

# ENVIRONMENTAL LAW



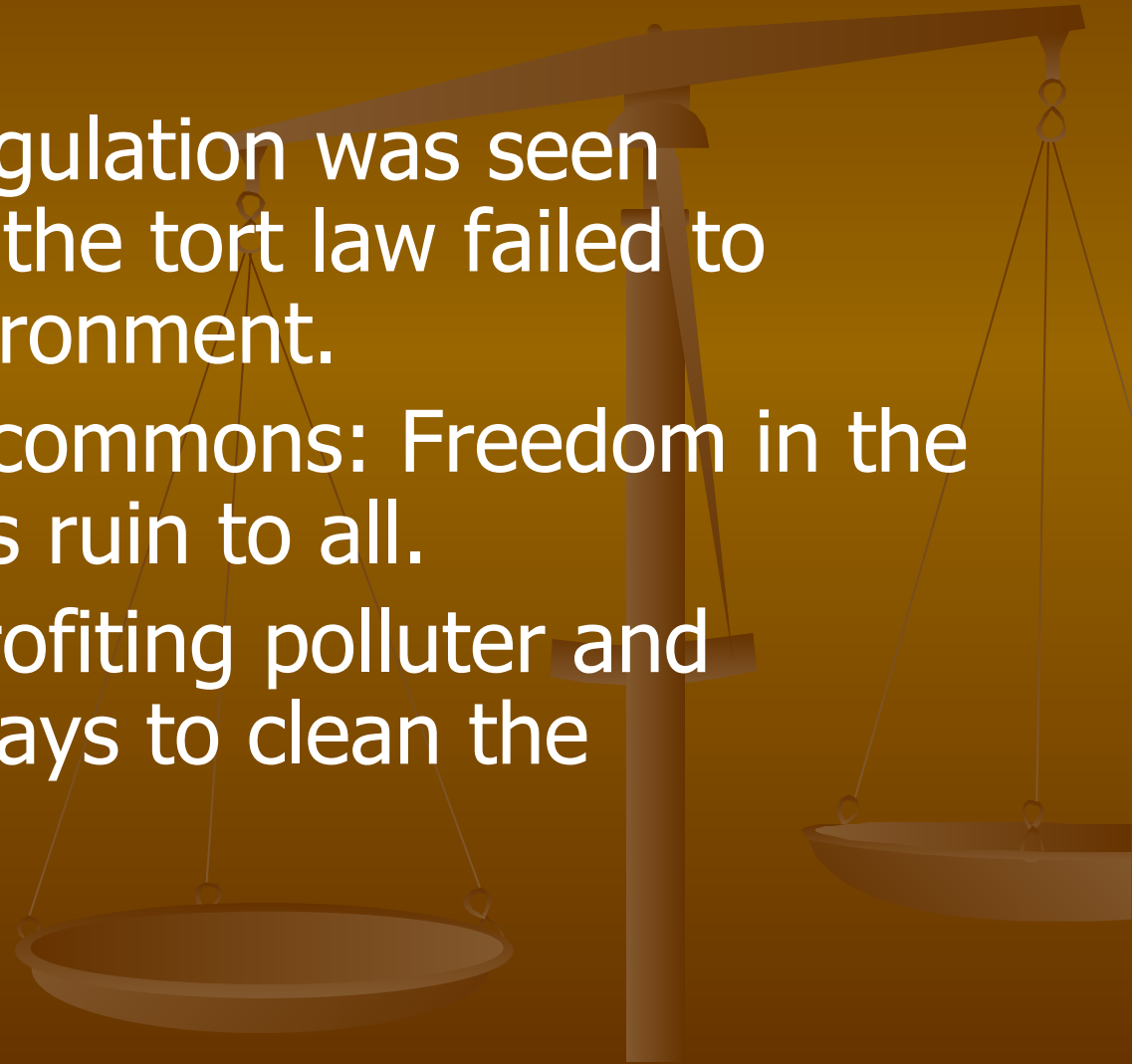
Wednesdays 4:6

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# INTRODUCTION

- Prior to the existence of environmental laws, the environment was severely degraded.
- The need for regulation was seen necessary after the tort law failed to protect the environment.
- Tragedy of the commons: Freedom in the commons brings ruin to all.
- Free Rider: A profiting polluter and everyone else pays to clean the environment.




# ENVIROMENTAL ETHICS

- Humans are the dominant species in the ecosystem, with knowledge and power.
- It is our ethical obligation to consider the long-term impact of our behavior.

