious	

1. Summarize the piece (“Translate” it!)
2. What are the advantages Marsh is describing for a natural forest?
3. Is Marsh justified in asserting that without forests, “the earth is rendered no longer fit for the habitation of man”? Why or why not?

**Man and nature; or, Physical geography as modified by human action. By George P. Marsh...**

To the general truth of this sad picture there are many exceptions, even in countries of excessive climates. Some of these are due to favorable conditions of surface, of geological structure, and of the distribution of rain; in many others, the evil consequences of man's improvidence have not yet been experienced, only because a sufficient time has not elapsed, since the felling of the forest, to allow them to develop themselves. But the vengeance of nature for the violation of her harmonies, though slow, is sure, and the gradual deterioration of soil and climate in such exceptional regions is as certain to result from the destruction of the woods as is any natural effect to follow its cause.

Although this particular evil effect of too extensive clearing was so early noticed, the lesson seems to have been soon forgotten. The legislation of the Middle Ages in Europe is full of absurd provisions concerning the forests, which sovereigns sometimes destroyed because they furnished a retreat for rebels and robbers, sometimes protected because they were necessary to breed stags and boars for the chase, and sometimes spared with the more enlightened view of securing a supply of timber and of fuel to future generations.\* It was reserved to later ages to appreciate their geographical importance, and it is only in very recent times, only in a few European countries, that too general felling of the woods has been recognized as the most destructive among the many causes of the physical deterioration of the earth...

Define:

-excessive

-distribution

-improvidence

-absurd

-enlightened

-felling

1. Summarize the piece ("Translate" it!)
  
2. According to Marsh, what are the reasons for "exceptions" to the rule that overuse of the land and resources by humans results in irreparable damage and negative consequences for humans? Give one real world example of each.
  
3. What do you think Marsh means by "But the vengeance of nature for the violation of her harmonies, though slow, is sure, and the gradual deterioration of soil and climate in such exceptional regions is as certain to result from the destruction of the woods as is any natural effect to follow its cause."?
  
4. What sort of activities by man in the past have resulted in natural destruction? What do you think it is about people that he "lesson seems to have been soon forgotten"? How do we learn from our mistakes? How do we prevent these issues in the future?

*THE* most prosperous nation of to-day is the United States. Our unexampled health and well-being are directly due to the superb natural resources of our country, and to the use which has been made of them by our citizens, both in the present and in the past. We are prosperous because our forefathers bequeathed to us a land of marvellous resources still unexhausted. Shall we conserve those resources, and in our turn transmit them, still unexhausted, to our descendants?

Unless we do, those who come after us will have to pay the price of misery, degradation, and failure for the progress and prosperity of our day. When the natural resources of any nation become exhausted, disaster and decay in every department of national life follow as a matter of course. Therefore the conservation of natural resources is the basis, and the only permanent basis, of national success. There are other conditions, but this one lies at the foundation.

Perhaps the most striking characteristic of the American people is their superb practical optimism; that marvelous hopefulness which keeps the individual efficiently at work. This hopefulness of the American is, however, as short-sighted as it is intense. As a rule, it does not look ahead beyond the next decade or score of years, and fails wholly to reckon with the real future of the Nation. I do not think I have often heard a forecast of the growth of our population that extended beyond a total of two hundred millions, and that only as a distant and shadowy goal. The point of view which this fact illustrates is neither true nor farsighted. We shall reach a population of two hundred millions in the very near future, as time is counted in the lives of nations, and there is nothing more certain than that this country of ours will some day support double or triple or five times that number of prosperous people if only we can bring ourselves so to handle our natural resources in the present as not to lay an embargo on the prosperous growth of the future.

We, the American people, have come into the possession of nearly four million square miles of the richest portion of the earth. It is ours to use and conserve for ourselves and our descendants, or to destroy. The fundamental question which confronts us as, What shall we do with it?

That question cannot be answered without first considering the condition of our natural resources and what is being done with them to-day. As a people, we have been in the habit of declaring certain of our resources to be inexhaustible. To no other resource more frequently than coal has this stupidly false adjective been applied...our supplies of anthracite coal will last but fifty years and of bituminous coal less than two hundred years. From the point of view of national life, this means the exhaustion of one of the most important factors in our civilization within the immediate future. ..Yet, in the face of these known facts, we continue to treat our coal as though there could never be an end of it...The loss to the Nation from this form of waste is prodigious and inexcusable...

Many oil and gas fields, as in Pennsylvania, West Virginia, and the Mississippi Valley, have already failed, yet vast amounts of gas continue to be poured into the air and great quantities of oil into the streams. Cases are known in which great volumes of oil were systematically burned in order to get rid of it.

The prodigal squandering of our mineral fuels proceeds unchecked in the face of the fact that such resources as these, once used or wasted, can never be replaced. If waste like this were not chiefly thoughtless, it might well be characterized as the deliberate destruction of the Nation's future.

Many fields of iron ore have already been exhausted, and in still more, as in the coal mines, only the higher grades have been taken from the mines, leaving the least valuable beds to be exploited at increased cost or not at all. Similar waste in the case of other minerals is less serious only because they are less indispensable to our civilization than coal and iron. Mention should be made of the annual loss of millions of dollars worth of by-products from coke, blast, and other furnaces now thrown into the air, often not merely without benefit but to the serious injury of the community. In other countries these by-products are saved and used.

...The waste of soil is among the most dangerous of all wastes now in progress in the United States...In the upland regions of the states south of Pennsylvania three thousand square miles of soil had been destroyed as the result of forest denudation, and

that destruction was then proceeding at the rate of one hundred square miles of fertile soil per year...The soil loss...becomes itself a source of damage and expense, and must be removed from the channels of our navigable streams at an enormous annual cost. The Mississippi River alone is estimated to transport yearly four hundred million tons of sediment, or about twice the amount of material to be excavated from the Panama Canal. This material is the most fertile portion of our richest fields, transformed from a blessing to a curse by unrestricted erosion.

The destruction of forage plants by overgrazing has resulted, in the opinion of men most capable of judging, in reducing the grazing value of the public lands by one-half...The destruction of forage plants is accompanied by loss of surface soil through erosion; by forest destruction; by corresponding deterioration in the water supply... These sources of loss from failure to conserve the range are felt to-day...The obvious and certain remedy is for the Government to hold and control the public range until it can pass into the hands of settlers who will make their homes upon it. As methods of agriculture improve and new dry-land crops are introduced, vast areas once considered unavailable for cultivation are being made into prosperous homes...

The single object of the public land system of the United States, as President Roosevelt repeatedly declared, is the making and maintenance of prosperous homes. That object cannot be achieved unless such of the public lands as are suitable for settlement are conserved for the actual home-maker...Of all forms of conservation there is none more important than that of holding the public lands for the actual home-maker.

It is a notorious fact that the public land laws have been deflected from their beneficent original purpose of home-making by lax administration, short-sighted departmental decisions, and the growth of an unhealthy public sentiment in portions of the West... Few passions of the human mind are stronger than land hunger, and the large holder clings to his land until circumstances make it actually impossible for him to hold it any longer. Large holdings result in sheep or cattle ranges, in huge ranches, in great areas held for speculative rise in price, and not in homes. Unless the American homestead system of small free-holders is to be so replaced by a foreign system of tenantry, there are few things of more importance to the West than to see to it that the public lands pass directly into the hands of the actual settler...

... The United States has already crossed the verge of a timber famine so severe that its blighting effects will be felt in every household in the land. The rise in the price of lumber which marked the opening of the present century is the beginning of a vastly greater and more rapid rise which is to come. We must necessarily begin to suffer from the scarcity of timber long before our supplies are completely exhausted...

What will happen when the forests fail? In the first place, the business of lumbering will disappear. It is now the fourth greatest industry in the United States. All forms of building industries will suffer with it, and the occupants of houses, offices, and stores must pay the added cost. Mining will become vastly more expensive; and with the rise in the cost of mining there must follow a corresponding rise in the price of coal, iron, and other minerals. The railways, which have as yet failed entirely to develop a satisfactory substitute for the wooden tie and must, in the opinion of their best engineers, continue to fail, will be profoundly affected, and the cost of transportation will suffer a corresponding increase. Water power for lighting, manufacturing, and transportation, and the movement of freight and passengers by inland waterways, will be affected still more directly than the stream railways. The cultivation of the soil, with or without irrigation, will be hampered by the increased cost of agricultural tools, fencing, and the wood needed for other purposes about the farm. Irrigated agriculture will suffer most of all, for the destruction of the forests means the loss of the waters as surely as night follows day. With the rise in the cost of producing food, the cost of food itself will rise...In a word, when the forests fail, the daily life of the average citizen will inevitably feel the pinch on every side. And the forests have already begun to fail, as the direct result of the suicidal policy of forest destruction which the people of the United States have allowed themselves to pursue.

... Water, not land, is the primary value in the Western country, and its conservation and use to irrigate land is the first condition of prosperity. The use of our streams for irrigation and for domestic and manufacturing uses is comparatively well developed. Their use for power is less developed, while their use for transportation has only begun. The conservation of the inland waterways of the United States for these great purposes constitutes, perhaps, the largest single task which now confronts the Nation...

We are accustomed, and rightly accustomed, to take pride in the vigorous and healthful growth of the United States, and on its vast promise for the future. Yet we are making no preparation to realize what we so easily foresee and glibly predict.

