



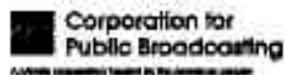
# The Environmental Decade: Impacts and Legislation

## Lesson Plan

Produced by Earth Day Network in association with  
American Experience



EXCLUSIVE CORPORATE FUNDING FOR AMERICAN EXPERIENCE PROVIDED BY LIBERTY MUTUAL.  
MAJOR FUNDING PROVIDED BY THE ALFRED P. SLOAN FOUNDATION, THE CORPORATION FOR PUBLIC BROADCASTING AND PUBLIC TELEVISION VIEWERS.  
AMERICAN EXPERIENCE IS PRODUCED FOR PBS BY WGBH BOSTON.



# The Environmental Decade: Impacts and Legislation

Produced by Earth Day Network in association with American Experience

## INTRODUCTION

Students will explore why the 1970s are known as the “environmental decade” and discuss what forces came together to pass so many landmark environmental laws. They will focus on scientific data, attitudes of the time and how each legislative accomplishment specifically relates to the overall legislative process.

## LESSON OVERVIEW

**Grade Level & Subject:** Grades 9-12: History and Civics; Math optional

**Length:** 2-4 class periods; Activities One, Three and Four may be done separately

### Objectives:

After completing this lesson, students will be able to:

- Interpret graphs and analyze scientific data.
- Better understand the complex role of interrelated political factors that can influence the legislative process.
- Build categorization skills essential to quality essay writing.
- Analyze the importance of landmark environmental legislation of the 1970s and its continued significance.

### National Standards Addressed:<sup>1</sup>

This lesson addresses the following [National Standards for History](#) presented by [The National Center for History in the Schools](#):

- **Content Standard: NSS-USH.9-12.10 ERA 10: CONTEMPORARY UNITED STATES (1968 TO THE PRESENT)**
  - Understands recent developments in foreign and domestic politics.
  - Understands economic, social, and cultural developments in contemporary United States.

This lesson addresses the following [Standards & Position Statement](#) from the [National Council for the Social Studies](#):

- **Content Standard: NSS-C.9-12.1 CIVIC LIFE, POLITICS AND GOVERNMENT**
  - What is civic life? What is politics? What is government? Why are government and politics necessary? What purposes should government serve?
- **Content Standard: NSS-C.9-12.3 PRINCIPLES OF DEMOCRACY**
  - How are power and responsibility distributed, shared, and limited in the government established by the United States Constitution?

---

<sup>1</sup> <http://www.educationworld.com/standards>

- How is the national government organized and what does it do?
- What is the place of law in the American constitutional system?
- How does the American political system provide for choice and opportunities for participation?
- **Content Standard: NSS-C.9-12.5 ROLES OF THE CITIZEN**
  - What are the rights of citizens?
  - What are the responsibilities of citizens?
  - What civic dispositions or traits of private and public character are important to the preservation and improvement of American constitutional democracy?
  - How can citizen take part in civic life?

**Materials Needed:**

- Reproducible #1 – Health Impacts of Air Pollutants
- Reproducible #2 – Data Graphs
- Reproducible #3 – Data Charts
- Reproducible #4 – From Issue to Legislation
- Reproducible #5 – From Issue to Legislation Answer Key
- Reproducible #6 – The Laws
- Reproducible #7 – The Laws Answer Key
- Reproducible #8 – Quotes of the Time
- Reproducible #9 – Summarizing the Film Clips
- Reproducible #10 – Summarizing the Film Clips Answer Key
- Appendix – Earth Days Transcript
- Earth Days Film<sup>2</sup>
- Scissors, glue, writing utensil and paper

**Assessment:** Students will be assessed through the following activities:

- Creation of graphs from data (optional).
- Participation in class discussions and group activities.
- Completion of Reproducible #6 – The Laws.
- Completion (individually or as a group) of Quotes/Categories activity.
- Completion of Reproducible #9 – Summarizing the Film Clips
- Optional extension activities, including research, writing and presentation skills.

---

<sup>2</sup> Earth Days. Dir. Robert Stone. PBS/American Experience.

## LESSON BACKGROUND

### Relevant Vocabulary:

- **Carbon Monoxide (CO):** a colorless, odorless and very toxic gas that is formed as a product of the incomplete combustion of carbon or a carbon compound.<sup>3</sup>
- **Nitrogen Oxides (NOx):** any of several oxides of nitrogen, most of which are produced in combustion and are considered to be atmospheric pollutants.<sup>4</sup>
- **Volatile Organic Compound (VOCs):** compounds that have a high vapor pressure and low water solubility. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, pharmaceuticals and refrigerants. VOCs typically are industrial solvents, such as trichloroethylene; fuel oxygenates, such as methyl tert-butyl ether (MTBE); or by-products produced by chlorination in water treatment, such as chloroform. VOCs are often components of petroleum fuels, hydraulic fluids, paint thinners and dry cleaning agents. VOCs are common ground-water contaminants.<sup>5</sup>
- **Sulfur Dioxide (SO<sub>2</sub>):** a heavy pungent toxic gas that is easily condensed to a colorless liquid; it is used especially in making sulfuric acid, in bleaching, as a preservative and as a refrigerant, and it is a major air pollutant especially in industrial areas.<sup>6</sup>
- **Lead:** a bluish-white, soft and malleable but inelastic heavy metallic element found mostly in combination and used especially in pipes, cable sheaths, batteries, solder and shields against radioactivity.<sup>7</sup>
- **Gross Domestic Product (GDP):** a measure of economic activity in a country. It is calculated by adding the total value of a country's annual output of goods and services.<sup>8</sup>
- **Legislation:** the exercise of the power and function of making rules (as laws) that have the force of authority by virtue of their promulgation by an official organ of a state or other organization.<sup>9</sup>
- **Law:** a binding custom or practice of a community; a rule of conduct or action prescribed or formally recognized as binding or enforced by a controlling authority.<sup>10</sup>

---

<sup>3</sup> "Carbon Monoxide Entry." Merriam- Webster Online Dictionary. Retrieved 22 January 2010 from <http://www.merriam-webster.com/dictionary/carbon%20monoxide>.

<sup>4</sup> "Nitrogen Oxides Entry." Merriam- Webster Online Dictionary. Retrieved 22 January 2010 from <http://www.merriam-webster.com/dictionary/nitrogen%20oxides>.

<sup>5</sup> "Volatile Organic Compound Entry." U.S. Geological Survey. Retrieved 26 January 2010 from <http://toxics.usgs.gov/definitions/vocs.html>.

<sup>6</sup> "Sulfur Dioxide Entry." Merriam- Webster Online Dictionary. Retrieved 22 January 2010 from <http://www.merriam-webster.com/dictionary/Sulfur%20Dioxide>.

<sup>7</sup> "Lead Entry." Merriam- Webster Online Dictionary. Retrieved 22 January 2010 from <http://www.merriam-webster.com/dictionary/lead>.

<sup>8</sup> "Gross Domestic Product Entry." The Economist. Retrieved 26 January 2010 from <http://www.economist.com/research/economics/alphabetical.cfm?term=gdp#gdp>.

<sup>9</sup> "Legislation Entry." Merriam- Webster Online Dictionary. Retrieved 22 January 2010 from <http://www.merriam-webster.com/dictionary/legislation>.

<sup>10</sup> "Law Entry." Merriam- Webster Online Dictionary. Retrieved 22 January 2010 from <http://www.merriam-webster.com/dictionary/law>.

## Information:

The 1960s witnessed a growing trend of scientific and public awareness about the natural world. Whether it was individual families visiting a National Park for the first time or Congress passing the Wilderness Act of 1963, people were becoming more familiar with the natural world's prominence in American life. Much of this awareness arose from a bestselling book at the time, Rachel Carson's *Silent Spring* (1962). In her analysis, Rachel Carson depicted a once harmonious American landscape permanently altered through the inordinate use of pesticides. This caused a national discussion on the subject and made Rachel Carson an instant celebrity. While this specific debate continued, others were gaining considerable attention in communities across the U.S. For instance, air and water pollution were becoming not only eyesores, but actual hazards in many communities nationwide. These calamities – and other developing societal concerns like urbanization, technology and population, among others – overlapped with the escalating environmental awareness.

On April 22<sup>nd</sup>, 1970, 20 million Americans took part in the first national day for the environment, Earth Day. For many, including several members of Congress, this was a watershed moment. Shortly thereafter, public campaigns were launched to not only address multiple environmental concerns legislatively, but to target several members of Congress for their poor environmental records. This, among other concerns, garnered the attention of the White House. In partnership with the Executive Branch, Congress subsequently passed so many landmark pieces of environmental legislation that the 1970s are often referred to as “the environmental decade.”

## Resources:

- “Air Trends 1995 Summary.” U.S. Environmental Protection Agency. 1995. <http://www.epa.gov/airtrends/aqtrnd95/summary.html>.
- Brinkley, Alan. *America a History*. Boston: McGraw Hill, 2003.
- Dunlap, R. E. and Mertig, A. G. (Eds.), *American environmentalism: The U.S. Environmental Movement 1970-1990*. New York: Taylor & Francis, 1992.
- Earth Days. Dir. Robert Stone. PBS/ American Experience.
- *EPA's Report on the Environment: Highlight of National Trends*. U.S. Environmental Protection Agency. June 2009. <http://cfpub.epa.gov/ncea/CFM/recordisplay.cfm?deid=190806>.
- Geary, Daniel. “Environmental Movement.” *Dictionary of American History*. New York: Charles Scribners and Sons, 2003.
- Hays, Samuel P. *Beauty, Health and Permanence: Environmental Politics in the United States, 1955-1985*. Cambridge: Cambridge University Press, 1987.
- Henretta, James A., et al. *America's History*. Boston: Bedford/St. Martin's, 2008.
- Kensicki, Linda Jean. “The Modern Environmental Movement: Public Opinion, Media Coverage, and the Importance of Visual Information.” *Egyptian Journal of Public Opinion Research*. 2000.
- Kutler, Stanley I. (Ed.). “Post War Environmentalism, 1950-1990.” *Encyclopedia of the US in the 20<sup>th</sup> Century*. Charles Scribners, 1995.
- Lazarus, Richard. *The Making of Environmental Law*. Chicago: University of Chicago Press, 2004.
- Lewis, Jack “Looking Backward: A Historical Perspective on Environmental Regulations” *EPA Journal* 14, no 2, March 1988, pp. 42-46.
- Library of Congress Online Database: THOMAS. [www.thomas.loc.gov](http://www.thomas.loc.gov).