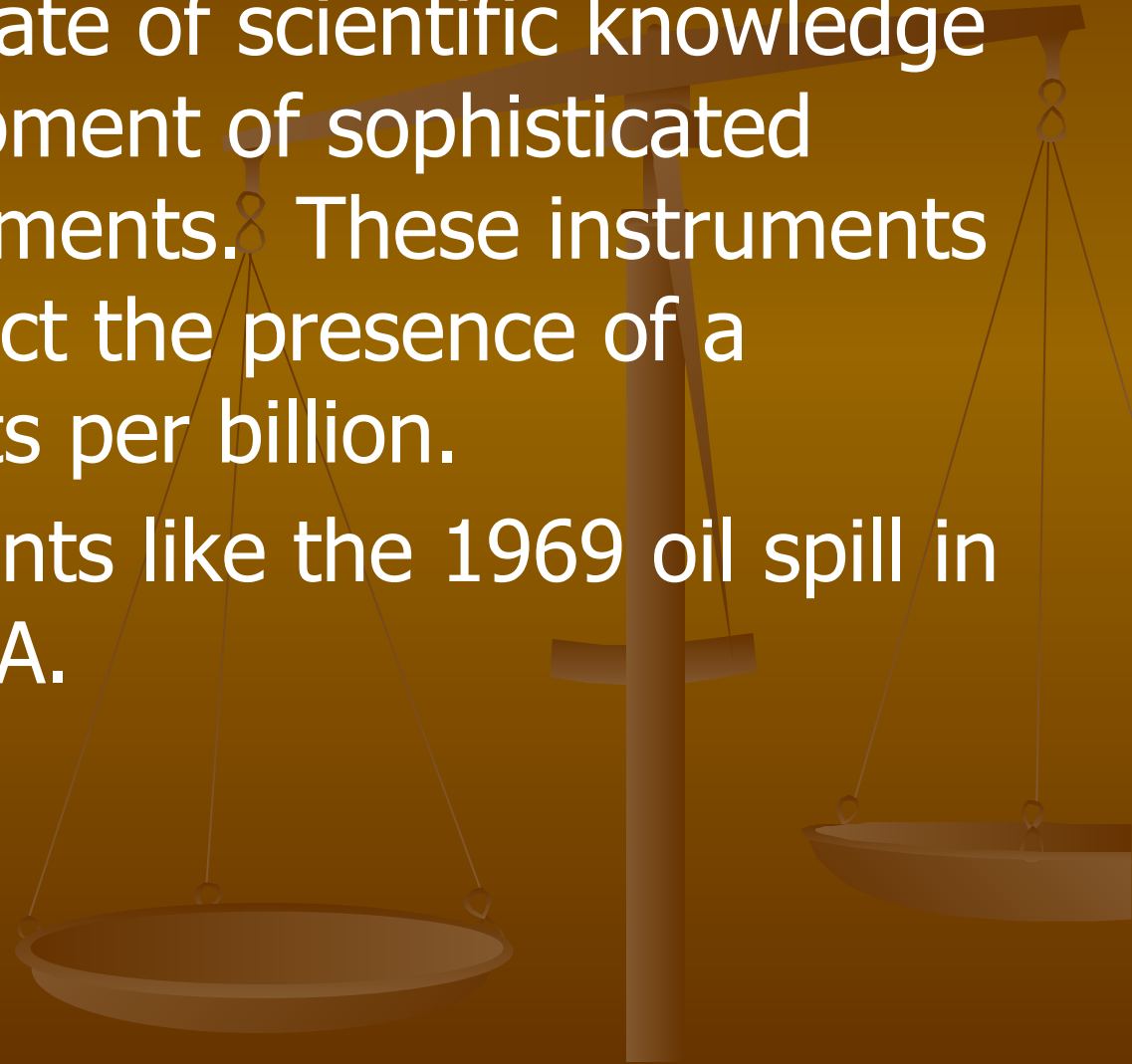


# ALTERNATIVE WAYS TO CONTROL POLLUTION

- *Tort Law*: Ineffective way to stop pollution, why?
  - *Subsidies, Emissions charges, and marketable emissions permits*: Hard to implement.
  - *Green Taxes*: Effective, a tax on polluting behavior, adopted by the European Union.
  - *Direct Regulation*: Effective, adopted by the US after 1970.
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# EVOLUTION OF THE ENVIRONMENTAL POLICY

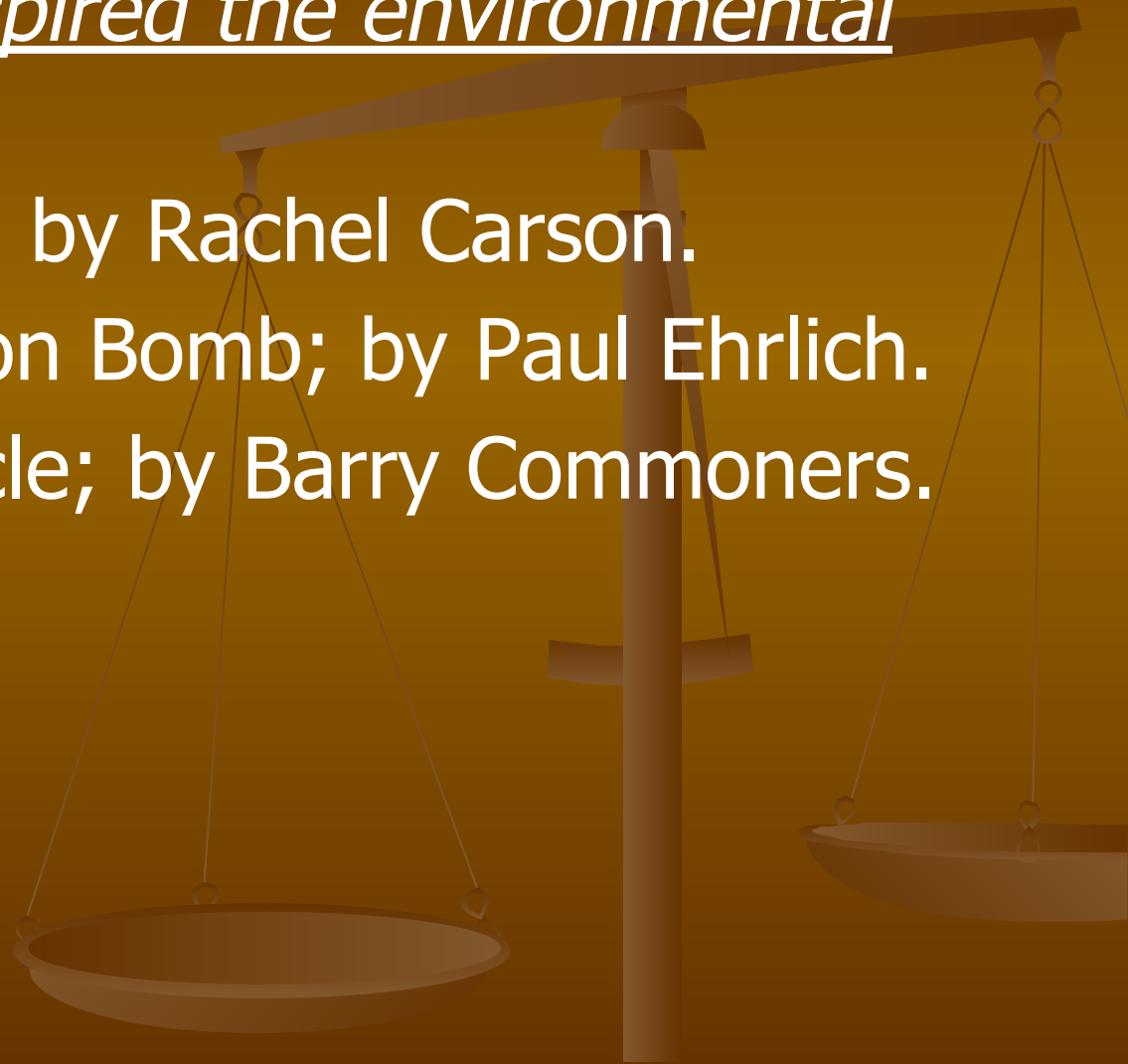
- Reflected the state of scientific knowledge and the development of sophisticated detection instruments. These instruments are able to detect the presence of a pollutant in parts per billion.
- Cataclysmic events like the 1969 oil spill in Santa Barbara, CA.
- Public pressure.