## Seeking the Greatest Good

## Appendix B

The vast possibilities of our great future will become realities only if we make ourselves, in a sense, responsible for that future. The planned and orderly development and conservation of our natural resources is the first duty of the United States. It is the only form of insurance that will certainly protect us against the disasters that lack of foresight has in the past repeatedly brought down on nations since passed away.

### Answer the following:

1. What is the main idea in this piece?
2. What are the reasons Pinchot gives for Conservation?
3. Why is conservation the “only permanent basis, of national success”? Use what you know about the Gilded Age
4. What is the problem with American optimism, According to Pinchot? How does it relate to population Growth?
5. What is Pinchot’s solution
6. What are the results of overgrazing?
7. According to Pinchot, what is the most important form of conservation? Why?
8. Why is it important for vast amount of lands to be held in the public domain? How does it relate to Marsh? Use Pinchot’s upbringing and political life to explain.
9. What does Pinchot cite as the consequences of a “timber famine”? What is the ripple effect of a timber shortage?
10. How does Pinchot calm the idea that the Forest Reserve is robbing people of land?
11. What is the tone of this document? Calm? Panicked? Foreboding? How does it compare with Marsh?
12. List the main areas Pinchot claims are in need of being conserved and what are the reasons he gives?
13. What kind of picture does Pinchot paint in terms of natural resource use and waste. How does that compare with Marsh?
14. Define:

-inexhaustible	-indispensible	-tenantry
-denudation	-degredation	-prodigal
-squandering	-unrestricted	-erosion
-foresee	-glibly	-embargo
-prosperous	-prodigious	-inexcusable

**The fight for conservation, by Gifford Pinchot****CHAPTER IV PRINCIPLES OF CONSERVATION**

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*THE* principles which the word Conservation has come to embody are not many, and they are exceedingly simple. I have had occasion to say a good many times that no other great movement has ever achieved such progress in so short a time, or made itself felt in so many directions with such vigor and effectiveness, as the movement for the conservation of natural resources...

The first idea of real foresight in connection with natural resources arose in connection with the forest. From it sprang the movement which gathered impetus until it culminated in the great Convention of Governors at Washington in May, 1908...The principles which govern the conservation movement, like all great and effective things, are simple and easily understood. Yet it is often hard to make the simple, easy, and direct facts about a movement of this kind known to the people generally.

The first great fact about conservation is that it stands for development. There has been a fundamental misconception that conservation means nothing but the husbanding of resources for future generations. There could be no more serious mistake. Conservation does mean provision for the future, but it means also and first of all the recognition of the right of the present generation to the fullest necessary use of all the resources with which this country is so abundantly blessed. Conservation demands the welfare of this generation first, and afterward the welfare of the generations to follow.

The first principle of conservation is development, the use of the natural resources now existing on this continent for the benefit of the people who live here now. There may be just as much waste in neglecting the development and use of certain natural resources as there is in their destruction. We have a limited supply of coal, and only a limited supply. Whether it is to last for a hundred or a hundred and fifty or a thousand years, the coal is limited in amount, unless through geological changes which we shall not live to see, there will never be any more of it than there is now. But coal is in a sense the vital essence of our civilization. If it can be preserved, if the life of the mines can be extended, if by preventing waste there can be more coal left in this country after we of this generation have made every needed use of this source of power, then we shall have deserved well of our descendants.

Conservation stands emphatically for the development and use of water-power now, without delay. It stands for the immediate construction of navigable waterways under a broad and comprehensive plan as assistants to the railroads. More coal and more iron are required to move a ton of freight by rail than by water, three to one. In every case and in every direction the conservation movement has development for its first principle, and at the very beginning of its work. The development of our natural resources and the fullest use of them for the present generation is the first duty of this generation...

In the second place conservation stands for the prevention of waste. There has come gradually in this country an understanding that waste is not a good thing and that the attack on waste is an industrial necessity. I recall very well indeed how, in the early days of forest fires, they were considered simply and solely as acts of God, against which any opposition was hopeless and any attempt to control them not merely hopeless but childish. It was assumed that they came in the natural order of things, as inevitably as the seasons or the rising and setting of the sun. To-day we understand that forest fires are wholly within the control of men. So we are coming in like manner to understand that the prevention of waste in all other directions is a simple matter of good business. The first duty of the human race is to control the earth it lives upon.

We are in a position more and more completely to say how far the waste and destruction of natural resources are to be allowed to go on and where they are to stop. It is curious that the effort to stop waste, like the effort to stop forest fires, has often been considered as a matter controlled wholly by economic law. I think there could be no greater mistake. Forest fires were allowed to burn long after the people had means to stop them. The idea that men were helpless in the face of them held long after the time had passed when the means of control were fully within our reach...When at length we came to see that the control of logging in certain directions was profitable, we found it had long been possible. In all these matters of waste of natural resources, the education of the people to understand that they can stop the leakage comes before the actual stopping and after the means of stopping it have long been ready at our hands.

## Seeking the Greatest Good

## Appendix B

In addition to the principles of development and preservation of our resources there is a third principle. It is this: The natural resources must be developed and preserved for the benefit of the many, and not merely for the profit of a few. We are coming to understand in this country that public action for public benefit has a very much wider field to cover and a much larger part to play than was the case when there were resources enough for every one, and before certain constitutional provisions had given so tremendously strong a position to vested rights and property in general.

..It becomes then a matter of multiplied importance, since property rights once granted are so strongly entrenched, to see that they shall be so granted that the people shall get their fair share of the benefit which come from the development of the resources which belong to us all. The time to do that is now. By so doing we shall avoid the difficulties and conflicts which will surely arise if we allow vested rights to accrue outside the possibility of governmental and popular control.

The conservation idea covers a wider range than the field of natural resources alone. Conservation means the greatest good to the greatest number for the longest time. One of its great contributions is just this, that it has added to the worn and well-known phrase, "the greatest good to the greatest number," the additional words "for the longest time," thus recognizing that this nation of ours must be made to endure as the best possible home for all its people.

Conservation advocates the use of foresight, prudence, thrift, and intelligence in dealing with public matters, for the same reasons and in the same way that we each use foresight, prudence, thrift, and intelligence in dealing with our own private affairs. It proclaims the right and duty of the people to act for the benefit of the people. Conservation demands the application of common-sense to the common problems for the common good.

The principles of conservation thus described--development, preservation, the common good--have a general application which is growing rapidly wider. The development of resources and the prevention of waste and loss, the protection of the public interests, by foresight, prudence, and the ordinary business and home-making virtues, all these apply to other things as well as to the natural resources. There is, in fact, no interest of the people to which the principles of conservation do not apply...

The outgrowth of conservation, the inevitable result, is national efficiency. In the great commercial struggle between nations which is eventually to determine the welfare of all, national efficiency will be the deciding factor. So from every point of view conservation is a good thing for the American people.

The National Forest Service, one of the chief agencies of the conservation movement, is trying to be useful to the people of this nation. The Service recognizes, and recognizes it more and more strongly all the time, that whatever it has done or is doing has just one object, and that object is the welfare of the plain American citizen. Unless the Forest Service has served the people, and is able to contribute to their welfare it has failed in its work and should be abolished. But just so far as by cooperation, by intelligence, by attention to the work laid upon it, it contributes to the welfare of our citizens, it is a good thing and should be allowed to go on with its work...

### **Answer the following:**

1. What is the main idea in this excerpt?
2. What is the "fundamental misconception" about forestry, according to Pinchot? How does he explain that this is not so?
3. What are the three principles of conservation, according to Pinchot and what do they involve?
4. Think about the way things were made before the Industrial Revolution. How does waste seem a symptom of industrialization? How does Pinchot address those that say waste is an inevitable part of prosperity?
5. What is the one principle Pinchot cites that directly brands him as a "Progressive"?
6. What is the main objective of the US Forest Service?
7. What is Pinchot's main argument in this piece?
8. Define: --Fundamental misconception

**The fight for conservation, by Gifford Pinchot****CHAPTER VII THE MORAL ISSUE**

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*THE* central thing for which Conservation stands is to make this country the best possible place to live in, both for us and for our descendants. It stands against the waste of the natural resources which cannot be renewed, such as coal and iron; it stands for the perpetuation of the resources which can be renewed, such as the food-producing soils and the forests; and most of all it stands for an equal opportunity for every American citizen to get his fair share of benefit from these resources, both now and thereafter.

Conservation stands for the same kind of practical common-sense management of this country by the people that every business man stands for in the handling of his own business. It believes in prudence and foresight instead of reckless blindness; it holds that resources now public property should not become the basis for oppressive private monopoly; and it demands the complete and orderly development of all our resources for the benefit of all the people, instead of the partial exploitation of them for the benefit of a few. It recognizes fully the right of the present generation to use what it needs and all it needs of the natural resources now available, but it recognizes equally our obligation so to use what we need that our descendants shall not be deprived of what they need.

Conservation has much to do with the welfare of the average man of to-day. It proposes to secure a continuous and abundant supply of the necessities of life, which means a reasonable cost of living and business stability. It advocates fairness in the distribution of the benefits which flow from the natural resources. It will matter very little to the average citizen, when scarcity comes and prices rise, whether he can not get what he needs because there is none left or because he can not afford to pay for it. In both cases the essential fact is that he can not get what he needs. Conservation holds that it is about as important to see that the people in general get the benefit of our natural resources as to see that there shall be natural resources left.