- Lichtenstein, Nelson, et al., *Who Built America*. New York: Worth Publishers, 2000.
- Merchant, Carolyn and Paterson, Thomas. *Major Problems in American Environmental History*. Lexington, MA: Wadsworth Publishing, 2006.
- *National Air Pollutant Emission Trends, 1900-1998*. U.S. Environmental Protection Agency. March 2000. <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>.
- Percival, Robert V., et al. *Environmental Regulation: Law, Science and Policy*. 2<sup>nd</sup> ed. New York: Aspen Law and Business, 1996.
- Pollution Issues. Advameg, Inc. 2009. Retrieved 25 January 2010 from <http://www.pollutionissues.com/>.

## LESSON STEPS

### Warm-up: *Landmark Legislation*

1. Present students with the following quote:  
 “Within a six year period, 1970-1976, the United States Congress enacted nearly all of the basic environmental legislation . . . most of it by overwhelming bipartisan majorities.”  
 – Robert V. Percival, Director of the Environmental Law Program at the University of Maryland
2. Ask students what exactly this quote may refer to. What happened during this time that led to so many laws being passed in favor of protecting the environment?

### Activity One: *The Data*

In teaching this part of the lesson, there are a number of options. The goal is for students to analyze historical air quality data for trends. If time is limited, present the students with the graphs (Reproducible #2 – Data Graphs). These graphs differentiate between different sources of pollution. With more time to spend on the lesson, or to emphasize data comprehension, analysis and graphing skills, present the students with the charts based on total emissions for all sources of air pollution and have them produce their own graphs (Reproducible #3 – Data Charts). When graphing, keep in mind that not all the years are at equidistant intervals. See Reproducible #1 – Health Impacts of Air Pollutants for a description of the health impacts of these pollutants.

1. For each Graph/Chart 1-5 in Reproducibles #2 and #3, ask students to describe the change in emissions from 1940 to 1998.
  - A. Carbon Monoxide (CO)  
*“Total CO emissions peaked in 1970 and decreased rather steadily thereafter. A significant decrease in CO emissions occurred between 1973 and 1975 as a result of disruptions in world oil markets and a subsequent recession in the United States. (NO<sub>x</sub> and VOC emissions also showed similar short-term decreases from 1973 to 1975 for the same reasons.) The fluctuations of CO emissions in the late 1980s are due to the variation in wildfire activity from year-to-year.”*<sup>11</sup>
  - B. Nitrogen Oxide (NO<sub>x</sub>)

---

<sup>11</sup> “National Air Pollutant Emission Trends, 1900-1998.” U.S. Environmental Protection Agency. March 2000. Retrieved 26 January 2010 from <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>, pg. 3-2.

*“With regard to NO<sub>x</sub>, total national emissions increased 233 percent between 1940 and 1998. From 1970 to 1997, NO<sub>x</sub> emissions increased by approximately 19 percent, followed by a slight decline in 1998.”<sup>12</sup>*

C. Volatile Organic Compounds (VOCs)

*“Total national VOC emissions rose significantly from 1940 to 1970, but then declined almost as significantly from 1970 to 1998. In fact, 1998 levels exceed 1940 VOC emission levels by less than one million tons.”<sup>13</sup>*

D. Sulfur Dioxide (SO<sub>2</sub>)

*“National SO<sub>2</sub> emissions rose 56 percent from 1940 to 1970 and have since declined, primarily because of regulatory actions, especially those that targeted utility sources.”<sup>14</sup>*

E. Lead

*“National Lead emissions peaked in 1972 followed by a steep decline.”<sup>15</sup>*

F. Total U.S. Population, Gross Domestic Product (GDP), and Vehicle Miles Traveled

*“Each of these increased 28 percent, 99 percent and 116 percent respectively.”<sup>16</sup>*

G. Life Expectancy

*Except for a dip during World War II, life expectancy has steadily increased, for all groups, from 1940 to the present day.<sup>17</sup>*

2. After students have had a chance to analyze each graph/set of data, see if they notice any overall trends. Relate Graphs/Charts A-E (pollutants and emissions) with F (U.S. population, GDP and vehicle miles) and G (life expectancy). Lead into the discussion in Activity Two.

### **Activity Two: *Discussing the Graphs***

Lead students in a discussion about the data they analyzed in Activity One.

1. First, what do they notice about the air pollution during this time period? *Air pollution seemed to climb steadily from 1940-1970, after which it either declined or rose only slightly.*
2. What factors would cause such a change?
  - a. What are possible sources of air pollution? Have students make a list. Below are a couple of examples of sources and explanations of how they contribute to air pollution.
    - i. Vehicles - *Vehicles fall into two main categories: on-road and non-road. On-road vehicles include the cars and trucks students see every day. The more individuals who drive and the more frequently they drive, the more gas is usually burned, and the more automobile exhaust is*

---

<sup>12</sup> “National Air Pollutant Emission Trends, 1900-1998.” U.S. Environmental Protection Agency. March 2000. Retrieved 26 January 2010 from <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>, pg. 3-3.

<sup>13</sup> “National Air Pollutant Emission Trends, 1900-1998.” U.S. Environmental Protection Agency. March 2000. Retrieved 26 January 2010 from <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>, pg. 3-3.

<sup>14</sup> “National Air Pollutant Emission Trends, 1900-1998.” U.S. Environmental Protection Agency. March 2000. Retrieved 26 January 2010 from <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>, pg. 3-3.

<sup>15</sup> “National Air Pollutant Emission Trends, 1900-1998.” U.S. Environmental Protection Agency. March 2000. Retrieved 26 January 2010 from <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>, pg. 3-3.

<sup>16</sup> “National Air Pollutant Emission Trends, 1900-1998.” U.S. Environmental Protection Agency. March 2000. Retrieved 26 January 2010 from <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>, pg. 3-3.

<sup>17</sup> *EPA’s Report on the Environment; Highlights of National Trends*. U.S. Environmental Protection Agency. 2008, page 26. [http://www.epa.gov/roehd/pdf/roe\\_hd\\_layout\\_508.pdf](http://www.epa.gov/roehd/pdf/roe_hd_layout_508.pdf).

*produced. Trucks transport some 70 percent of manufactured and retail goods in the United States.<sup>18</sup> The more individuals consume, the more trucks are needed to transport those goods. Non-road vehicles are used in construction and farming. They also include airplanes, which pollute more individually, but far less compared to the number of on-road vehicles.*

- ii. Electricity - *Electricity provides power for everything from iPods to the lights in a classroom. Much of the electricity in the U.S. is produced by burning fossil fuels. Students can examine their state's various forms of energy at <http://www.epa.gov/powerprofiler>.*
  - iii. Heating - *Most buildings use air or water to disperse heat throughout the building. This air or water typically needs to be heated in order to radiate heat. Many buildings burn fossil fuels to heat this air or water.*
  - iv. Industrial processes – *Industrial processes are procedures involving chemical or mechanical steps to aid in the manufacture of an item or items, usually carried out on a very large scale. Industrial processes are key components of heavy industry, often involving the burning of fossil fuels.<sup>19</sup> Some examples are: metal smelting, battery production, chemical manufacturing, petroleum refineries, and asphalt production.*
  - v. Can you think of any others? *For example, fumes from paint, hair spray, varnish, aerosol sprays, etc., military sources such as nuclear weapons, toxic gases, germ warfare and rocketry, and natural sources such as smoke and carbon monoxide from wildfires. Answers will vary.*
- b. What happened to these sources of pollution during this time period? What could have made the pollution numbers increase or decrease? *Answers will vary, but in general, they increased along with population growth in the U.S., in addition to increased access to and demand for these processes.*
  - c. Refer students to Graphs/Charts 6 (U.S. Population, GDP, and Vehicle Miles Traveled). *Looking at these broad figures, sources of pollution appear to increase over time with population growth.*
  - d. Refer students to Graph/Chart 7 (Life Expectancy). What relationship might these numbers have with the other factors and trends? *Answers will vary. A number of factors influence life expectancy, some of which are included in this discussion. Conversely, life expectancy also affects a number of these factors in return.*
3. How, then, could these causes of air pollution be mitigated or reduced? Start thinking about personal or individual examples, group or societal examples, and then commercial or industrial examples.
- e. Individuals change habits.
    - i. What are some examples related to pollution reduction? *Driving less, unplugging appliances, turning off lights when leaving a room, recycling, etc.*
    - ii. Ask students if any of them do these or other individual actions. Why do they do them, and if so, what made them change their habits?
    - iii. Why would individuals change their habits? *Because of cultural shifts - it could become "cool" to ride your bike to school. Because of economic incentives - the price of gas*

---

<sup>18</sup> Fontelera, Jorina. "Spotlight: Trucking Trends." ThomasNet News. Retrieved 26 January 2010 from <http://news.thomasnet.com/IMT/archives/2009/02/trucking-over-bumpy-roads-trucking-fleets-and-manufacturers-expect-continued-struggle-in-2009.html>.

<sup>19</sup> "Industrial Processes Entry." Absolute Astronomy. Retrieved 28 January 2010 from [http://www.absoluteastronomy.com/topics/Industrial\\_process](http://www.absoluteastronomy.com/topics/Industrial_process).

*rises so you carpool; the cost to heat your home increases so you install more insulated windows. Because of education – people become more aware of the issues, problems and solutions. Because of legislation and enforcement – they are required to do so.*

- f. Changes in technology.
  - i. What are some examples? *Cars become more fuel efficient by using hybrid engines. Appliances or light bulbs use less electricity.*
  - g. Why would a power plant, such as coal fired power plant, install more efficient, cleaner technology? *Similar reasons as individuals' changes: maybe they were trying to improve their public image, maybe it is more cost-effective over the long term or maybe Congress passed a law mandating such requirements.*
4. Do people change first and this cultural shift leads to new laws, or do laws come first and then force people's habits to change? *Answers will vary.*
5. Why would a Congressperson introduce a law in the first place? *Answers will vary. See Reproducible #4 – From Issue to Legislation for possible explanation.*
6. Relate back to the Charts/Graphs and the trends discussed earlier. Air pollution largely followed this pattern. It increased steadily until 1970 when Congress passed a strengthened version of the Clean Air Act and President Nixon signed it into law. This was just one of several environmental initiatives passed into legislation from 1970-1976. Lead this discussion into Activity Three.