# THE SEVENTIES

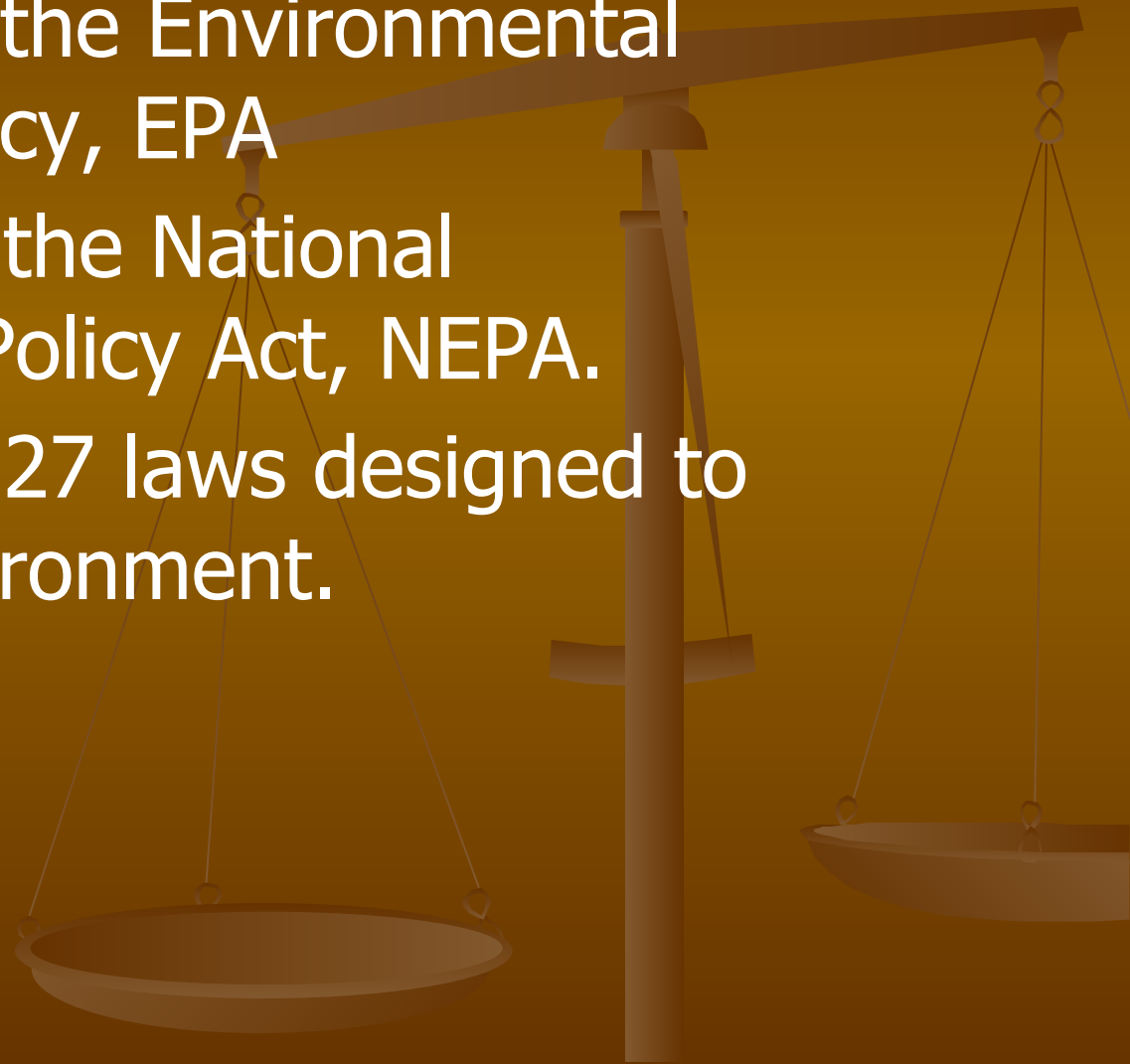
## THE ENVIRONMENTAL DECADE

- Three books inspired the environmental awareness:
  - 1. Silent Spring; by Rachel Carson.
  - 2. The Population Bomb; by Paul Ehrlich.
  - The Closing Circle; by Barry Commoners.



# 1970's

- The creation of the Environmental Protection Agency, EPA
- The passage of the National Environmental Policy Act, NEPA.
- The passage of 27 laws designed to protect the environment.



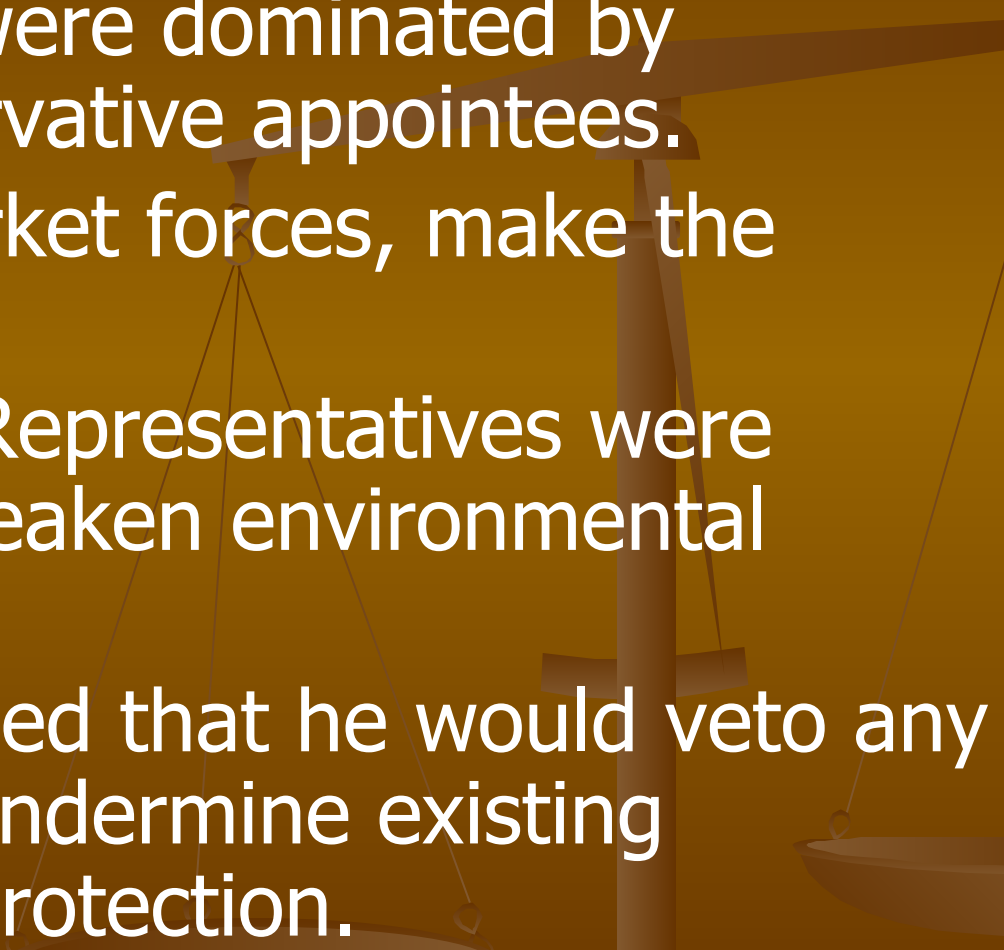
# 1980's



- Getting government off the back of business, Reagan's deregulation.
- Cutting EPA personnel by 20%, and EPA budget by more than 33%
- Much of the administrative burden associated with environmental policy was shifted to the states.
- Decimated CEQ by drastic cuts in its budget.
- At the end of the decade, congress faced public pressure to oppose Reagan's environmental policies.
- Voluntary Programs: ISO 14000.