Conservation is the most democratic movement this country has known for a generation. It holds that the people have not only the right, but the duty to control the use of the natural resources, which are the great sources of prosperity. And it regards the absorption of these resources by the special interests, unless their operations are under effective public control, as a moral wrong. Conservation is the application of common-sense to the common problems for the common good, and I believe it stands nearer to the desires, aspirations, and purposes of the average man than any other policy now before the American people.

The danger to the Conservation policies is that the privileges of the few may continue to obstruct the rights of the many....

Congress must decide also whether immensely valuable rights to the use of water power shall be given away to special interests in perpetuity and without compensation instead of being held and controlled by the public. In most cases actual development of water power can best be done by private interests acting under public control, but it is neither good sense nor good morals to let these valuable privileges pass from the public ownership for nothing and forever. Other conservation matters doubtless require action, but these two, the conservation of water power and of coal, the chief sources of power of the present and the future, are clearly the most pressing.

...Our rivers, if the forests on the watersheds are properly handled, will never cease to deliver power. Under our form of civilization, if a few men ever succeed in controlling the sources of power, they will eventually control all industry as well. If they succeed in controlling all industry, they will necessarily control the country. This country has achieved political freedom; what our people are fighting for now is industrial freedom. And unless we win our industrial liberty, we can not keep our political liberty. I see no reason why we should deliberately keep on helping to fasten the handcuffs of corporate control upon ourselves for all time merely because the few men who would profit by it most have heretofore had the power to compel it.

The essential things that must be done to protect the water powers for the people are few and simple. First, the granting of water powers forever, either on non-navigable or navigable streams, must absolutely stop. It is perfectly clear that one hundred, fifty, or even twenty-five years ago our present industrial conditions and industrial needs were completely beyond the imagination of the wisest of our predecessors. It is just as true that we can not imagine or foresee the industrial conditions

and needs of the future. But we do know that our descendants should be left free to meet their own necessities as they arise. It can not be right, therefore, for us to grant perpetual rights to the one great permanent source of power. It is just as wrong as it is foolish, and just as needless as it is wrong, to mortgage the welfare of our children in such a way as this. Water powers must and should be developed mainly by private capital and they must be developed under conditions which make investment in them profitable and safe. But neither profit nor safety requires perpetual rights, as many of the best water-power men now freely acknowledge.

Second, the men to whom the people grant the right to use water-power should pay for what they get. The water-power sites now in the public hands are enormously valuable. There is no reason whatever why special interests should be allowed to use them for profit without making some direct payment to the people for the valuable rights derived from the people. This is important not only for the revenue the Nation will get. It is at least equally important as a recognition that the public controls its own property and has a right to share in the benefits arising from its development. There are other ways in which public control of water power must be exercised, but these two are the most important.

...It is just as essential for the public welfare that the people should retain and exercise control of water-power monopoly on navigable as on non-navigable streams. If the difficulties are greater, then the danger that the water powers may pass out of the people's hands on the lower navigable parts of the streams is greater than on the upper non-navigable parts, and it may be harder, but in no way less necessary, to prevent it.

It must be clear to any man who has followed the development of the Conservation idea that no other policy now before the American people is so thoroughly democratic in its essence and in its tendencies as the Conservation policy. It asserts that the people have the right and the duty, and that it is their duty no less than their right, to protect themselves against the uncontrolled monopoly of the natural resources which yield the necessities of life. We are beginning to realize that the Conservation question is a question of right and wrong, as any question must be which may involve the differences between prosperity and poverty, health and sickness, ignorance and education, well-being and misery, to hundreds of thousands of families. Seen from the point of view of human welfare and human progress, questions which begin as purely economic often end as moral issues. Conservation is a moral issue because it involves the rights and the duties of our people--their rights to prosperity and happiness, and their duties to themselves, to their descendants, and to the whole future progress and welfare of this Nation.

**Answer the following:**

1. What is the main idea in this excerpt?
2. What does conservation stand for, according to Pinchot? What does "it" propose to do?
3. How is conservation the "most democratic movement"?
4. Explain how Conservation is the "Application to common-sense to common problems for the common good"?
5. What are Pinchot's arguments for public control of land use? How do they compare with Marsh?
6. How does Pinchot advocate for waterway conservation? What should be done to protect waterways?
7. Why was foresight such an anomaly at the time? What was going on at the time that would make conservation such an unlikely stance for people to adopt?
8. What is the "Moral Issue" according to this document?
9. Define:
  - Prudence
  - Welfare
  - Foresight

**The fight for conservation, by Gifford Pinchot****CHAPTER IX THE CHILDREN**

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... Patriotism is the key to the success of any nation, and patriotism first strikes its roots in the mind of the child. Patriotism which does not begin in early years may, enough it does not always, fail under the severest trials. I say "not always," for many men and women have proved their patriotic devotion to this country although they were born elsewhere. Yet, as a rule, it must begin with the children. And almost without exception it is the mother who plants patriotism in the mind of the child. It is her duty. The growth of patriotism is first of all in the hands of the women of any nation. In the last analysis it is the mothers of a nation who direct that nation's destiny.

The fundamental task of patriotism is to see to it that the Nation exists and endures in honor, security, and well-being. Fortunately there is no question as to our existing in honor, and little if any as to our continuing to exist in security.

The great fundamental problem which confronts us all now is this: Shall we continue, as a Nation, to exist in well-being? That is the conservation problem.

If we are to have prosperity in this country, it will be because we have an abundance of natural resources available for the citizen.

In other words, as the minds of the children are guided toward the idea of foresight, just to that extent, and probably but little more, will the generations that are coming hereafter be able to carry through the great task of making this Nation what its manifest destiny demands that it shall be.

Women should recognize, if this task is to be carried out, one great truth above all others. That this Nation exists for its people, we all admit; but that the natural resources of the Nation exist not for any small group, not for any individual, but for all the people--in other words, that the natural resources of the Nation belong to all the people--that is a truth the whole meaning of which is just beginning to dawn on us. There is no form of monopoly which exists or ever has existed on any large scale which was not based more or less directly upon the control of natural resources. There is no form of monopoly that has ever existed or can exist which can do harm if the people understand that the natural resources belong to the people of the Nation, and exercise that understanding, as they have the power to do.

It seems to me that of all the movements which have been inaugurated to give power to the conservation idea, the foresight idea, there is none more helpful than that the women of the United States are taking hold of the problem. We must make all the people see that now and in the future the resources are to be developed and employed, yet at the same time guarded and protected against waste--not for small groups of men who will control them for their own purposes, but for all the people through all time.

The question of the conservation of our natural resources is not a simple question, but it requires, and will increasingly require, thinking out along lines directed to the fundamental economic basis upon which this Nation exists. I think it can not be disputed that the natural resources exist for and belong to the people; and I believe that the part of the work which falls to the women (and it is no small part) is to see to it that the children, who will be the men and women of the future, have their share of these resources uncontrolled by monopoly and unspoiled by waste.

What specific things can the women of the Nation do for conservation? The daughters of the American Revolution have begun admirably in the appointment of a Conservation Committee, and other organizations of women are following their example. Few people realize what women have already done for conservation, and what they may do. Some of the earliest effective forest work that was done in the United States, work which laid the lines that have been followed since, was that of the Pennsylvania Forestry Association, begun and carried through first of all by ladies in Philadelphia. One of the bravest, most intelligent and most effective fights for forestry that I have known of was that of the women of Minnesota for the Minnesota National Forest. It was a superb success, and we have that forest to-day. I have known of no case of persistent agitation under discouragement finer in a good many ways than the fight that the women of California have made to save the

great grove of Calaveras big trees. As a result the Government has taken the possession of that forest and will preserve it for all future generations.

Time and again, then, the women have made it perfectly clear what they can do in this work. Obviously the first point of attack is the stopping of waste. Women alone can bring to the school children the idea of the wickedness of national waste and the value of public saving. The issue is moral one; and women are the first teachers of right and wrong. It is a question of seeing what loyalty to the public welfare demands of us, and then of caring enough for the public welfare not to set personal advantage first. It is a question of inspiring our future citizens while they are boys and girls with the spirit of true patriotism as against the spirit of rank selfishness, the anti-social spirit of the man who declines to take into account any other interest than his own; those one aim and ideal is personal success. Women both in public and at home, by putting the men know what they think, and by putting it before the children, can make familiar the idea of conservation, and support us with a convincingness that nobody else can approach.

However important it may be for the timberman, the miner, the wagon-maker, the railroad man, the house-builder,-- for every industry,--that conservation should obtain, when all is said and done, conservation goes back in its directest application to one body in this country, and that is to the children. There is in this country no other movement except possibly the education movement--and that after all is in a sense only another aspect of the conservation question, the seeking to make the most of what we have--so directly aimed to help the children, so conditioned upon the needs of the children, so belonging to the children, as the conservation movement; and it is for that reason more than any other that it has the support of the women of the Nation.