### **Activity Three: *The Laws***

The goal of this section is for students to better understand the breadth and depth of these multiple laws. While other environmental laws have been passed, none have been as wide-ranging as those of the 1970s (and many have simply been amendments to these original laws).

1. Begin this section by showing the opening sequence from Earth Days.<sup>20</sup> (film chapter: Introduction) This clip demonstrates over half a century of U.S. Presidents and their concern for the environment. Ask students why, if there was such consensus on the need for environmental protection, many of these environmental laws did not exist until the 1970s. *Answers will vary, but environmental issues are often complicated and directly involve many other political and socioeconomic issues. Additionally, the President in the U.S. government only represents one faction of government; everyone from Congress, industry and concerned citizens have a role to play in the legislative process.*
2. Based on their analysis and discussion of the issues prevalent in the years leading up to 1970, have students brainstorm about laws they think should have been passed to tackle these problems. Go around the room and have students contribute ideas for legislation. Focus on the data presented in the first part of the lesson covering air pollution, or remind students that there were also significant problems with water chemicals and other forms of pollution, species extinction, and other areas where there was little or no regulation or social concern.

---

<sup>20</sup> Earth Days. Dir. Robert Stone. PBS/American Experience.

3. Present students with a list of laws passed from 1970-76. Have the students match the law to its description and/or excerpt from the law on Reproducible #6 – The Laws.
4. Discuss these laws as a class.
  - a. Are they federal, state or local laws? *Federal.*
  - b. Do they seem flexible or inflexible? *Answers will vary, but there are many laws and parts of laws that are specific and inflexible.*
  - c. Why did so much environmental legislation pass in such a short period of time? *Students will discuss this more in the next section, but one answer is that a groundswell of support was evidenced through the national and local events of Earth Day in April of 1970.*
  - d. Why are these laws so transformative? *Answers will vary, but these laws represent some of the most sweeping acts of environmental protection ever passed in U.S. or world history. As a result, governments across the world responded similarly with their own versions of the legislation, and the process continues reciprocally to this day, with the environment as an accepted political issue.*
5. Are there any laws the students came up with that are not listed? Are there any listed that the students did not think of?
6. Tell students that while other environmental laws have been passed since the 1970s none have been so broad and ranging, and many have simply been amendments to these laws. *(Examples of Amendments: Clean Air Act Amendments 1977, 1990, the Clean Water Act of 1977 and the Water Quality Act of 1987.)*

#### **Activity Four: *The Need for Legislation***

This activity will get students thinking about and discussing why there were so many environmental laws signed into law during the early 1970s. It will also help them build their categorization skills that are essential in essay writing.

1. Hand each student (or group of students) a copy of Reproducible #8 – Quotes of the Time. To do this activity as a larger class, only one copy is needed, and each student/pair will get one of the twenty quotes.
2. Have students cut each quote along the dotted lines. Make sure each student or pair has at least one quote.
3. In groups, pairs, individually or as a class, divide and read the quotes. Ask each student to put the quote(s) he or she is reading in his/her own words to encourage further comprehension.
4. As a class or in small groups, students will work together to categorize the quotes. They can create their own categories or use the following:
  - a. Increased Standards of Living
  - b. Environmental Degradation and Health
  - c. Threats to the Workforce
  - d. Earth Day Movement
  - e. Outgrowth of 1960s Activism

- f. Professionalization of the Environmental Movement
  - g. Increased Public Awareness
  - h. The Political Climate
  - i. Legal innovations
  - j. Media attention
5. Write each category on the board and/or have each student/group write them at the top of a sheet of paper. Have students tape quotes onto the board or glue them onto the paper underneath each category.
    - a. Students may use the categories provided (some of these may have just one quote, others many).
    - b. Or students may come up with their own categories.
  6. As a class, play the following clips from Earth Days<sup>21</sup>
    - a. Rachel Carson Clip<sup>22</sup> (film chapter: Rachel Carson and “Silent Spring”)
    - b. Richard Nixon<sup>23</sup> (film chapter: Birth of a Movement)
    - c. Dirty Dozen<sup>24</sup> (film chapter: The First Earth Day)
  7. As they watch the clips, have students write down any quotes that fit into any of the above categories. (The Appendix section has many of these quotes written out for reference).
  8. Afterwards, have students summarize the clips by answering the questions in Reproducible #9 – Summarizing the Film Clips.
  9. Individually, have students rank the categories according to their opinion (with 1 being most influential).
    - a. If students came up with their own categories, take some time as a class sharing the categories and narrowing them down to a smaller number before having the students rank them.
  10. Have each student share or write a few sentences about why s/he picked his/her Number 1 category as most influential and why s/he picked another as least influential.
  11. Take a survey of the class by going down the list and asking for a raise of hands of who picked which category as their Number 1.
  12. Each of these categories can be said to have played a role in the passage many of the landmark environmental laws of the 1970s. Discuss what was most influential. Do students think that there any categories that could stand alone or that the combination of all of these factors played more of a role?

### **Wrap Up: *Then and Now***

---

<sup>21</sup> Earth Days. Dir. Robert Stone. PBS/ American Experience, 2010.

<sup>22</sup> Earth Days. Dir. Robert Stone. PBS/ American Experience, 2010.

<sup>23</sup> Earth Days. Dir. Robert Stone. PBS/ American Experience, 2010.

<sup>24</sup> Earth Days. Dir. Robert Stone. PBS/ American Experience, 2010.

This lesson examined scientific data, attitudes, events and legislation in the years leading up to, during and following the “environmental decade” of the 1970s. Lead a class discussion reviewing this information and relating it to issues today. Use the following questions as a guide.

1. Based on the scientific data reviewed, what were some key environmental issues during this time? *Increases in air pollution.*
  - a. Can you think of any others? *Answers will vary, but water pollution, decline and extinction of several species, etc. also increased.*
2. Thinking about the quotes read in Activity Four and the categories they fit into, what were some of the societal shifts and attitudes of the time? *Increasing interest in nature and the consequences of urban life, increased standards of living, awareness of environmental degradation and visible pollution, threats to the health of workers, increased political awareness and activism, growing field of ecology as a science and professionalization of the environmental movement, media attention and increased public awareness of many issues, the political climate, legal and technological innovations, etc.*
3. Thinking about these attitudes, are there any cultural shifts or developments from that time that are relevant today? *Answers will vary.*
  - a. Are there any new issues or attitudes you can think of that are present today? *Answers will vary, but may include: increased technology and communication, increased access to information, increased grassroots presence, increasing scientific data about the environment and Earth’s systems, increased globalization, etc.*
4. The 1970s included a complex interrelationship of many factors to lead to landmark environmental legislation, unlike any passed before or since. Are there any issues, events or actions that could combine to have a similar wide-reaching impact today? *Answers will vary.*

### Extensions:

1. **Further Research:** This lesson focused primarily on the trends of air pollutants and related factors. Students could do research to collect data on other issues of the time or today. Possibilities include: water pollution, pesticide use, species population rates, landfill use, energy use, recycling rates, carbon dioxide emissions, etc. They can write a report or give a presentation to the class based upon their findings. They should include research and/or opinions about the causes and solutions, any relevant existing legislation and/or ideas for future legislation, and evidence for public support, political attention, etc. Using the categorization skills from Activity Four, have them group and analyze the importance of these factors and their interrelationships in persuasive essay format.
2. **Students Write a Law:** Have students write their own legislation, amendment, or piece of legislation. They can choose one of the issues mentioned in this lesson (air and water pollution, endangered species, etc.) and rewrite or amend the existing legislation. Or, they may choose another issue they feel strongly about, and write draft language for a new law. It can be a larger issue, or something affecting them or their school. Students could take this activity further by contacting the appropriate representative (Principal, District Officials,

Mayor, Senator, etc.) and share their ideas via a phone call, letter or meeting.

3. **Digging into the Legislation:** Have students select one of the pieces of 1970s environmental legislation and read the actual text of the bill using the U.S. Library of Congress' Online Database, THOMAS: [www.thomas.loc.gov](http://www.thomas.loc.gov). (Also, students can use the EPA's website for additional information on environmentally related legislation: [www.epa.gov](http://www.epa.gov).) Students should then read the text of the bill (oftentimes 1,000+ pages) as a homework assignment. Next, have students select a portion of the bill, such as an amendment, to analyze in further detail. Specifically, students should either write a report or create a visual representation on their interpretation of the selected piece of legislation. Students should answer the following questions from their examination: What does the selected text actually state? Who enforces this provision and how? Is it funded? If so, by what agency or branch of government? Over time, have there been different interpretations of the selected language? If so, by whom? Have there ever been any court cases surrounding the selected text? If so, what did they involve? Do you believe the selected piece of legislation has been successful? Why or why not? If not, what would you recommend in its place?

## CONCLUSION

In this lesson, students explored why the 1970s are known as the “environmental decade.” Specifically, they analyzed scientific data, discussed trends and attitudes, and examined the legislative process to determine what forces came together to pass so much landmark environmental legislation during this short time period.