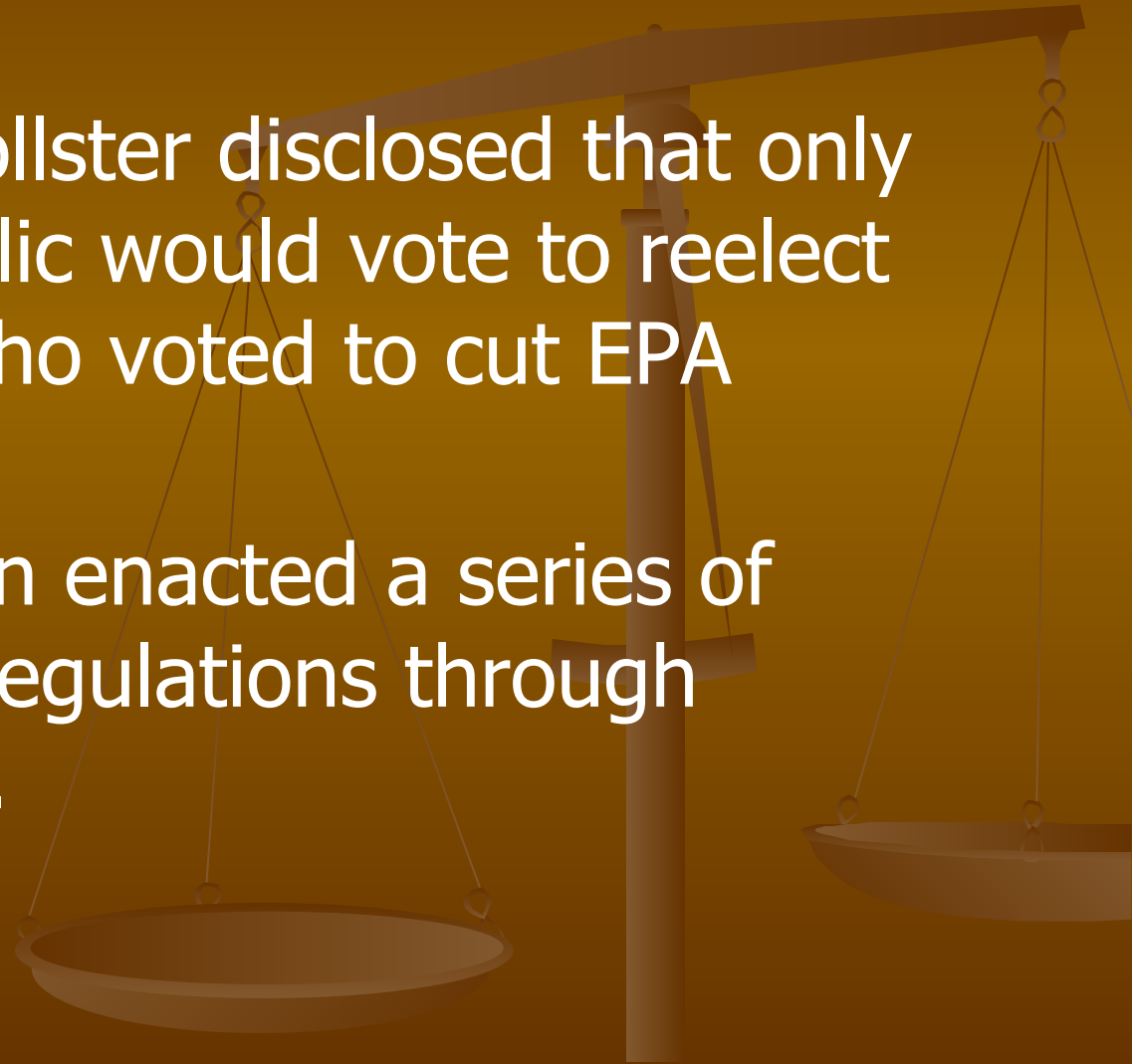


# 1990's

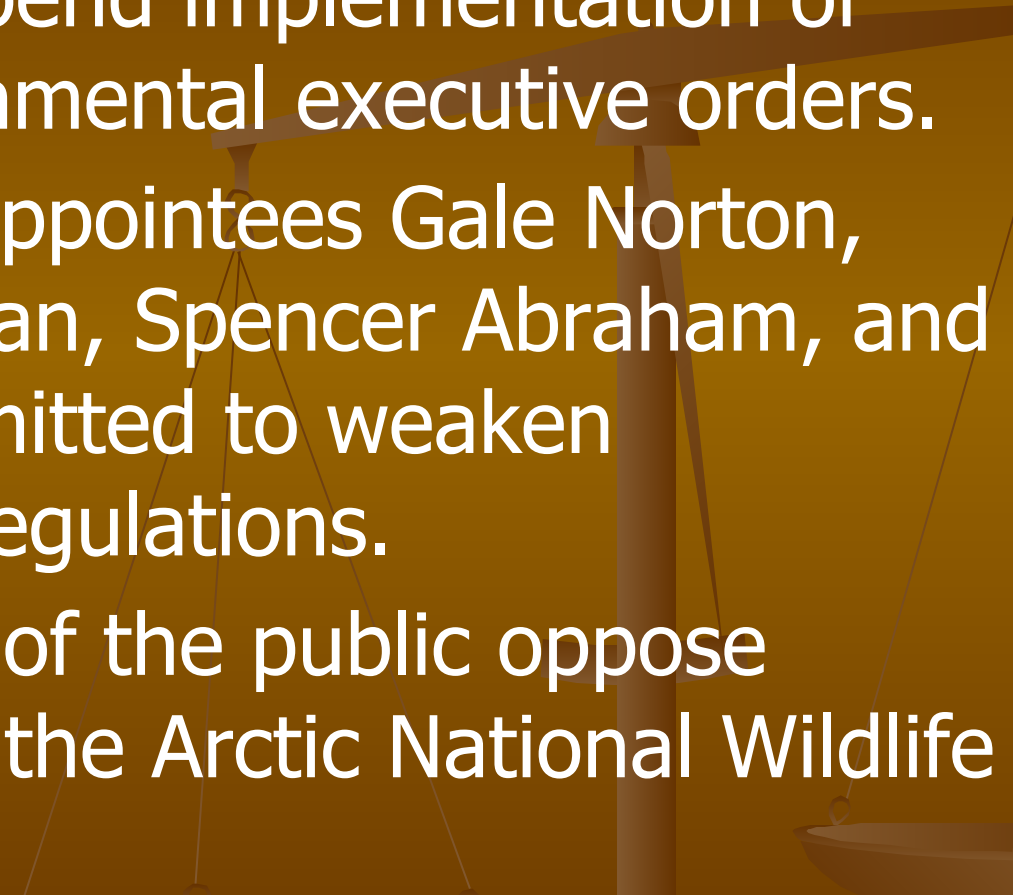
- Passage of the CLEAN AIR ACT in 1990.
  - Federal courts were dominated by Reagan's conservative appointees.
  - Greater use market forces, make the polluter pay.
  - 1994 House of Representatives were committed to weaken environmental regulations.
  - Clinton maintained that he would veto any bill that would undermine existing environmental protection.
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# 1990's continued


- Very few proposals became law by the end of 1995.
- A Republican pollster disclosed that only 35% of the public would vote to reelect congressmen who voted to cut EPA funding.
- President Clinton enacted a series of environmental regulations through executive order.