**Answer the Following:**

1. What is the main idea in this story?
2. How does Pinchot try to gain public opinion for the conservation movement?
3. What is the fundamental task of patriotism, according to Pinchot, and how should the nation accomplish that task?
4. What is the "one great truth above all others", according to Pinchot?
5. Why does Pinchot call upon women for this task?
6. What is the first "point of attack" in the battle for conservation?
7. How do you think Pinchot makes the issue of conservation one of morality, simply by involving children?
8. Define:  
-foresight                      -destiny                      -patriotism

**The fight for conservation, by Gifford Pinchot****CHAPTER XI THE NEW PATRIOTISM**

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*THE* people of the United States are on the verge of one of the great quiet decisions which determine national destinies. Crises happen in peace as well as in war, and a peaceful crisis may be as vital and controlling as any that comes with national uprising and the clash of arms. Such a crisis, at first uneventful and almost unperceived, is upon us now, and we are engaged in making the decision that is thus forced upon us. And, so far as it has gone, our decision is largely wrong. Fortunately it is not yet final.

The question we are deciding with so little consciousness of what it involves is this: What shall we do with our natural resources? Upon the final answer that we shall make to it hangs the success or failure of this Nation in accomplishing its manifest destiny.

...It is true that in population, in wealth, in knowledge, in national efficiency generally, we have reached a place far beyond the farthest hopes of the founders of the Republic. Are the causes which have led to our marvelous development likely to be repeated indefinitely in the future, or is there a reasonable possibility, or even a probability, that conditions may arise which will check our growth?

Danger to a nation comes either from without or from within. In the first great crisis of our history, the Revolution, another people attempted from without to halt the march of our destiny by refusing to us liberty. With reasonable prudence and preparedness we need never fear another such attempt. If there be danger, it is not from an external source. In the second great crisis, the Civil War, a part of our own people strove for an end which would have checked the progress of development. Another such attempt has become forever impossible. If there be danger, it is not from a division of our people.

In the third great crisis of our history, which has now come squarely upon us, the special interest and the thoughtless citizens seem to have united together to deprive the Nation of the great natural resources without which it cannot endure. This is the pressing danger now, and it is not the least to which our National life has been exposed. A nation deprived of liberty may win it, a nation divided may reunite, but a nation whose natural resources are destroyed must inevitably pay the penalty of poverty, degradation, and decay.

At first blush this may seem like an unpardonable misconception and over-statement, and if it is not true it certainly is unpardonable. Let us consider the facts. Some of them are well known, and the salient ones can be put very briefly.

The five indispensably essential materials in our civilization are wood, water, coal, iron, and agricultural products.

We have timber for less than thirty years at the present rate of cutting. The figures indicate that our demands upon the forest have increased twice as fast as our population.

We have anthracite coal for but fifty years, and bituminous coal for less than two hundred.

Our supplies of iron ore, mineral oil, and natural gas are being rapidly depleted, and many of the great fields are already exhausted. Mineral resources such as these when once gone are gone forever.

We have allowed erosion...to impoverish and...destroy our farms. The Mississippi alone carries yearly to the sea more than 400,000,000 tons of the richest soil within its drainage basin... Our streams, in spite of the millions of dollars spent upon them, are less navigable now than they were fifty years ago, and the soil lost by erosion from the farms and the deforested mountain sides, is the chief reason. The great cattle and sheep ranges of the West, because of overgrazing, are capable, in an average year, of carrying but half the stock they once could support and should still. Their condition affects the price of meat in practically every city of the United States...The diversion of great areas of our public lands from the home-maker to the landlord and speculator; the national neglect of great water powers, which might well relieve, being perennially renewed, the drain upon our non-renewable coal; the fact that but half the coal has been taken from the mines which have already been abandoned as worked out and by caving in have made the rest forever inaccessible; the disuse of the cheaper transportation of

our waterways, which involves comparatively slight demand upon our non-renewable supplies of iron ore, and the use of the rail instead-- these are other items in the huge bill of particulars of national waste.

We have a well-marked national tendency to disregard the future, and it has led us to look upon all our national resources as inexhaustible. Even now that the actual exhaustion of some of them is forcing itself upon us in higher prices and the greater cost of living, we are still asserting, if not always in words, yet in the far stronger language of action, that nevertheless and in spite of it all, they still are inexhaustible.

It is this national attitude of exclusive attention to the present, this absence of foresight from among the springs of national action, which is directly responsible for the present condition of our natural resources...

...It pays better to conserve our natural resources than to destroy them, and this is especially true when the national interest is considered. But the business reason, weighty and worthy though it be, is not the fundamental reason. In such matters, business is a poor master but a good servant. The law of self-preservation is higher than the law of business, and the duty of preserving the Nation is still higher than either...The question of the conservation of natural resources, or national resources, does not stop with being a question of profit. It is a vital question of profit, but what is still more vital, it is a question of national safety and patriotism also.

...The natural wealth we found upon this continent has made us rich. We have used it, as we had a right to do, but we have not stopped there. We have abused, and wasted, and exhausted it also, so that there is the gravest danger that our prosperity to-day will have been bought at the price of the suffering and poverty of our descendants. We may now fairly ask of ourselves a reasonable care for the future and a natural interest in those who are to come after us...It is our duty to provide for its continuance in well-being and honor. That duty it seems as though we might neglect--not in willfulness, not in any lack of patriotic devotion, when once our patriotism is aroused, but in mere thoughtlessness and inability or unwillingness to drop the interests of the moment long enough to realize that what we do now will decide the future of the Nation. For, if we do not take action to conserve the Nation's natural resources, and that soon, our descendants will suffer the penalty of our neglect.

...It is our great good fortune that the harm is not yet altogether beyond repair.

The profoundest duty that lies upon any father is to leave his son with a reasonable equipment for the struggle of life and an untarnished name. So the noblest task that confronts us all to-day is to leave this country unspotted in honor, and unexhausted in resources, to our descendants, who will be, not less than we, the children of the Founders of the Republic. I conceive this task to partake of the highest spirit of patriotism.

### Answer the following:

1. What is the main idea in this excerpt?
2. Why does Pinchot feel the need to state that crisis can happen in peaceful times or from within?
3. Do you think Pinchot was justified in calling the conservation crisis the “3<sup>rd</sup> great crisis”?
4. What are the five “indispensably essential materials in our civilization” that Pinchot cites in the excerpt?
5. What are some of the examples Pinchot uses to justify his assertions?
6. How does Pinchot put economics in perspective by comparing it to self preservation and patriotism? How does this compare with Marsh?
7. What does Pinchot claim is our duty as nation builders?
8. What does he mean by the “inability or unwillingness to drop the interests of the moment long enough to realize that what we do now will decide the future of the Nation.”?
9. How does Pinchot appeal to a sense of emotion?
10. Define:     --destinies                     --degradation                     --inexhaustible                     --indispensable  
                  --essential                         --improvidence

1. What are the similar themes carried across each section of Pinchot's work? Be sure to cite which chapter you found it.
2. From these themes, compare them to what you read in Marsh. Do they mirror the basic line of thinking in Marsh or not?
3. In each of the chapters of *The Fight for Conservation*, name one example or explanation that holds true to something happening today or happened in the recent past. Explain the issue and how it correlates to present day.

### ***Environmental and Social Issues Questionnaire***

Listed below are some environmental concerns. Please mark the circle that most closely corresponds to the way you feel about these issues. For example: if you believe that business and government should place priority on an issue, place a mark in the “Absolutely Critical” box. If you are not familiar with this issue, then mark the “Not familiar” box.

<b><i>Environmental &amp; Social Concerns</i></b>	<b><i>Not at all Important</i></b>	<b><i>Slightly Important</i></b>	<b><i>Moderately Important</i></b>	<b><i>Very Important</i></b>	<b><i>Absolutely Critical</i></b>	<b><i>Not Familiar with this Issue</i></b>
1. Asbestos in buildings	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
2. Nuclear waste	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
3. Outdoor air pollution	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
4. Burning waste (incineration)	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
5. Nuclear power reactors	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
6. Cloning	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
7. Chemical pollution in the environment	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
8. Ozone depletion	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
9. Indoor air pollution	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
10. Pesticides in food	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
11. Dioxins	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
12. Tap water pollution	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
13. Food additives	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
14. Cancer	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
15. Loss of rainforests	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
16. Lead in paint/water pipes	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
17. Food irradiation	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
18. Chemical pollutants in the atmosphere	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
19. Burning fossil fuels	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
20. High-voltage power lines	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
21. Bacteria in food	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
22. Climate change	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
23. Genetic engineering of bacteria	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>

24. Loss of species	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
25. Solid waste build-up	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
26. Loss of wetlands	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
27. Depletion of fish stocks	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
28. Population increase	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
29. Toxic waste spills	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
30. Acid rain	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>

**Section B**

This next section contains statements about dealing with some of the environmental and social issues. Please indicate how you agree or disagree with each statement.