## LESSON PLAN CREDITS

**Amanda Hurowitz – Author**

AP U.S. History and Anthropology Teacher, Thomas Jefferson High School for Science & Technology

**Brenna Holzhauer – Author, Editor**

Education Manager, Earth Day Network

**Sean S. Miller – Author, Editor**

Education Director, Earth Day Network

**Maggie Ollove – Researcher**

Education Associate, Earth Day Network

## Health Impacts of Air Pollution

Toxin	Health Impact
Carbon Monoxide <sup>25</sup>	Visual impairment, reduced work capacity, reduced manual dexterity, poor learning ability, and difficulty in performing complex tasks
Nitrogen Oxide <sup>26</sup>	Irritation of the lungs and lower resistance to respiratory infections such as influenza, increased incidence of acute respiratory illness in children
Sulfur Dioxide <sup>27</sup>	Harmful effects on breathing, respiratory illness, alterations in pulmonary defenses, and aggravation of existing cardiovascular disease.
Lead <sup>28</sup>	Anemia, kidney disease, reproductive disorders, and neurological impairments such as seizures, mental retardation, and/or behavioral disorders. Even at low doses, lead exposure is associated with changes in fundamental enzymatic, energy transfer, and other processes in the body

<sup>25</sup> "Carbon Monoxide." U.S. Environmental Protection Agency. Retrieved 27 January 2010 from <http://www.epa.gov/air/airtrends/aqtrnd95/co.html>.

<sup>26</sup> "Nitrogen Oxide." U.S. Environmental Protection Agency. Retrieved 27 January 2010 from <http://www.epa.gov/airtrends/aqtrnd95/no2.html>.

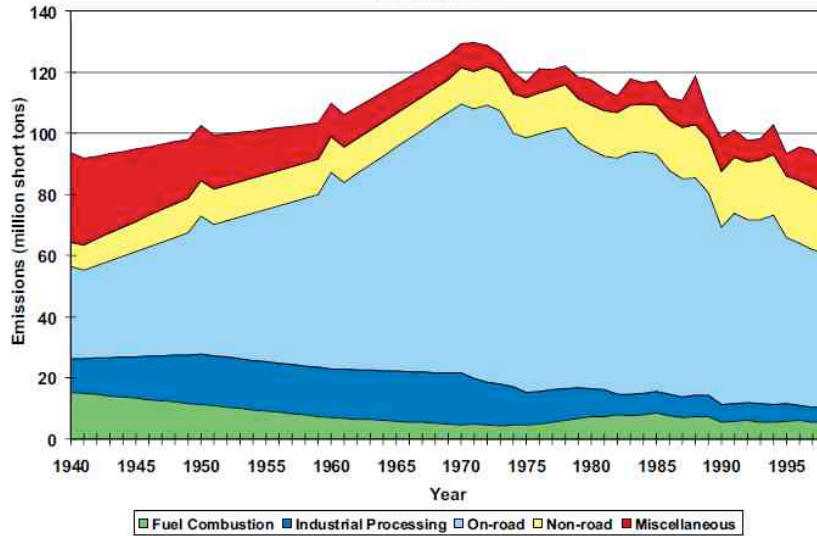
<sup>27</sup> "Sulfur Dioxide." U.S. Environmental Protection Agency. Retrieved 27 January 2010 from <http://www.epa.gov/airtrends/aqtrnd95/so2.html>.

<sup>28</sup> "Lead." U.S. Environmental Protection Agency. Retrieved 27 January 2010 from <http://www.epa.gov/airtrends/aqtrnd95/pb.html>

## Data Graphs

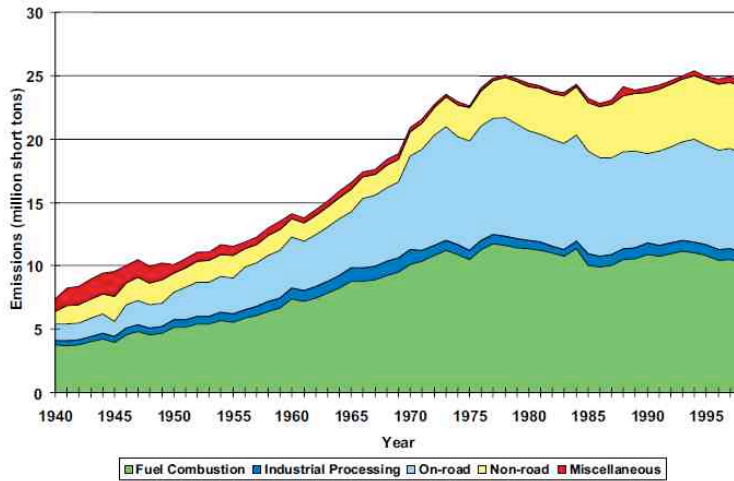
### Graph 1<sup>29</sup>

Figure 3-2. Trend in CARBON MONOXIDE Emissions, 1940 to 1998



### Graph 2<sup>30</sup>

Figure 3-3. Trend in NITROGEN OXIDE Emissions, 1940 to 1998

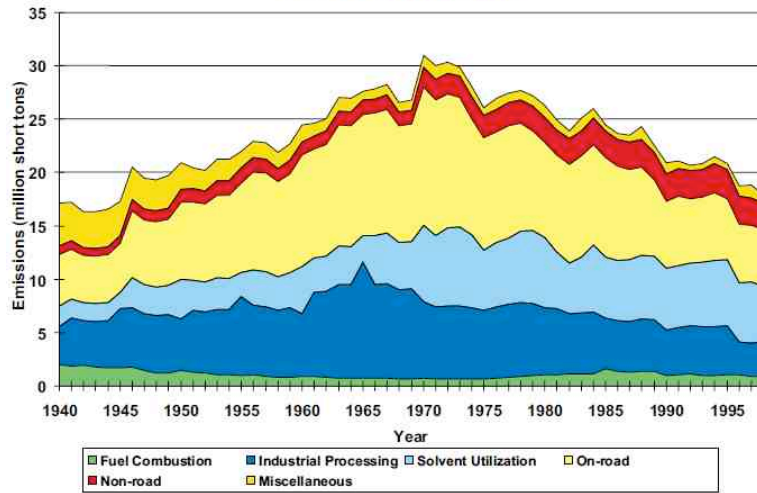


<sup>29</sup> *National Air Pollutant Emission Trends, 1900-1998*. U.S. Environmental Protection Agency. March 2000, page 3-22. <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>.

<sup>30</sup> *National Air Pollutant Emission Trends, 1900-1998*. U.S. Environmental Protection Agency. March 2000, page 3-23. <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>.

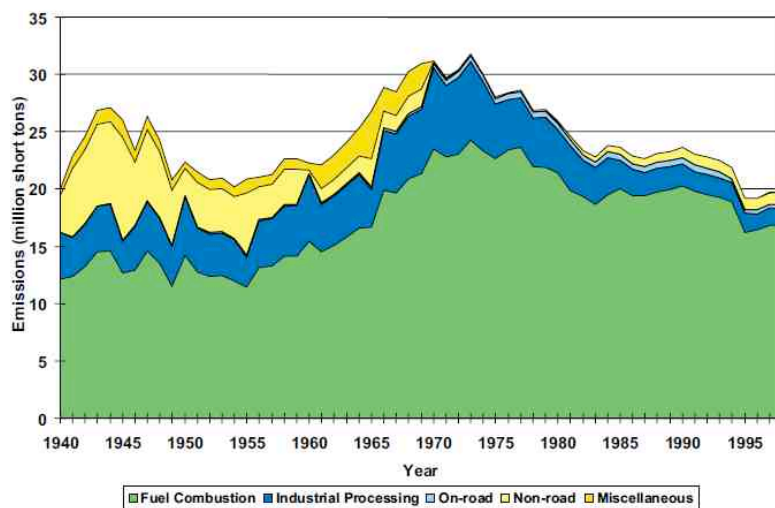
### Graph 3<sup>31</sup>

Figure 3-4. Trend in VOLATILE ORGANIC COMPOUND Emissions, 1940 to 1998



### Graph 4<sup>32</sup>

Figure 3-5. Trend in SULFUR DIOXIDE Emissions, 1940 to 1998

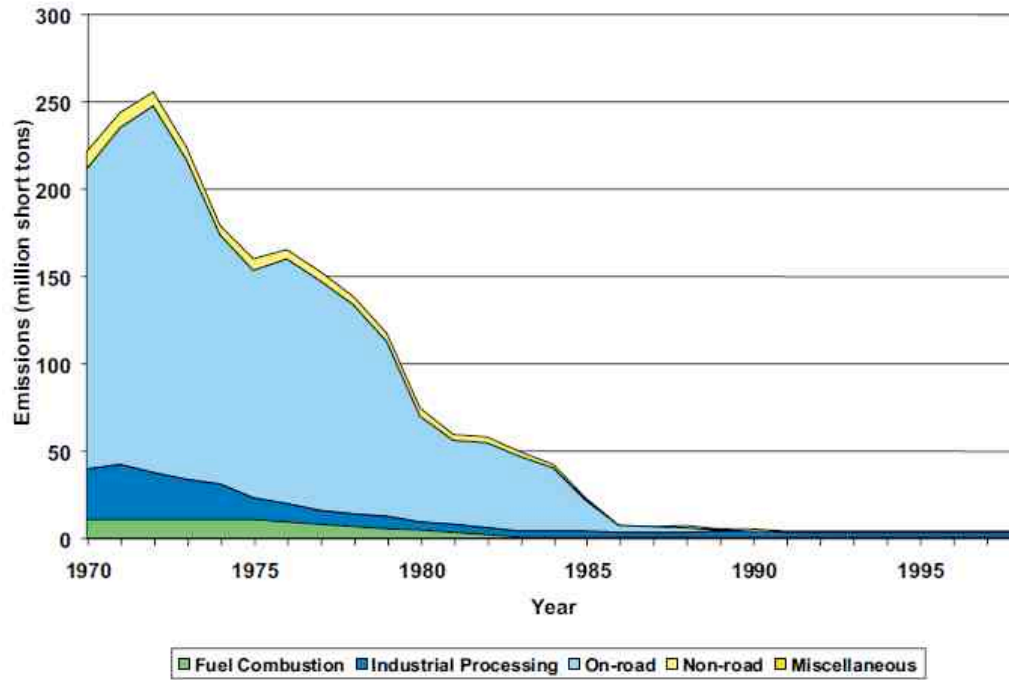


<sup>31</sup> *National Air Pollutant Emission Trends, 1900-1998*. U.S. Environmental Protection Agency. March 2000, page 3-24. <http://www.epa.gov/ttn/chieftrends/trends98/trends98.pdf>.

<sup>32</sup> *National Air Pollutant Emission Trends, 1900-1998*. U.S. Environmental Protection Agency. March 2000, page 3-25. <http://www.epa.gov/ttn/chieftrends/trends98/trends98.pdf>.