# 2001

- Bush's first acts as president was to order agencies to suspend implementation of Clinton's environmental executive orders.
  - Bush's and his appointees Gale Norton, Christine Whitman, Spencer Abraham, and others are committed to weaken environmental regulations.
  - More than 80% of the public oppose drilling for oil in the Arctic National Wildlife Refuge.
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# NATIONAL ENVIRONMENTAL POLICY ACT of 1970

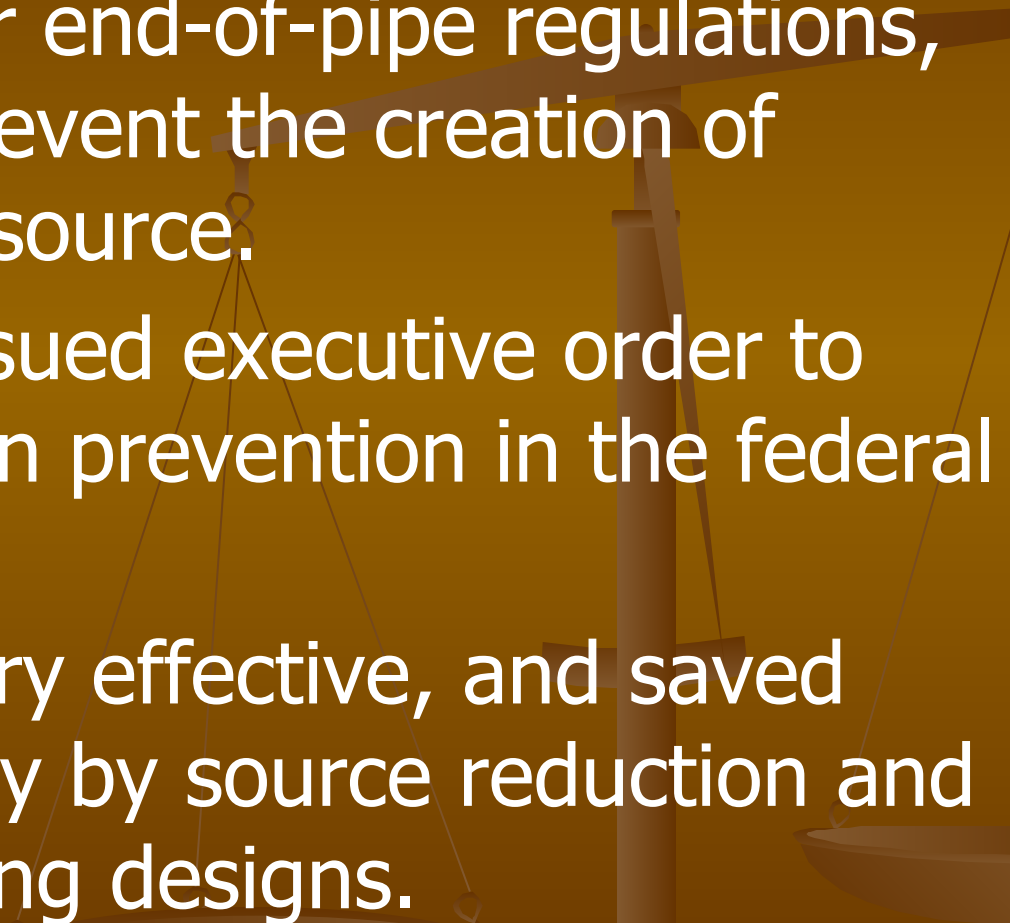
- Establishes the Council on Environmental Quality, CEQ; the federal watchdog.
  - Requires federal agencies to take environmental consequences into account when making certain decisions.
  - Requires an Environmental Impact Statement, EIS, for every major legislative proposal or action having a significant impact on the environment.
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# CEQ

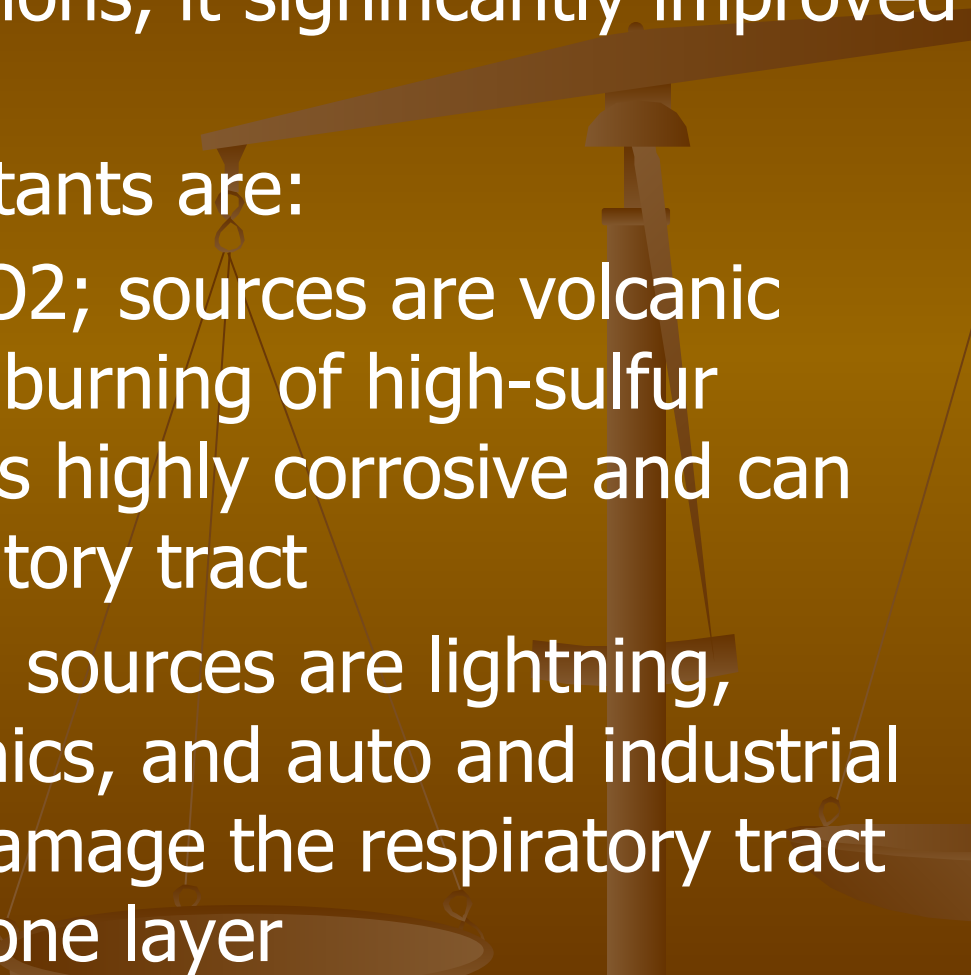
- Made up of 3 persons, one is the chair, and staff to serve them.
- Advise the president about environmental matters.
- Gathers data, and publishes the *President's Annual Report on Environmental Quality*, a public report.