<b>Environmental Statement</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neither Agree nor Disagree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Not Familiar with this Issue</b>
1. Most manufacturing companies have programs to eliminate toxic wastes.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
2. To cut down on air pollution, it should be more expensive to own and drive a private automobile.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
3. The Commission of the European Community is doing a good job with its environmental protection efforts.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
4. The government of the United States is doing a good job with its environmental protection efforts.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
5. No country or society should be allowed to kill whales or dolphins.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
6. Fish-farming is eliminating over-fishing in the world's oceans.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
7. No country should be able to tell another than they should stop cutting down their trees.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
8. The United Nations is effective in stopping air and water pollution.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
9. Corporations have a stronger responsibility to make a profit than they do to adopt environmental ethics program.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
10. Poor people in developing countries have a right to burn their forests in order to grow food.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
11. Business corporations are guilty of negligence on environmental matters.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
12. Ethics should not be an issue in genetic engineering.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>

*Seeking the Greatest Good*

## Appendix C

13. Local government is doing a good job cutting down pollution.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
14. Water pollution here is no longer the big problem it used to be.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
15. Everyone should be able to have as many children as they want to.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
16. Nuclear power generation is the best way to stop polluting the air by burning coal or oil to generate electricity.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
17. I would be willing to pay more for food and housing if I knew it would improve the environment.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>
18. Global warming is not the problem politicians are making it out to be.	<input type="radio"/> <i>1</i>	<input type="radio"/> <i>2</i>	<input type="radio"/> <i>3</i>	<input type="radio"/> <i>4</i>	<input type="radio"/> <i>5</i>	<input type="radio"/> <i>0</i>

**Scoring:**

- 1-80 Not very concerned with the environment and resource use
- 81-160 Moderately concerned with the environment and resource use
- 161-240 Extremely concerned with the environment and resource use

Questions for *Encounters with the Archdruid* (1971) John McPhee

**Part 1: A Mountain**

1. Who is the “Archdruid”? Why is he referred to as the “Archdruid”?
2. What is Brower’s position? What is Park’s position?
3. Who is Harrison Brown and what does he have to do with this story?
4. When does an area cease to be “wilderness” and should people protect it or make it accessible for all to see?
5. What do think of Brower’s opinion that the view of Glacier Peak should be “earned” by walking?
6. Can you put a dollar amount on unspoiled natural beauty? How and how much?
7. What do Brower and Park think the mountains are good for?
8. Research David Brower, Charles Park and Glacier Peak. Is the book true to the real story?
9. What is your position/opinion on the issue? Are you willing to penalize yourself now, so that future generations can see unspoiled nature?

**Part 2: An Island**

Who is the antagonist in this chapter?

Describe the parallels drawn between religion and the environmental movement. Why did McFee do this?

Explain the statement that "Conservationists have to win again and again and again - The enemy only once"

Do you consider Frazer an environmentalist? A conservationist? A preservationist? Consider his “vision” for the land.

Do you feel the Island should have been developed? Preserved?

Fraser attempted to make Stewart Udall criticize "camping" by establishing a public campground on lands he was able to purchase. What do you think of Fraser's tactics?

Research Charles Fraser and Cumberland & Hilton Head Islands. Is the book true to what happened?

**Part 3: A River**

*"I don't care how many dams are built in the Grand Canyon, provided they build a separate and equal Grand Canyon somewhere else first. And this is what I would say about the cost of Glen Canyon Dam - You will know the true cost of the Glen Canyon and the dam when you have built a separate and equal Glen Canyon somewhere else, just like what was lost."*  
- David Brower, From "Hidden Passage," the Journal of the Glen Canyon Institute, Vol 5.

1. Who is the antagonist in this chapter? Who is he, what did he do & why do he and Brower disagree?
2. Why do you think Brower and others feel the "integrity of the National Park System" would be violated by construction of a dam in one of the units?
3. Do you think Dominy considers himself a conservationist? Do you think he is? What does he think of Brower and those like him?
4. Do you agree with Dominy’s contention that people who don’t support a dam that allows easier access to a previously inaccessible area as “elitist and exclusionary”? How does this coincide with Glacier Peak?
5. How do you feel about the politics that come into play when there is controversy over a natural resource and the needs of human beings. Does the system work or make things harder?
6. What does Brower think should be done with Glen Canyon Dam?
7. What is "Dominy Soup"?
8. Research Floyd Dominy and Glen Canyon, Echo Park & the Central Arizona Project Grand Canyon dams at Marble Canyon & Bridge Canyon. How does the story hold true?

**General questions:**

1. Why do you think McPhee wrote this book? Is it a good example of the struggle in Pinchot’s time? In our time? Why or why not?
2. Briefly describe Brower. What is his philosophy regarding the environment and human use of natural resources? What would you call him? A preservationist, a conservationist, a capitalist? Neither? Why or why not? Why are so many of the antagonists in the story surprised when they meet him?

**Critical Issues from the Presidency of Theodore Roosevelt:**

**Immigration:** TR's era -Influx of immigrants from southern and eastern Europe  
-Gentleman's Agreement dealing with Japanese immigration  
Today: -Influx of immigrants from Mexico.  
-Various proposals for amnesty for illegal immigrants.

**Conservation:** TR's era -Resistance to presidential efforts to set aside western lands for  
National Forests, Reclamation Projects, Game & Bird Preserves, etc.  
Today: - Efforts to reopen western public lands to development.

**Labor vs Big Business:**

TR's era -Mediating Anthracite Coal Strike  
-Addressing consumer concerns for safer food.  
Today: -Balancing American labor demands with corporate need to keep down labor costs by  
sending jobs overseas.  
-Renewed concerns for food, especially meat, safety.

**Trust Busting:**

TR's era - 45 suits to break trusts that set prices/stop competition.  
Today: -Concerns and lawsuits, especially directed toward tele-communications and computer  
technology corporations to oppose domination of industry by a few companies.

**Foreign Policy:**

TR's era -Presidential use of mediation, international arbitration and  
courts in dealing with international problems.  
Today: -America's relationship with the international community, especially with regard to the  
United Nations, the World Court, the international arbitration of problems, etc.

**Cartoon Analysis Worksheet**

<http://www.archives.gov/education/lessons/>

**Level 1**

Visuals	Words (not all cartoons include words)
1. List the objects or people you see in the cartoon.	1. Identify the cartoon caption and/or title.
2. Locate three words or phrases used by the cartoonist to identify objects or people within the cartoon.	
3. Record any important dates or numbers that appear in the cartoon.	

**Level 2**

Visuals	Words
2. Which of the objects on your list are symbols?	
3. What do you think each symbol means?	4. Which words or phrases in the cartoon appear to be the most significant? Why do you think so?
5. List adjectives that describe the emotions portrayed in the cartoon.	

**Level 3**

1. Describe the action taking place in the cartoon.
2. Explain how the words in the cartoon clarify the symbols.
3. Explain the message of the cartoon.
4. What special interest groups would agree/disagree with the cartoon's message? Why?

Article II - U.S. Constitution

**Section 1.**

The executive Power shall be vested in a President of the United States of America. He shall hold his Office during the Term of four Years, and, together with the Vice President, chosen for the same Term, be elected, as follows:

Each State shall appoint, in such Manner as the Legislature thereof may direct, a Number of Electors, equal to the whole Number of Senators and Representatives to which the State may be entitled in the Congress: but no Senator or Representative, or Person holding an Office of Trust or Profit under the United States, shall be appointed an Elector.

The Electors shall meet in their respective States, and vote by Ballot for two Persons, of whom one at least shall not be an Inhabitant of the same State with themselves. And they shall make a List of all the Persons voted for, and of the Number of Votes for each; which List they shall sign and certify, and transmit sealed to the Seat of the Government of the United States, directed to the President of the Senate. The President of the Senate shall, in the Presence of the Senate and House of Representatives, open all the Certificates, and the Votes shall then be counted. The Person having the greatest Number of Votes shall be the President, if such Number be a Majority of the whole Number of Electors appointed; and if there be more than one who have such Majority, and have an equal Number of Votes, then the House of Representatives shall immediately chuse by Ballot one of them for President; and if no Person have a Majority, then from the five highest on the List the said House shall in like Manner chuse the President. But in chusing the President, the Votes shall be taken by States, the Representatives from each State having one Vote; a quorum for this Purpose shall consist of a Member or Members from two thirds of the States, and a Majority of all the States shall be necessary to a Choice. In every Case, after the Choice of the President, the Person having the greatest Number of Votes of the Electors shall be the Vice President. But if there should remain two or more who have equal Votes, the Senate shall chuse from them by Ballot the Vice President.

The Congress may determine the Time of chusing the Electors, and the Day on which they shall give their Votes; which Day shall be the same throughout the United States.

No Person except a natural born Citizen, or a Citizen of the United States, at the time of the Adoption of this Constitution, shall be eligible to the Office of President; neither shall any person be eligible to that Office who shall not have attained to the Age of thirty five Years, and been fourteen Years a Resident within the United States.

In Case of the Removal of the President from Office, or of his Death, Resignation, or Inability to discharge the Powers and Duties of the said Office, the Same shall devolve on the Vice President, and the Congress may by Law provide for the Case of Removal, Death, Resignation or Inability, both of the President and Vice President, declaring what Officer shall then act as President, and such Officer shall act accordingly, until the Disability be removed, or a President shall be elected.

The President shall, at stated Times, receive for his Services, a Compensation, which shall neither be increased nor diminished during the Period for which he shall have been elected, and he shall not receive within that Period any other Emolument from the United States, or any of them.

Before he enter on the Execution of his Office, he shall take the following Oath or Affirmation:--"I do solemnly swear (or affirm) that I will faithfully execute the Office of President of the United States, and will to the best of my Ability, preserve, protect and defend the Constitution of the United States."

**Section 2.**

The President shall be Commander in Chief of the Army and Navy of the United States, and of the Militia of the several States, when called into the actual Service of the United States; he may require the Opinion, in writing, of the principal Officer in each of the executive Departments, upon any Subject relating to the Duties of their respective Offices, and he shall have Power to Grant Reprieves and Pardons for Offences against the United States, except in Cases of Impeachment.

He shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur; and he shall nominate, and by and with the Advice and Consent of the Senate, shall appoint Ambassadors, other public Ministers and Consuls, Judges of the supreme Court, and all other Officers of the United States, whose Appointments are not herein otherwise provided for, and which shall be established by Law: but the Congress may by Law vest the Appointment of such inferior Officers, as they think proper, in the President alone, in the Courts of Law, or in the Heads of Departments.

The President shall have Power to fill up all Vacancies that may happen during the Recess of the Senate, by granting Commissions which shall expire at the End of their next Session.

**Section 3.**

He shall from time to time give to the Congress Information on the State of the Union, and recommend to their Consideration such Measures as he shall judge necessary and expedient; he may, on extraordinary Occasions, convene both Houses, or either of them, and in Case of Disagreement between them, with Respect to the Time of Adjournment, he may adjourn them to such Time as he shall think proper; he shall receive Ambassadors and other public Ministers; he shall take Care that the Laws be faithfully executed, and shall Commission all the Officers of the United States.

**Section 4.**

The President, Vice President and all Civil Officers of the United States, shall be removed from Office on Impeachment for and Conviction of, Treason, Bribery, or other high Crimes and Misdemeanors.

**“The realities of protecting land” activity background**

Three siblings recently inherited a 200-acre parcel of land in Milford, PA and are about to start discussions on what to do with the land. They need to raise \$15,000 to pay inheritance taxes on the property and would like to raise an additional \$30,000 to cover renovations of the farm house on the property. Additionally, the siblings would like to raise \$21,000 annually to cover taxes and maintenance costs. One sibling would like to donate the development rights to protect the land permanently in a conservation easement. Another sibling has run into financial difficulties and is facing foreclosing on his personal house. He is interested in activities that will produce extra revenue as soon as possible. The third sibling is a wildlife enthusiast and would like to increase habitat for the golden winged warbler, and protect the current Allegheny wood rat habitat on the property. She is worried, however, about paying for her children’s college education, and is also interested in raising revenue from the land. A developer has approached the siblings about purchasing 30 acres of the property to turn into a housing development. The developer is interested in the 30 acres surrounding Lookout Mountain, because it has a beautiful view of Delaware River and the town of Milford. A friend of the family has informed the siblings that their patch of ash trees is threatened by Emerald Ash borer. The ash trees are growing on the edge of the stream, protecting it from erosion.

**Costs:**

Inheritance tax: \$15,000 one-time tax

\$30,000 in renovations for the farm house, one-time cost

Annual taxes are \$70/acre plus \$4,000 for the farm house

Maintenance and utilities costs: \$4000 annually

**Possible sources of income:**

- Timber harvest.
  - High-grading the site (taking the best, leaving the rest) would generate \$12,000 immediately on site A and \$15,000 on site B, but would leave these stands in ecologically deteriorated states (see Forest Ecology PowerPoint in pre-lesson for explanation)
  - A shelterwood on site A would generate \$7,000 immediately, and \$10,000 in 10 years, and a shelterwood on site B would generate \$8,000 immediately, and \$12,000 in 10 years.
- Selling water from Sawkill Creek to a bottling company. This would generate \$20,000 annually, but is worrisome to downstream neighbors. This would not be permitted if the land is put in a conservation easement.
- Leasing one acre to a cell phone company for a cell tower. The best place for the tower is on Lookout Mountain. This would generate \$15,000 a year.
- A conservation easement would reduce land taxes to \$15/acre a year. Taxes on the house and maintenance costs would stay the same.
- NRCS grant will provide up to \$1,000/acre for up to 10 acres for one year to create early-successional habitat for golden winged warblers. This funding covers the cost of creating early-successional habitat and cannot be used for other purposes.