Graph 5<sup>33</sup>

Figure 3-8. Trend in LEAD Emissions,  
1970 to 1998



<sup>33</sup>National Air Pollutant Emission Trends, 1900-1998. U.S. Environmental Protection Agency. March 2000, page 3-26.  
<http://www.epa.gov/ttn/chieftrends/trends98/trends98.pdf>.

## Data Charts

**Table 1. Total National Emissions of Carbon Monoxide, 1940 through 1998 (thousand short tons)<sup>34</sup>**

Year	Emissions (thousand short tons)
1940	93,616
1950	102,609
1960	109,745
1970	129,444
1980	117,434
1990	98,523
1996	95,480
1998	89,455

**Table 2. Total National Emissions of Nitrogen Oxides, 1940 through 1998 (thousand short tons)<sup>35</sup>**

Year	Emissions
1940	7,374
1950	10,093
1960	14,140
1970	20,928
1980	24,384
1990	24,049
1996	24,676
1998	24,454

**Table 3. Total National Emissions of Volatile Organic Compounds, 1940 through 1998 (thousand short tons)<sup>36</sup>**

Year	Emissions
1940	17,161
1950	20,936
1960	24,459
1970	30,982
1980	26,336
1990	20,936
1996	18,736
1998	17,917

<sup>34</sup> *National Air Pollutant Emission Trends, 1900-1998*. U.S. Environmental Protection Agency. March 2000, page 3-9. <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>.

<sup>35</sup> *National Air Pollutant Emission Trends, 1900-1998*. U.S. Environmental Protection Agency. March 2000, page 3-10. <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>.

<sup>36</sup> *National Air Pollutant Emission Trends, 1900-1998*. U.S. Environmental Protection Agency. March 2000, page 3-11. <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>.

**Table 4. Total National Emissions of Sulfur Dioxide, 1940 through 1998(thousand short tons)<sup>37</sup>**

<b>Year</b>	<b>Emissions</b>
1940	19,952
1950	22,357
1960	22,227
1970	31,161
1980	25,905
1990	23,660
1996	19,121
1998	19,647

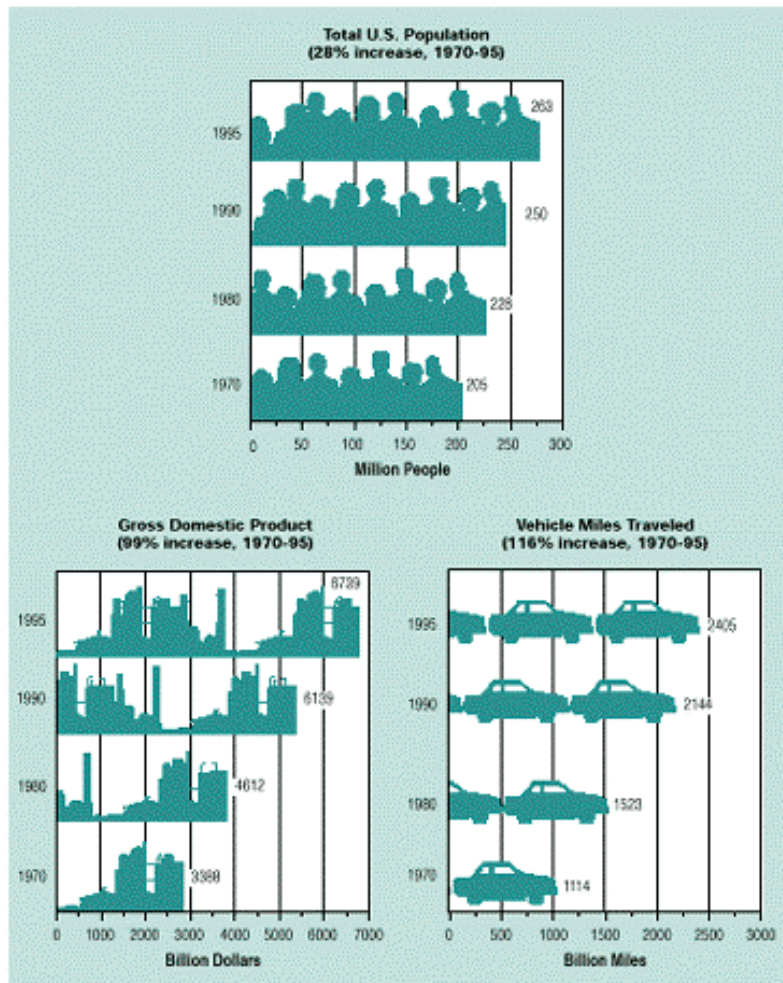
**Table 5. Total National Emissions of Lead, 1970 through 1998(short tons)<sup>38</sup>**

<b>Year</b>	<b>Emissions</b>
1970	220,869
1975	159,659
1980	74,153
1985	22,890
1990	4,975
1996	3,899
1998	3,973

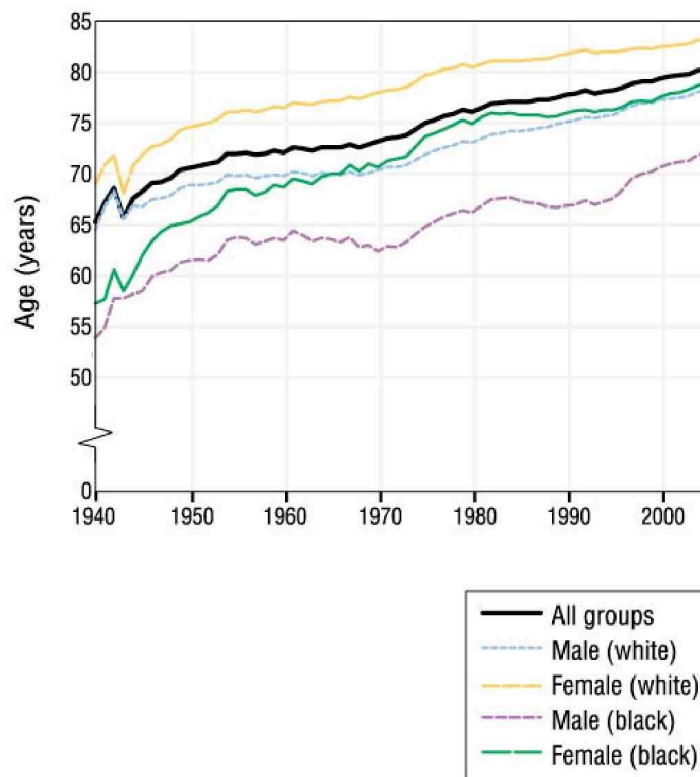
---

<sup>37</sup> *National Air Pollutant Emission Trends, 1900-1998*. U.S. Environmental Protection Agency. March 2000, page 3-12. <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>.

<sup>38</sup> *National Air Pollutant Emission Trends, 1900-1998*. U.S. Environmental Protection Agency. March 2000, page 3-13. <http://www.epa.gov/ttn/chief/trends/trends98/trends98.pdf>.



<sup>39</sup> “Summary of Air Quality and Emissions Trends.” U.S. Environmental Protection Agency. 1995. <http://www.epa.gov/airtrends/aqtrnd95/summary.html>.



**Life Expectancy at Birth by Race and Sex, 1940-2005**

Life expectancy is the average number of years at birth a person could expect to live if current patterns in death rates were to continue for the rest of that person's life.

Source: National Center for Health Statistics, 2006, 2008

<sup>40</sup> EPA's Report on the Environment; Highlights of National Trends. U.S. Environmental Protection Agency. 2008, page 26. [http://www.epa.gov/roehd/pdf/roe\\_hd\\_layout\\_508.pdf](http://www.epa.gov/roehd/pdf/roe_hd_layout_508.pdf).

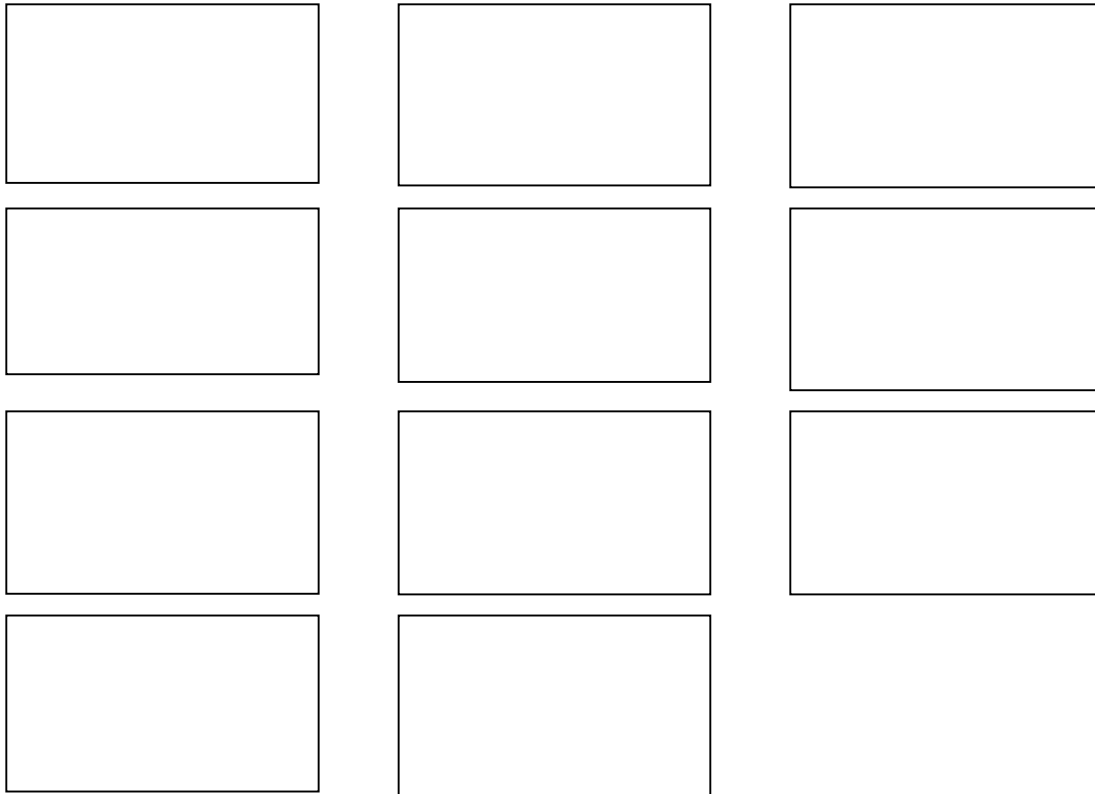
**From Issue to Legislation: Where Do Laws Come From?**

Name:

Date:

The diagram below traces the legislative process from an issue to a law. Write the following steps into their proper place in the diagram.