# POLLUTION PREVENTION ACT of 1990

- Remedies earlier end-of-pipe regulations, finds ways to prevent the creation of pollution at the source.
  - 1993; Clinton issued executive order to improve pollution prevention in the federal government.
  - The PPA was very effective, and saved producers money by source reduction and better engineering designs.
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# AIR QUALITY CONTROL

- The 1970 Clean Air Act targeted Auto and Smokestacks Emissions, it significantly improved air quality.
  - The major air pollutants are:
    - 1. Sulfur Dioxide  $\text{SO}_2$ ; sources are volcanic emissions, and the burning of high-sulfur containing coal. It is highly corrosive and can damage the respiratory tract
    - 2. Nitrogen Oxides; sources are lightning, decomposing organics, and auto and industrial emissions. It can damage the respiratory tract and deplete the ozone layer
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## Continue; *Major air pollutants*

- 3. Carbon Monoxide; sources are natural and also from incomplete burning of fossil fuels, mainly auto emissions, it contributes to the global warming and to the formation of ozone at low altitudes
- 4. Ozone; Is the primary ingredient of smog, causes eye irritation, nasal congestion, asthma, damage to lung and immune system. (The Ozone layer is ozone at high altitude and protects life by blocking ultraviolet radiation)

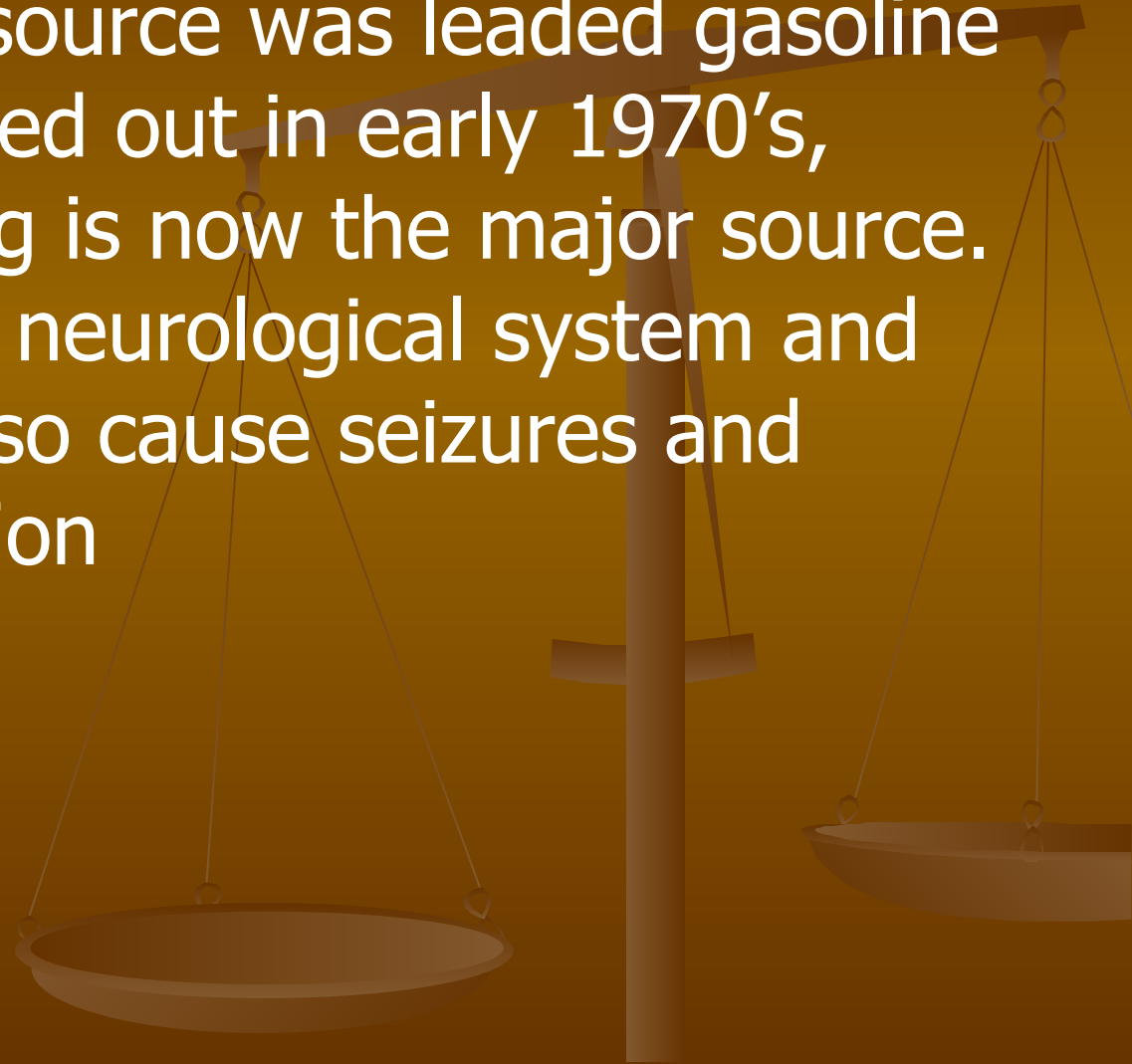


## Continue; *Major air pollutants*

- 5. Particulates; Natural sources include soil erosion, pollen, volcanoes. Human made sources include diesel engines emissions, cement manufacturing, road construction, wood-burning stoves, etc. Particulates finer than 10 micrometers may not be filtered from the lungs, some particulates are carcinogenic, some are irritants