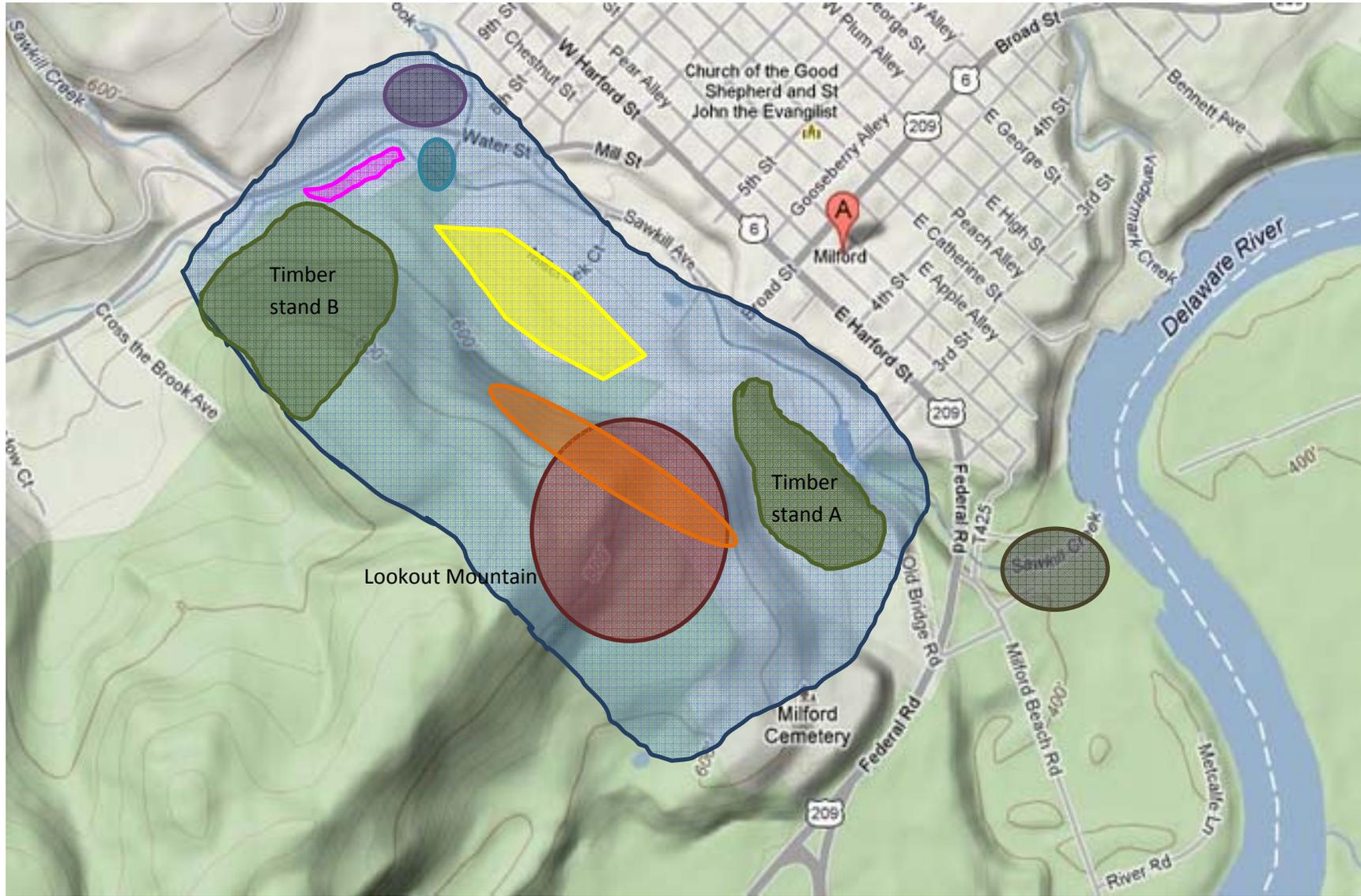
## Seeking the Greatest Good

## Appendix G

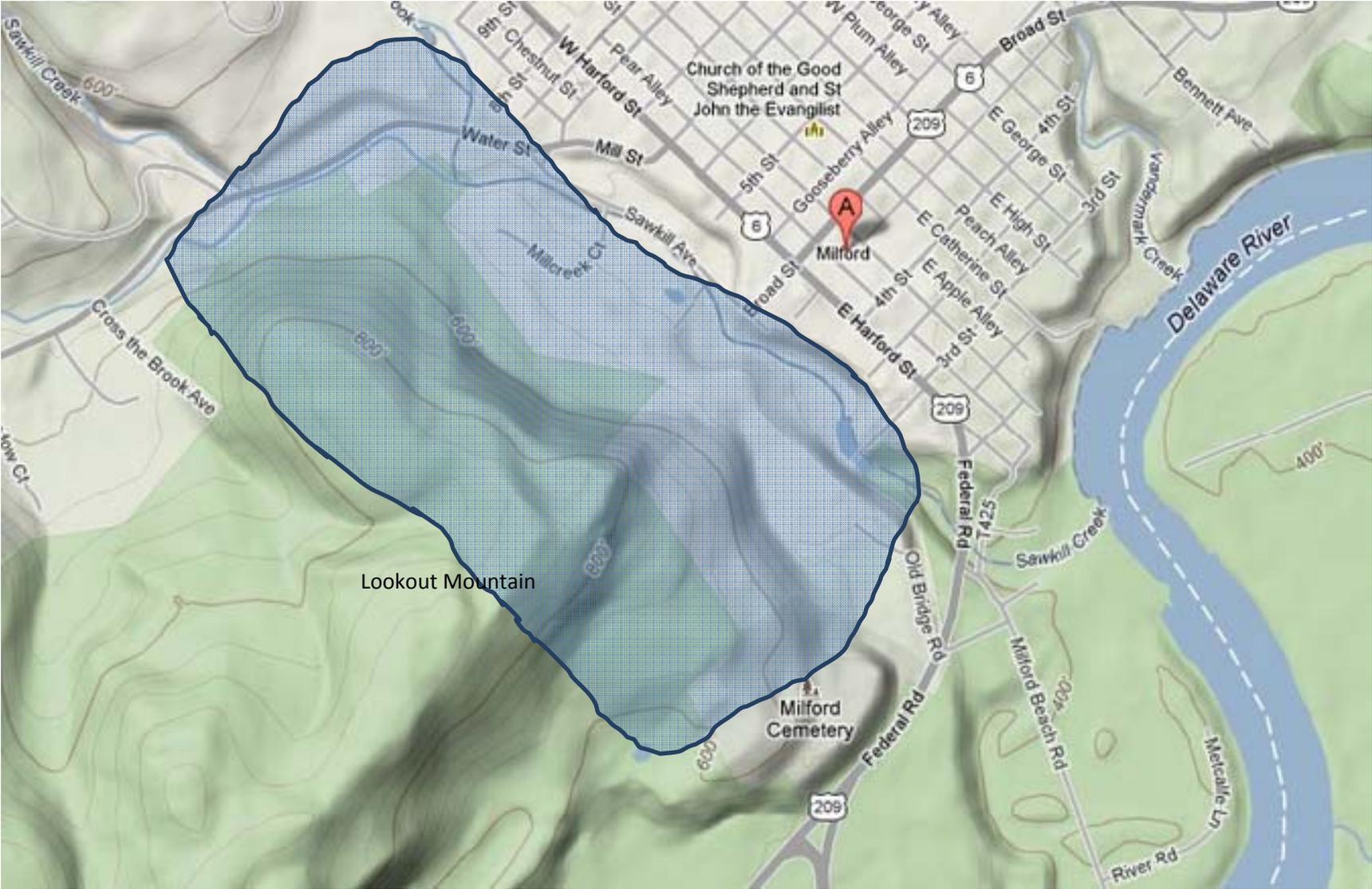
- Sell 30 acres (top of Lookout Mountain) to a developer: \$300,000.
- Sell part of the land to raise revenue. There is a desirable house site that will generate \$22,000.
- Other (reasonable) ideas?

### Possible uses of the land:

- Conservation easement. Would allow timber harvesting, but not selling water or developing the land. If the siblings decide to pursue a conservation easement, they can choose to leave small sections of land out of the easement if desired.
- Increase golden winged warbler habitat (create early-successional habitat)
- Enhance Allegheny wood rat habitat by releasing oak trees near rocky outcrops (release means cutting competing trees) to encourage nut production.
- Preemptively harvest some of the ash trees in anticipation of the arrival of Emerald Ash Borer and replant the site with other species. What would you plant in place of these trees? Think about the importance of diversity. The cost of planting trees can be covered by an NRCS Equip grant.



- = Possible housing site
- = Site for water removal
- = Prime Allegheny woodrat habitat
- = Ash
- = Merchantable timber sites
- = Housing development site
- = Downstream neighbor
- = Best site for early successional
- = Property boundary



**New Nationalism Speech**                      **1910**  
*Theodore Roosevelt*

We come here to-day to commemorate one of the epoch-making events of the long struggle for the rights of man-the long struggle for the uplift of humanity. Our country-this great Republic-means nothing unless it means the triumph of a real democracy, the triumph of popular government, and, in the long run, of an economic system under which each man shall be guaranteed the opportunity to show the best that there is in him... O my fellow citizens, each one of you carries on your shoulders not only the burden of doing well for the sake of your country, but the burden of doing well and of seeing that this nation does well for the sake of mankind...

...Even in ordinary times there are very few of us who do not see the problems of life as through a glass, darkly; and when the glass is clouded by the murk of furious popular passion, the vision of the best and the bravest is dimmed....

Our interest is primarily in the application to-day of the lessons taught by the contest a half a century ago. It is of little use for us to pay lip-loyalty to the mighty men of the past unless we sincerely endeavor to apply to the problems of the present precisely the qualities which in other crises enabled the men of that day to meet those crises. It is half melancholy and half amusing to see the way in which well-meaning people gather to do honor to the men who, in company with John Brown, and under the lead of Abraham Lincoln, faced and solved the great problems of the nineteenth century, while, at the same time, these same good people nervously shrink from, or frantically denounce, those who are trying to meet the problems of the twentieth century in the spirit which was accountable for the successful solution of the problems of Lincoln's time.

...We cannot afford weakly to blind ourselves to the actual conflict which faces us today. The issue is joined, and we must fight or fail.

In every wise struggle for human betterment one of the main objects, and often the only object, has been to achieve in large measure equality of opportunity. In the struggle for this great end, nations rise from barbarism to civilization, and through it people press forward from one stage of enlightenment to the next. One of the chief factors in progress is the destruction of special privilege. ...

At many stages in the advance of humanity, this conflict between the men who possess more than they have earned and the men who have earned more than they possess is the central condition of progress. In our day it appears as the struggle of freemen to gain and hold the right of self-government as against the special interests, who twist the methods of free government into machinery for defeating the popular will. At every stage, and under all circumstances, the essence of the struggle is to equalize opportunity, destroy privilege, and give to the life and citizenship of every individual the highest possible value both to himself and to the commonwealth. That is nothing new. ...

The true friend of property, the true conservative, is he who insists that property shall be the servant and not the master of the commonwealth; who insists that the creature of man's making shall be the servant and not the master of the man who made it. The citizens of the United States must effectively control the mighty commercial forces which they have called into being...

...The duty of Congress is to provide a method by which the interest of the whole people shall be all that receives consideration...

...We grudge no man a fortune in civil life if it is honorably obtained and well used. It is not even enough that it should have been gained without doing damage to the community. We should permit it to be gained only so

long as the gaining represents benefit to the community. This, I know, implies a policy of a far more active governmental interference with social and economic conditions in this country than we have yet had, but I think we have got to face the fact that such an increase in governmental control is now necessary.

Of conservation I shall speak more at length elsewhere. Conservation means development as much as it does protection. I recognize the right and duty of this generation to develop and use the natural resources of our land; but I do not recognize the right to waste them, or to rob, by wasteful use, the generations that come after us. I ask nothing of the nation except that it so behave as each farmer here behaves with reference to his own children...The farmer is a good farmer who, having enabled the land to support himself and to provide for the education of his children, leaves it to them a little better than he found it himself. I believe the same thing of a nation.

Moreover, I believe that the natural resources must be used for the benefit of all our people, and not monopolized for the benefit of the few, and here again is another case in which I am accused of taking a revolutionary attitude. People forget now that one hundred years ago there were public men of good character who advocated the nation selling its public lands in great quantities, so that the nation could get the most money out of it, and giving it to the men who could cultivate it for their own uses. We took the proper democratic ground that the land should be granted in small sections to the men who were actually to till it and live on it. Now, with the water-power, with the forests, with the mines, we are brought face to face with the fact that there are many people who will go with us in conserving the resources only if they are to be allowed to exploit them for their benefit. That is one of the fundamental reasons why the special interests should be driven out of politics. Of all the questions which can come before this nation, short of the actual preservation of its existence in a great war, there is none which compares in importance with the great central task of leaving this land even a better land for our descendants than it is for us, and training them into a better race to inhabit the land and pass it on. Conservation is a great moral issue, for it involves the patriotic duty of insuring the safety and continuance of the nation. Let me add that the health and vitality of our people are at least as well worth conserving as their forests, waters, lands, and minerals, and in this great work the national government must bear a most important part.

Nothing is more true than that excess of every kind is followed by reaction; a fact which should be pondered by reformer and reactionary alike. We are face to face with new conceptions of the relations of property to human welfare, chiefly because certain advocates of the rights of property as against the rights of men have been pushing their claims too far. The man who wrongly holds that every human right is secondary to his profit must now give way to the advocate of human welfare, who rightly maintains that every man holds his property subject to the general right of the community to regulate its use to whatever degree the public welfare may require it...

National efficiency has many factors. It is a necessary result of the principle of conservation widely applied. In the end, it will determine our failure or success as a nation. National efficiency has to do, not only with natural resources and with men, but it is equally concerned with institutions...It is a misfortune when the national legislature fails to do its duty in providing a national remedy, so that the only national activity is the purely negative activity of the judiciary in forbidding the State to exercise power in the premises.

I do not ask for the over centralization; but I do ask that we work in a spirit of broad and far-reaching nationalism where we work for what concerns our people as a whole. We are all Americans. Our common interests are as broad as the continent.... The National Government belongs to the whole American people, and where the whole American people are interested, that interest can be guarded effectively only by the National Government. The betterment which we seek must be accomplished, I believe, mainly through the National Government.

The American people are right in demanding that New Nationalism, without which we cannot hope to deal with new problems. The New Nationalism puts the national need before sectional or personal advantage. It is impatient of the utter confusion that results from local legislatures attempting to treat national issues as local issues. It is still more impatient of the impotence which springs from over division of governmental powers, the impotence which makes it possible for local selfishness or for legal cunning, hired by wealthy special interests, to bring national activities to a deadlock. This New Nationalism regards the executive power as the steward of the public welfare...