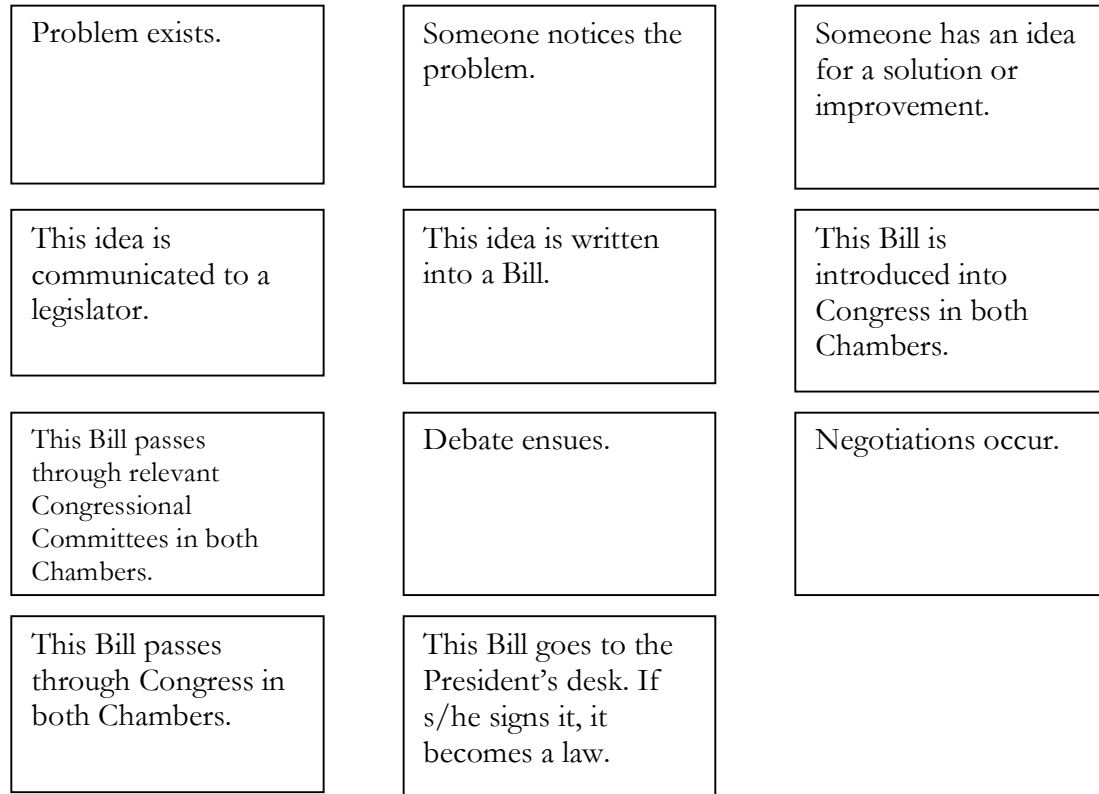
- This Bill passes through Congress in both Chambers.
- Someone has an idea for a solution or improvement.
- This idea is written into a Bill.
- Debate ensues.
- This Bill passes through relevant Congressional committees in both Chambers.
- Someone notices the problem.
- This idea is communicated to a legislator.
- Negotiations occur.
- This Bill goes to the President's desk. If s/he signs it, it becomes a law.
- Problem exists.
- This Bill is introduced into Congress in both Chambers.



## From Issue to Legislation: Where Do Laws Come From?

## ANSWER KEY

The diagram below traces legislation from an issue to a law. Write the following steps into their proper place in the diagram.



**The Laws**

**Name:**

**Date:**

The following laws were passed between the years of 1969 and 1976. Match the name of each law with its year and explanation. (Excerpts from the laws are italicized.)

**Resource Conservation and Recovery Act**  
**National Environmental Policy Act**  
**Occupational Health and Safety Administration**  
**Resource Conservation and Recovery Act**  
**Federal Insecticide, Fungicide, and Rodenticide Act**  
**Marine Protection, Research and Sanctuaries Act**

**Clean Water Act**  
**Safe Drinking Water Act**  
**Clean Air Act**  
**Endangered Species Act**  
**Toxic Substances Control Act**  
**Environmental Protection Agency**

1. \_\_\_\_\_ - 1969
- Declared a national policy to encourage a constructive and harmonious relationship between humans and their environment.
  - Required government agencies to submit environmental impact statements for all major projects. Each federal agency had to access and consider the significant environmental impacts of its actions and alternative courses of action before the agency could change government behavior and policy.
  - Forced agencies to plan for the environmental consequences of their activities and gave citizens the opportunity to challenge their findings.
  - Essentially procedural.
  - Created Council on Environmental Quality to advise the president on environmental issues and ensure compliance.

*To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.*

2. \_\_\_\_\_ - 1970
- Established by the White House and Congress in response to the growing public demand for cleaner water, air and land.
  - Develops and enforces environmental regulations in order to protect human health and safeguard the natural environment.

3. \_\_\_\_\_ - 1970
- The agency is set up within the Department of Labor to ensure safety in the workforce.
  - Responsibilities include setting standards for employee exposure to hazardous substances.

4. \_\_\_\_\_ - 1970
- Set deadlines for EPA to promulgate national ambient air quality standards for the protection of public health (primary standard) and welfare (secondary standard) to be implemented by the states, national emission standards for hazardous air pollutants, and auto emission standards.
  - Authorized citizen suits.

1. *to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population;*
  2. *to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution;*
  3. *to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and*
  4. *to encourage and assist the development and operation of regional air pollution prevention and control programs.*
5. \_\_\_\_\_ - 1972
- Sought “fishable and swimmable” waters.
  - Controlled the discharge of pollution at the source.
  - Bans the unpermitted discharge of pollutants into navigable waters.
  - Requires application of technology-based controls on dischargers.
  - Established pollutant discharge permit system.
  - Increased federal grants to states to construct water treatment plants.
  - Authorized citizen suits.
6. \_\_\_\_\_ - 1972
- Requires registration of pesticides.
  - Required the EPA to regulate more than 50,000 to guard against illogically adverse impact(s) on the environment.
  - Authorizes the EPA to ban unreasonably dangerous pesticides.
7. \_\_\_\_\_ - 1972
- Prohibits ocean dumping of wastes except with a permit at sites designated by the EPA.
8. \_\_\_\_\_ - 1973
- Prohibits federal action that jeopardizes the habitat of species in danger of extinction and prohibits the taking of such species by any person.
  - Broadened federal authority to protect all “threatened” as well as “endangered” species.
  - Authorized grant programs to assist state programs.
  - Required coordination among all federal agencies.
9. \_\_\_\_\_ - 1974
- Requires the EPA to set limits for maximum allowable levels of contaminants in public drinking water systems.
10. \_\_\_\_\_ - 1976
- Mandate the EPA to review more than 50,000 existing chemicals and approximately 1000 new chemicals each year to identify and, as necessary, to regulate their manufacture, sale, use and disposal to prevent “unreasonable risk of injury to health or the environment.”
  - Required testing for health and environmental effects prior to a chemicals manufacture or distribution.
  - Required records to be kept and allowed EPA enforcement through civil proceedings.

*It is the policy of the United States that ... adequate authority should exist to regulate chemical substances and mixtures which present an unreasonable risk of injury to health or the environment, and to take action with respect to chemical substances and mixtures which are imminent hazards.*

11. \_\_\_\_\_ - 1976

- Directs the EPA to establish regulations ensuring the safe management of hazardous waste from “cradle to grave.”

**The Laws ANSWER KEY**

**Name:**

**Date:**

The following laws were passed between the years of 1969 and 1976. Match the name of each law with its year, explanation and excerpt. (Excerpts from the laws are italicized.)

**1. National Environmental Policy Act of 1969**

- Declared a national policy to encourage a constructive and harmonious relationship between humans and their environment.
- Required government agencies to submit environmental impact statements for all major projects. Each federal agency had to assess and consider the significant environmental impacts of its actions and alternative courses of action before the agency could change government behavior and policy.
- Forced agencies to plan for the environmental consequences of their activities and gave citizens the opportunity to challenge their findings.
- Essentially procedural.
- Created Council on Environmental Quality to advise the president on environmental issues and ensure compliance

*To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.*

**2. Environmental Protection Agency 1970**

- The Environmental Protection Agency (EPA) is an independent agency charged with the responsibility to regulate chemicals and protect human health by safeguarding the natural environment.
- Established by the White House and Congress in response to the growing public demand for cleaner water, air and land.
- Develops and enforces environmental regulations in order to protect human health and safeguard the natural environment.

**3. Occupational Health and Safety Administration 1970**

- The agency is set up within the Department of Labor to ensure safety in the workforce.
- Responsibilities include setting standards for employee exposure to hazardous substances.

**4. Clean Air Act 1970**

- Set deadlines for EPA to promulgate national ambient air quality standards for the protection of public health (primary standard) and welfare (secondary standard) to be implemented by the states, national emission standards for hazardous air pollutants, and auto emission standards.
- Authorized citizen suits.
- 5. *to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population;*
- 6. *to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution;*
- 7. *to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and*

8. *to encourage and assist the development and operation of regional air pollution prevention and control programs.*

#### **5. Clean Water Act 1972**

- Sought “fishable and swimmable” waters.
- Controlled the discharge of pollution at the source.
- Bans the unpermitted discharge of pollutants into navigable waters.
- Requires application of technology-based controls on dischargers.
- Established pollutant discharge permit system.
- Increased federal grants to states to construct water treatment plants.
- Authorized citizen suits.