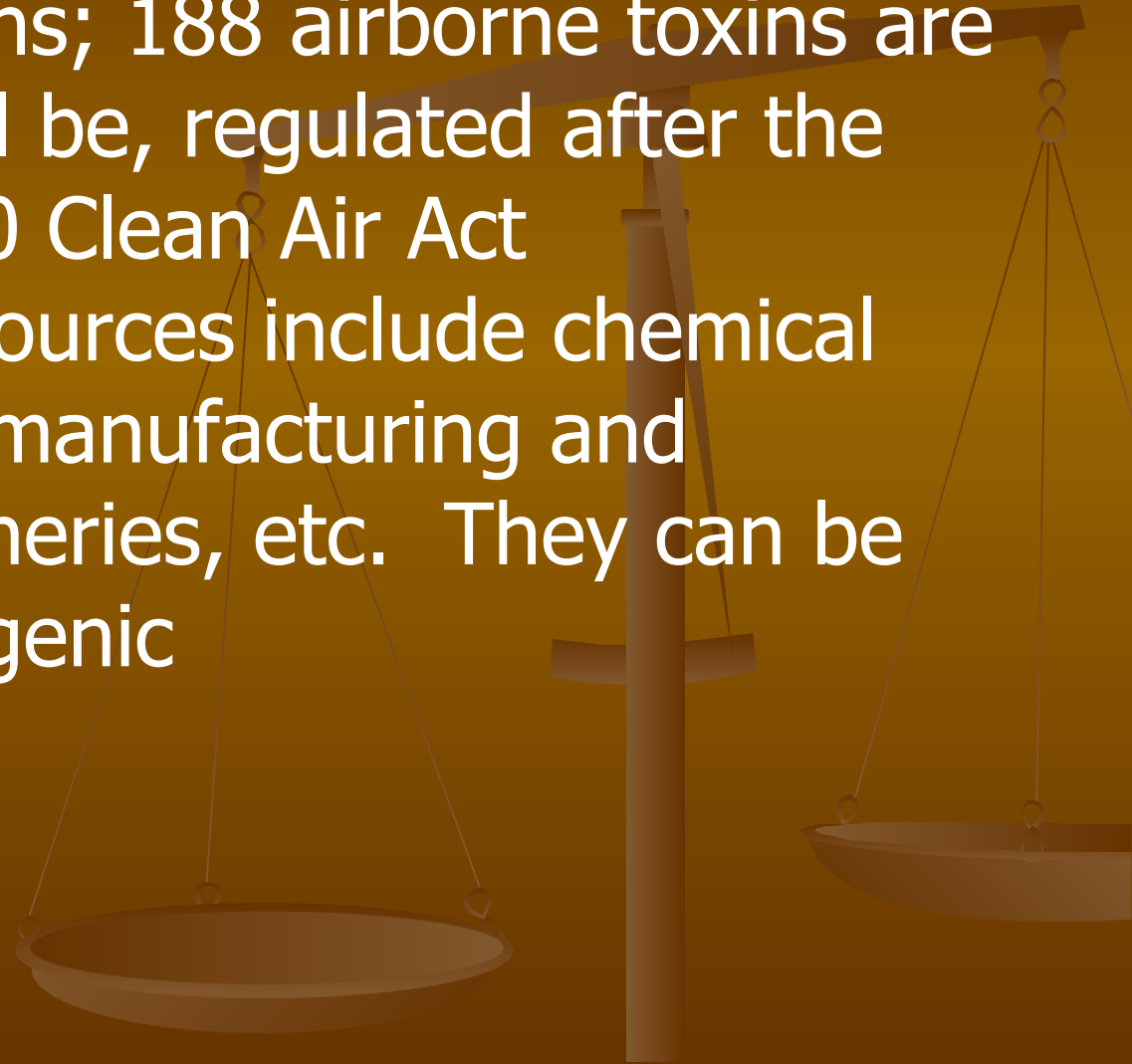
# *Major air pollutants*

- 6. Lead; Major source was leaded gasoline which was phased out in early 1970's, metal processing is now the major source. Lead harms the neurological system and kidneys, may also cause seizures and mental retardation



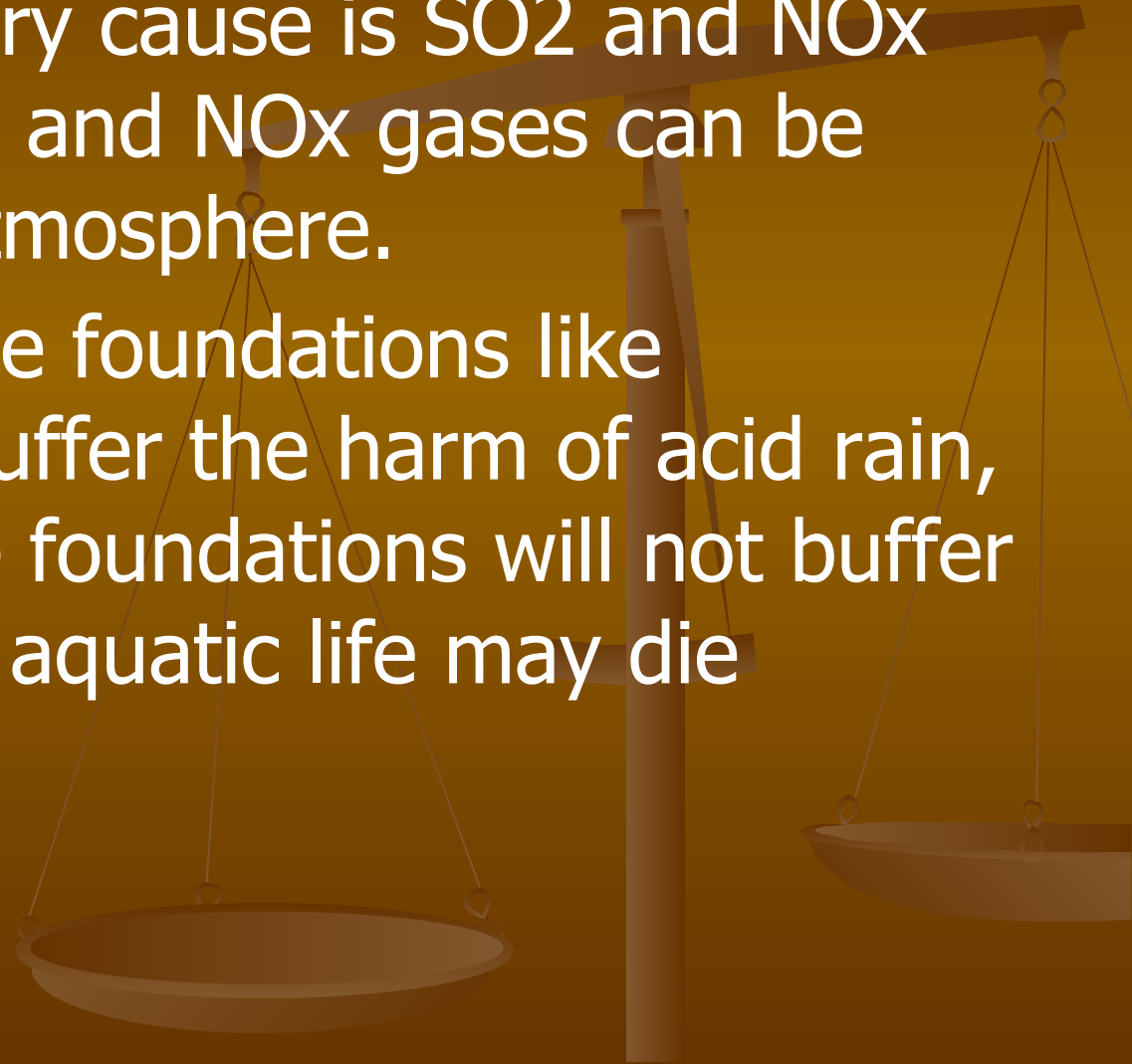
# *Major air pollutants*

- 7. Airborne toxins; 188 airborne toxins are currently, or will be, regulated after the passage of 1990 Clean Air Act amendments. Sources include chemical plants, plastics manufacturing and burning, oil refineries, etc. They can be toxic or carcinogenic