...I know well that the reformers must not bring upon the people economic ruin, or the reforms themselves will go down in the ruin. But we must be ready to face temporary disaster, whether or not brought on by those who will war against us to the knife. Those who oppose reform will do well to remember that ruin in its worst form is inevitable if our national life brings us nothing better than swollen fortunes for the few and the triumph in both politics and business of a sordid and selfish materialism...

...We must have-I believe we have already-a genuine and permanent moral awakening, without which no wisdom of legislation or administration really means anything; and, on the other hand, we must try to secure the social and economic legislation without which any improvement due to purely moral agitation is necessarily evanescent... No matter how honest and decent we are in our private lives, if we do not have the right kind of law and the right kind of administration of the law, we cannot go forward as a nation. That is imperative; but it must be an addition to, and not a substitute for, the qualities that make us good citizens... We must have the right kind of character... You must have that, and, then, in addition, you must have the kind of law and the kind of administration of the law which will give to those qualities in the private citizen the best possible chance for development. The prime problem of our nation is to get the right type of good citizenship, and, to get it, we must have progress, and our public men must be genuinely progressive.

**Nature**

O Nature! I do not aspire  
 To be the highest in thy choir, -  
 To be a meteor in thy sky,  
 Or comet that may range on high;  
 Only a zephyr that may blow  
 Among the reeds by the river low;  
 Give me thy most privy place  
 Where to run my airy race.

In some withdrawn, unpublic mead  
 Let me sigh upon a reed,  
 Or in the woods, with leafy din,  
 Whisper the still evening in:  
 Some still work give me to do, -  
 Only - be it near to you!

For I'd rather be thy child  
 And pupil, in the forest wild,  
 Than be the king of men elsewhere,  
 And most sovereign slave of care;  
 To have one moment of thy dawn,  
 Than share the city's year forlorn.

Henry David Thoreau

**A Prayer in Spring**

Oh, give us pleasure in the flowers to-day;  
 And give us not to think so far away  
 As the uncertain harvest; keep us here  
 All simply in the springing of the year.

Oh, give us pleasure in the orchard white,  
 Like nothing else by day, like ghosts by night;  
 And make us happy in the happy bees,  
 The swarm dilating round the perfect trees.

And make us happy in the darting bird  
 That suddenly above the bees is heard,  
 The meteor that thrusts in with needle bill,  
 And off a blossom in mid air stands still.

For this is love and nothing else is love,  
 The which it is reserved for God above  
 To sanctify to what far ends He will,  
 But which it only needs that we fulfil.

Robert Frost

**Light Winged Smoke**

LIGHT-WINGED Smoke, Icarian bird,  
 Melting thy pinions in thy upward flight,  
 Lark without song, and the messenger of dawn,  
 Circling above the hamlets as thy nest;  
 Or else, departing dream, and shadowy form  
 Of midnight vision, gathering up thy skirts;  
 By night star-veiling, and by day  
 Darkening the light and blotting out the sun;  
 Go thou my incense upward from this hearth,  
 And ask the gods to pardon this clear flame.

Henry David Thoreau

**Epitaph on the World**

Here lies the body of this world,  
 Whose soul alas to hell is hurled.  
 This golden youth long since was past,  
 Its silver manhood went as fast,  
 An iron age drew on at last;  
 'Tis vain its character to tell,  
 The several fates which it befell,  
 What year it died, when 'twill arise,  
 We only know that here it lies.

Henry David Thoreau

**Nature**

I.  
 Winters know  
 Easily to shed the snow,  
 And the untaught Spring is wise  
 In cowslips and anemones.  
 Nature, hating art and pains,  
 Baulks and baffles plotting brains;  
 Casualty and Surprise  
 Are the apples of her eyes;  
 But she dearly loves the poor,  
 And, by marvel of her own,  
 Strikes the loud pretender down.

For Nature listens in the rose,  
 And hearkens in the berry's bell,  
 To help her friends, to plague her foes,  
 And like wise God she judges well.  
 Yet doth much her love excel  
 To the souls that never fell,  
 To swains that live in happiness,  
 And do well because they please,  
 Who walk in ways that are unfamed,  
 And feats achieve before they're named.

## II.

She is gamesome and good,  
 But of mutable mood,--  
 No dreary repeater now and again,  
 She will be all things to all men.  
 She who is old, but nowise feeble,  
 Pours her power into the people,  
 Merry and manifold without bar,  
 Makes and moulds them what they are,  
 And what they call their city way  
 Is not their way, but hers,  
 And what they say they made to-day,  
 They learned of the oaks and firs.  
 She spawneth men as mallows fresh,  
 Hero and maiden, flesh of her flesh;  
 She drugs her water and her wheat  
 With the flavours she finds meet,  
 And gives them what to drink and eat;  
 And having thus their bread and growth,  
 They do her bidding, nothing loath.  
 What's most theirs is not their own,  
 But borrowed in atoms from iron and stone,  
 And in their vaunted works of Art  
 The master-stroke is still her part.

Ralph Waldo Emerson

**Song of Nature**

Mine are the night and morning,  
 The pits of air, the gulf of space,  
 The sportive sun, the gibbous moon,  
 The innumerable days.

I hid in the solar glory,  
 I am dumb in the pealing song,  
 I rest on the pitch of the torrent,  
 In slumber I am strong.

No numbers have counted my tallies,  
 No tribes my house can fill,  
 I sit by the shining Fount of Life,  
 And pour the deluge still;

And ever by delicate powers  
 Gathering along the centuries  
 From race on race the rarest flowers,  
 My wreath shall nothing miss.

And many a thousand summers  
 My apples ripened well,  
 And light from meliorating stars  
 With firmer glory fell.

I wrote the past in characters  
 Of rock and fire the scroll,  
 The building in the coral sea,  
 The planting of the coal.

And thefts from satellites and rings  
 And broken stars I drew,  
 And out of spent and aged things  
 I formed the world anew;

What time the gods kept carnival,  
 Tricked out in star and flower,  
 And in cramp elf and saurian forms  
 They swathed their too much power.

Time and Thought were my surveyors,  
 They laid their courses well,  
 They boiled the sea, and baked the layers  
 Or granite, marl, and shell.

But he, the man-child glorious,--  
 Where tarries he the while?  
 The rainbow shines his harbinger,  
 The sunset gleams his smile.

My boreal lights leap upward,  
 Forthright my planets roll,  
 And still the man-child is not born,  
 The summit of the whole.

Must time and tide forever run?  
Will never my winds go sleep in the west?  
Will never my wheels which whirl the sun  
And satellites have rest?

Too much of donning and doffing,  
Too slow the rainbow fades,  
I weary of my robe of snow,  
My leaves and my cascades;

I tire of globes and races,  
Too long the game is played;  
What without him is summer's pomp,  
Or winter's frozen shade?

I travail in pain for him,  
My creatures travail and wait;  
His couriers come by squadrons,  
He comes not to the gate.

Twice I have moulded an image,  
And thrice outstretched my hand,  
Made one of day, and one of night,  
And one of the salt sea-sand.

One in a Judaeen manger,  
And one by Avon stream,  
One over against the mouths of Nile,  
And one in the Academe.

I moulded kings and saviours,  
And bards o'er kings to rule;--  
But fell the starry influence short,  
The cup was never full.

Yet whirl the glowing wheels once more,  
And mix the bowl again;  
Seethe, fate! the ancient elements,  
Heat, cold, wet, dry, and peace, and pain.

Let war and trade and creeds and song  
Blend, ripen race on race,  
The sunburnt world a man shall breed  
Of all the zones, and countless days.

No ray is dimmed, no atom worn,  
My oldest force is good as new,  
And the fresh rose on yonder thorn  
Gives back the bending heavens in dew.

Ralph Waldo Emerson

***Rachel Carson's Silent Spring***

1. Why does Rachel Carson call her book “Silent Spring”?
2. Compared to the history of the earth, how much impact have natural living things had on their surroundings? How does that compare to the kind of impact that man has had on the earth? What kinds of things has man done?
3. Why is pollution irrecoverable, according to Carson?
4. Where does Strontium 90 come from, and what are the **four steps** it takes for this element to pollute the earth and harm mankind?
5. What are two of the pathways chemicals sprayed on crops can harm animals and humans?
6. Why does Carson claim there is no time for nature to correct today’s pollution?
7. Why does Carson suggest that chemical insecticides and herbicides be called “biocides”?
8. What is uniquely problematic about DDT and other chlorinated hydrocarbons?
9. How do toxins contribute to water pollution?
10. What is Carson referring to when she writes that there is a “human price” for the use of toxins? Why is it so crucial that human beings begin to see themselves as an essential part of the natural world? Why did she believe that people resisted thinking about themselves in those terms?

**For further exploration:**

1. Research alternative proposals to the use of chemicals to control unwanted pests and plants. Do you think these alternatives make sense in the context of agribusiness?
2. Carson’s discussion of Dutch Elm disease leads her to advocate “the conservation of variety.” What does she mean by this?
3. Why is runoff in rivers and the ocean such a serious problem?
4. Do you agree that the project of controlling nature is arrogant, foolish, and dangerous, as Carson argues? Why or why not?