#### **6. Federal Insecticide, Fungicide, and Rodenticide Act 1972**

- Requires registration of pesticides.
- Required the EPA to regulate more than 50,000 to guard against illogically adverse impact(s) on the environment.
- Authorizes the EPA to ban unreasonably dangerous pesticides.

#### **7. Marine Protection, Research and Sanctuaries Act 1972**

- Prohibits ocean dumping of wastes except with a permit at sites designated by the EPA.

#### **8. Endangered Species Act 1973**

- Prohibits federal action that jeopardizes the habitat of species in danger of extinction and prohibits the taking of such species by any person.
- Broadened federal authority to protect all “threatened” as well as “endangered” species.
- Authorized grant programs to assist state programs.
- Required coordination among all federal agencies.

#### **9. Safe Drinking Water Act 1974**

- Requires the EPA to set limits for maximum allowable levels of contaminants in public drinking water systems.

#### **10. Toxic Substances Control Act 1976**

- Mandate the EPA to review more than 50,000 existing chemicals and approximately 1000 new chemicals each year to identify and, as necessary, to regulate their manufacture, sale, use and disposal to prevent “unreasonable risk of injury to health or the environment.”
- Required testing for health and environmental effects prior to a chemicals manufacture or distribution.
- Required records to be kept and allowed EPA enforcement through civil proceedings.

*It is the policy of the United States that ... adequate authority should exist to regulate chemical substances and mixtures which present an unreasonable risk of injury to health or the environment, and to take action with respect to chemical substances and mixtures which are imminent hazards.*

#### **11. Resource Conservation and Recovery Act 1976**

- Directs the EPA to establish regulations ensuring the safe management of hazardous waste from “cradle to grave.”

## Quotes of the Time:

One could buy a house in more pleasant surroundings, in the suburban fringe or the countryside. But many such amenities could not be purchased. The air surrounding the city was common property, incapable of being carved into pieces that could be bought and sold. The same was true for the water environment. Since the private economy could not supply these environmental amenities, there was increasing demand that public and private nonprofit institutions do so.  
– Samuel Hays, *Beauty, Health and Permanence: Environmental Politics in the United States, 1955- 1985*

---

[By the 1960s] water pollution – which had been a problem in some areas of the country for many decades – was becoming so widespread that almost every major city was dealing with the unpleasant sight and odor, as well as the very real health risks, of polluted rivers and lakes. In Cleveland, Ohio, for example, the Cuyahoga River actually burst into flame from time to time from the petroleum waste being dumped into it; the city declared the river an official fire hazard.  
– Alan Brinkley, *America a History*

---

Groups borrowed more aggressive, direct action methods from the civil rights and antiwar movements of the 1960s. [In 1978] The Canadian group Greenpeace outfitted a ship, the *Rainbow Warrior*, to harass high-seas waters and to interdict nuclear testing in the South Pacific. Greenpeace commandos in small rubber boats staged amphibious landings at a southern California nuclear plant in the 1970s and once even invaded the Soviet Union to protest that country's whaling operations.  
– *Encyclopedia of the U.S. in the 20<sup>th</sup> Century*

---

Everything was politics for Nixon and environmental law was no exception. Nixon became interested in environmental protection matters almost immediately after his election in 1968 out of concern that the Democrats would be successful in their apparent effort to seize the environmental initiative . . . Nixon was especially concerned about ensuring that the Democrats did not gain any political advantage by campaigning on the environmental issue in the upcoming 1970 congressional elections, but he was even more concerned about Senator Edmund Muskie as a potentially viable Democratic candidate for the presidency in 1972 . . . [Muskie] was also well poised, as chair of the Senate Committee on Environment and Public Works, to exploit the issue both by garnering favorable publicity for himself and by condemning Nixon for not doing more to address environmental issues . . . As Nixon and Muskie each sought to outdo the other in terms of their willingness to address the public's enthusiasm for environmental protection, the result was a remarkably sweeping and ambitious environmental protection law . . .  
– Richard J. Lazarus, *The Making of Environmental Law*

---

The air itself was becoming unhealthy. Toxic fumes from factories and power plants and, most of all, automobiles were poisoning the atmosphere. Weather forecasts and official atmospheric information began to refer to “smog” levels—using a relatively new word formed from a combination of smoke and fog. In some large cities—Los Angeles and Denver among them—smog became an almost perpetual fact of life, rising steadily through the day, blotting out the sun, and creating respiratory difficulties for many citizens. In 1969, an oil well platform off Santa Barbara, California, had a blowout that spewed hundreds of thousands of gallons of crude oil into the ocean just off the popular beaches of an affluent city.

– Alan Brinkley, *America a History*

---

Before the early 1970s, neither workers nor their unions made health and safety top issues. . . For many workers, a combination of fatalism and masculine stoicism had forestalled earlier action on safety and health issues. “When it came to safety, the older guys would say, ‘If you die, you die,’” recalled one construction worker. For other workers, including utility lineman and hard-rock miners, the dangers of the work sustained their pride in the skill needed to do the job. But these sentiments changed in the 1960s, especially when it came to dangers generated by chemicals and air pollution. Male workers could find little “manliness” in being exposed to lead and mercury poisoning, asbestos, cotton and coal dust, pesticides and radiation.

– Nelson Lichtenstein, *Who Built America*

---

Although older waterborne diseases had been controlled through chlorination and disinfection of drinking-water supplies, the rapid accumulation of newer chemical pollutants in the nation’s rivers and its underground water generated new health concerns. Synthetic organic compounds, as well as heavy metals from industry, were discovered in many drinking water sources. The disposal of industrial toxic waste constituted an even more pervasive concern; they were often injected underground, but just as frequently they were disposed of in landfills from which they leaked into water supplies.

– Samuel Hays, *Beauty, Health and Permanence: Environmental Politics in the United States, 1955- 1985*

---

During the 1960s, environmentalism became a mass social movement. Drawing on a culture of political activism inspired in part by the civil rights and antiwar movements, thousands of citizens, particularly young middle class white men and women, became involved with environmental politics. The popularity of the environmental agenda was apparent by 1970. In that year, the first Earth Day was organized on 22 April to focus the public’s attention on threats to the environment. In New York City, 100,000 people thronged Fifth Avenue to show their support for protecting the earth. Organizers estimated that fifteen hundred colleges and ten thousand schools took part in Earth Day, and *Time* magazine estimated that about twenty million America participated in the event in some fashion.

– Daniel Geary, [\*Dictionary of American History\*](#)

---

The average vote in favor of major federal environmental legislation during the 1970s was 76 to 5 in the Senate and 331 to 30 in the House, suggesting a broad bipartisan consensus. As on legislature put it in describing his reluctant vote in favor of safe drinking water legislation in 1974, “after all, if one votes against safe drinking water, it is like voting against home and mother.

– Richard J. Lazarus, *The Making of Environmental Law*

---

Rising standards of living led many more people than before to value outdoor recreation in “natural” settings, particularly as a mass ownership of automobiles enabled people of most social classes to travel long distances on vacation. For a time, between their introduction in the 1940s and the onset of the AIDS epidemic in the 1980s, synthetic antibiotics all but eliminated infectious disease as a serious threat to public health. Removal of this threat increased people’s attention to the effects on their well-being of unhealthy lifestyles and of environmental pollution.

– Stanley I. Kutler, *Encyclopedia of the U.S. in the 20<sup>th</sup> Century*

---

They didn’t think of themselves as having anything in common. After Earth Day they were all part of an environmental movement.

– Denis Hayes, [Earth Days](#)

---

In some ways, environmentalism was an offshoot of the 1960s counterculture. Activists talked about the “rights of nature” just as they had about the rights of women or blacks. Civil rights and antiwar activism readily translated into protest tactics against polluters and wilderness destroyers.

– James A. Henretta, *America’s History*

---

Environmental organizations continued to expand their ranks in the 1970s. Membership in the Sierra Club, for instance, rose from 113,000 in 1970 to 180,000 in 1980. During the 1970s, mainstream environmental organizations established sophisticated operations in Washington, D.C. Besides advocating new environmental legislation, these groups served a watchdog function, ensuring that environmental regulations were properly enforced by the EPA and other federal agencies . . . During this decade, mainstream environmental groups became increasingly professionalized, hiring more full-time staff. They hired lobbyists to advocate for environmental legislation, lawyers to enforce environmental standards through the courts, and scientists to prove the need for environmental regulation and counter the claims of industry scientists.

– Daniel Geary, [Dictionary of American History](#)

---

The year 1969 was pivotal for this growing media and public interest in the state of our environment," Sachsman concluded. That year, the *New York Times*, soon followed by other major newspapers, created an environment beat. *Time* and *Saturday Review* developed regular environment sections, *Look* devoted an entire issue to the "ecology crisis." *National Geographic* offered a nine-thousand-word article on humankind's environmental problems. As the 1970s dawned, Walter Cronkite presented the television feature "Can the World be Saved?" and Paul Ehrlich's book *The Population Bomb* had also become a best-seller. About this time, television was coming into its own as a powerful new medium. Its coverage lent fuel to the growing environmental movement. Images of oil-soaked birds on the Santa Barbara beach, the result of the Channel-Union Oil spill in 1969; stories on the "death" of Lake Erie; giant fish kills in the Great Lakes; and the burning Cuyahoga River in Ohio cemented in the nation's mind that an important new political, business, and social issue had awakened.

– Pollution Issues. Advameg, Inc. 2009. From <http://www.pollutionissues.com/index.html>.

---

Among the most important environmental organizations were the Wilderness Society, the Sierra Club, the National Audubon Society, the Nature Conservancy, the National Wildlife Federation . . . All of these organizations predated the rise of modern ecological science, but all of them entered the last decades of the twentieth century re-energized and committed to the new concepts of environmentalism . . . Out of these organizations emerged a new generation of professional environmental activists able to contribute to the legal and political battles of the movement. Scientists provided the necessary data. Lawyers fought battles with government agencies and in the courts. Lobbyists used traditional techniques of political persuasion with legislators and other officials—knowing that corporations and other opponents of environmental efforts would be doing the same in opposition to their goals.

– Alan Brinkley, *America a History*

---

The judges in the early 1970s began to perceive the relationship between humankind and the natural environment differently and to incorporate those new perceptions into their legal reasoning. [In 1972] The court boldly declared that "a[n] owner of land has no absolute and unlimited right to change the essential natural character of his land so as to use it for a purpose for which it was unsuited in its natural state and which injures the rights of others.

– Richard J. Lazarus, *The Making of Environmental Law*

---

By the 1950s, other factors were fostering a new regulatory climate. The unbridled growth of the nation's booming chemical, plastics, petroleum, automotive, aviation, and munitions works was creating highly visible forms of pollution. As a result, the traditional method of individuals seeking redress of environmental grievances under common law became inadequate. The problem was not so much the quantity of environmental actions under common law; it was the sheer difficulty from a legal standpoint. Expert witnesses could be found to argue both sides of the case, to the consternation and confusion of justices and juries . . . not only citizens, but the industries they were

suings grew impatient with the lack of *a priori* environmental standards, both legal and scientific . . . From more and more quarters came the suggestion that the federal government should step in and determine exactly what were “safe” levels of various pollutants.

– Jack Lewis, “Looking Backward: A Historical Perspective on Environmental Regulations,” *EPA Journal*

---

The courts, including the U.S. Supreme Court, were generally receptive to environmental citizen suits. Especially noteworthy is that in a series of landmark rulings, the Supreme Court ruled that environmental plaintiffs could meet the “standing” requirements . . . The Court specifically recognized non-economic environmental and aesthetic injury as a cognizable injury sufficient to support standing . . . In all of these rulings, the Court eschewed doctrinal rigidity in favor of a process of legal reasoning that accounted for environmental laws features, including the uncertain and speculative nature of such injuries and the more attenuated chains of causation between action and injury.

– Richard J. Lazarus, *The Making of Environmental Law*

---

Ecology is the science of the inter-relatedness of the natural world . . . All elements of the earth’s environment are intimately and delicately linked. Damaging any one of those elements, therefore, risks damaging all the others. . . Between 1945 and 1960, the number of ecologists in the United States grew threefold, and that number doubled again between 1960 and 1970. Funded by government agencies, by universities, by foundations, and eventually even by some corporations, ecological science gradually established itself as a significant field of its own . . . By the century’s end, there were programs in and departments of ecological science in major universities throughout the United States and many other nations.

– Alan Brinkley, *America a History*

---

Immediately after Earth Day, we chose to get involved in something that we hadn’t really paid any attention to before Earth Day—organized formal politics—elections.

– Denis Hayes, [Earth Days](#)

---

1. Who was Rachel Carson and what is she known for?
2. How did Rachel Carson affect public awareness on the environment? How did this contribute to the overall political climate?
3. What were President Nixon's thoughts on the environment? How were these affected by public awareness and concern?
4. How did the founders of Earth Day use its momentum and awareness to influence the political process? Are such actions justified? Why or why not?

1. Who was Rachel Carson and what is she known for?

*Rachel Carson was a biologist who wrote the popular science book, Silent Spring. This book gained significant notoriety not only for her, but also for the burgeoning environmental movement. Rachel Carson is now considered one of the environmental heroes of the 20<sup>th</sup> century.*

2. How did Rachel Carson affect public awareness on the environment? How did this contribute to the overall political climate?

*At the time, Rachel Carson wrote one of the most popular science books ever. It was featured in the New Yorker and gained worldwide attention. This attention sparked significant conversation and debate about the effects of environmental pollution, specifically pesticide use, on human and environmental health. This also brought about significant media and political attention, including the attention of the John F. Kennedy, President of the United States.*

3. What were President Nixon's thoughts on the environment? How were these affected by public awareness and concern?

*President Nixon believed and articulated the following in one of his State of the Union addresses: "Restoring nature to its natural state is a cause beyond party and beyond factions. It has become a common cause of all the people of this country. It is a cause of particular concern to young Americans because they, more than we, will reap the grim consequences of our failure to act on programs, which are needed now if we are going to prevent disaster later."*

*It is widely acknowledged that the growing public concern on the environment helped to influence Nixon's environmental agenda.*

4. How did the founders of Earth Day use its momentum and awareness to influence the political process? Are such actions justified? Why or why not?

*They developed the "Dirty Dozen" campaign to specifically target certain members of Congress.*

Appendix<sup>41</sup>

Excerpt from “Introduction”

President John F. Kennedy (archival)	If we do what is right now, in 1963, we must set aside substantial areas of our country for all the people who are going to live in it by the year 2000. Where 180 million Americans now live, by the year 2000 there will be 350 million of them.
President Lyndon B. Johnson (archival)	Either we stop the poisoning in our air or we become a nation in gas masks. Groping our way through these dying cities and a wilderness of ghost towns that the people have evacuated.
President Richard M. Nixon (archival)	The great question of the '70s is: shall we surrender to our surroundings or shall we make our peace with nature and begin to make reparations for the damage we have done to our air, to our land, and to our water.
President Gerald Ford (archival)	And accelerate development of technology, to capture energy from the sun and the earth for this and future generations.
President Jimmy Carter (archival)	If we fail to act soon we will face an economic, social, and political crisis that will threaten our free institutions.
President Ronald Reagan (archival)	We must and will be sensitive to the delicate balance of our ecosystems, the preservation of endangered species, and the protection of our wilderness lands.
President George Bush (archival)	It has been said that we don't inherit the Earth from our ancestors, but we borrow it from our children. And when our children look back on this time and this place they will be grateful.
President William J. Clinton (archival)	If we fail to reduce the emission of greenhouse gases, deadly heat waves and droughts will become more frequent, coastal areas will flood and economies will be disrupted. That is going to happen, unless we act.
President George W. Bush (archival)	And here we have a serious problem: America is addicted to oil.

Excerpt from “Rachel Carson and *Silent Spring*”

Paul Ehrlich, The Biologist	Rachel Carson has to get the main credit for modern environmental movement because she was the first one to point out one of the really serious environmental problems that was the over use of pesticides. It was the right moment, the right book, and the right personality. Although the pesticide industry tried to demonize her, Rachel Carson didn't demonize easily.
Rachel Carson (archival)	Unless we do bring these chemicals under better control we are certainly headed for disaster. The balance of nature is built of a series of interrelationships between living things, and between living things and their environment. You can't just step in with some brute force

<sup>41</sup> *Earth Days*. Dir. Robert Stone. PBS/ American Experience, 2010.

	and change one thing without changing many others. Now this doesn't mean of course that we must never interfere, that we must not attempt to tilt that balance of nature in our favor but when we do make this attempt we must know what we are doing. We must know the consequences.
Stewart Udall, The Conservationist	There was an ugly backlash after the book came out. The chemical industries were calling her a hysterical woman that didn't know what she was talking about.
Dr. White (archival)	The major claims in Ms. Rachel Carson's book <i>Silent Spring</i> are gross distortions of the actual facts. Completely unsupported by scientific experimental evidence, and general practical experience in the field. Ms. Carson maintains that the balance of nature is a major force in the survival of man, whereas the modern chemist, the modern biologist, the modern scientist believes that man is steadily controlling nature.
Denis Hayes, The Organizer	Something that we all thought of prior to her as better living thru chemistry in a sense. You are pouring this stuff on your crops and you are producing more crops it really wasn't something where you thought, my goodness people are intentionally poisoning the environment and that those poisons might not be as selective as they are telling us.
Stephanie Mills, The Radical	Rachel Carson was incredibly scrupulous in the creation of <i>Silent Spring</i> . She understood that we are organisms as much as the birds whose songs were being silenced. She wrote not only a tremendously informative book, but an incredibly moving book, and she did it while she was suffering from cancer.
Stewart Udall, The Conservationist	There was a controversy that raged really until her death it was still going on and that was kind of sad because uh she was a shy person. She was not a crusader. She was a scientist.
Reporter (archival)	There appears to be growing concern amongst scientists at the possibility of dangerous long-range side effects from the widespread use of DDT and other pesticides.
Stewart Udall, The Conservationist	President Kennedy's science advisory group reported that Rachel Carson's method of research was sound and her findings and conclusions were generally correct. President Kennedy backed Rachel Carson.
President Kennedy (archival)	I think, particularly, of course uh, with Ms Carson's book...
Stewart Udall, The Conservationist	And that put the chemical industry on the defensive.

Excerpt from "Birth of a Movement"

President Nixon (archival)	Restoring nature to its natural state is a cause beyond party and beyond factions. It has become a common cause of all the people of
----------------------------	--------------------------------------------------------------------------------------------------------------------------------------

	this country. It is a cause of particular concern to young Americans because they, more than we, will reap the grim consequences of our failure to act on programs, which are needed now if we are going to prevent disaster later.
Stewart Udall, The Conservationist	I know from some of his aides I talked to there was a big argument and they said, "Look this is a powerful movement and it is going to get more powerful. There is an Earth Day coming up in a few weeks. Proclaim that you want the 1970s to be the environmental decade." Nixon did it!

Excerpt from "The First Earth Day"

Denis Hayes, The Organizer	Immediately after Earth Day, we chose to get involved in something that we hadn't really paid any attention to before Earth Day -- organized formal politics -- elections. We came up with a campaign called the dirty dozen that targeted 12 members of congress with terrible environmental records.
Denis Hayes (archival)	The dirty dozen are: E. Ross Adair of Indiana, William Ayers of Ohio, William Cowger of Kentucky, David Dennis of Indiana, George Fallon of Maryland, John Kyl of Iowa, Earl Landgrebe of Indiana, Odin Langden of Minnesota, Byron Rogers of Colorado, Henry Shadeberg from Wisconsin, Lawrence Winn of Kansas, and Roger Zion of Indiana.
Denis Hayes, The Organizer	We beat seven of the 12 members of the Dirty Dozen, including the Chairman of the Public Works Committee, a guy named George Fallon out of Baltimore who was funding all kinds of environmental monsters. People were saying, "You took out George Fallon?!" I mean he was clearly one of the three or four most powerful members of congress.
Pete McCloskey, The Politician	And when Congress reconvened in January everybody said, "I'm now an environmentalist!" I mean there was a force out there that had taken out seven incumbents.