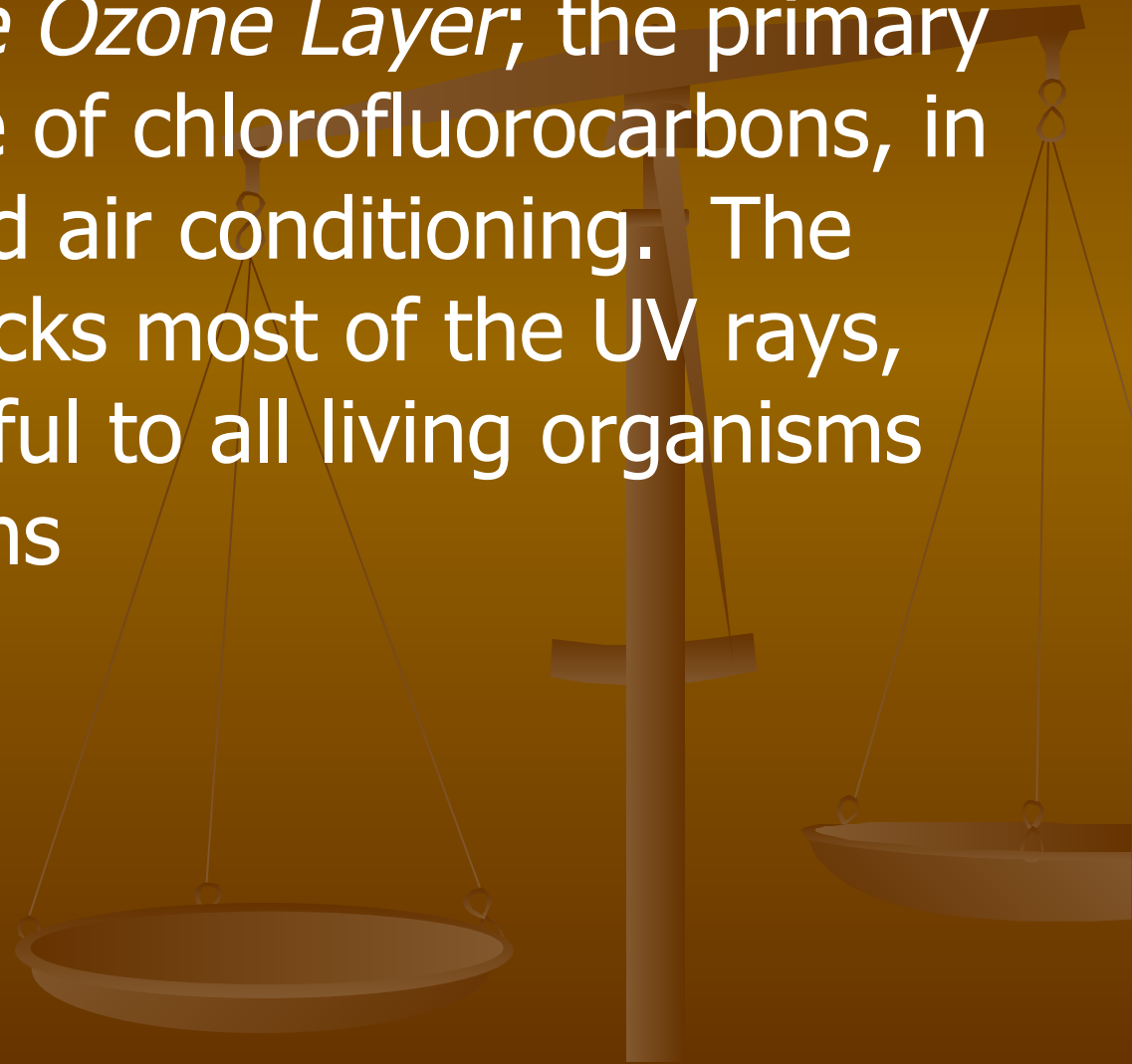
# GLOBAL AIR-QUALITY PROBLEMS

- *Acid rain*; primary cause is SO<sub>2</sub> and NO<sub>x</sub> emissions. SO<sub>2</sub> and NO<sub>x</sub> gases can be carried in the atmosphere.
- Lakes on alkaline foundations like limestone will buffer the harm of acid rain, lakes on granite foundations will not buffer the acidity, and aquatic life may die



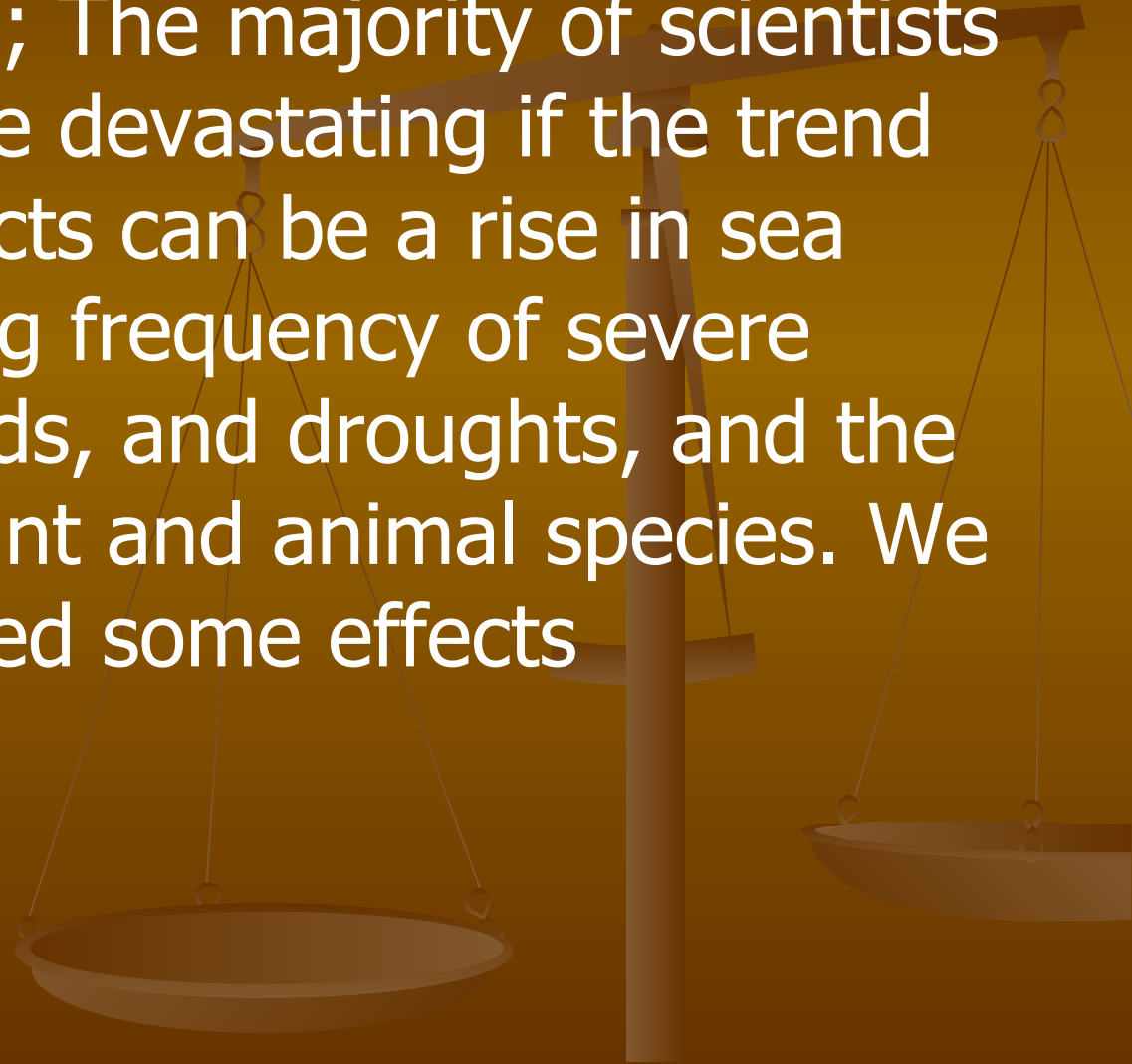
# GLOBAL AIR-QUALITY PROBLEMS

- *Depletion of the Ozone Layer*; the primary cause is the use of chlorofluorocarbons, in refrigeration and air conditioning. The Ozone layer blocks most of the UV rays, which are harmful to all living organisms including humans

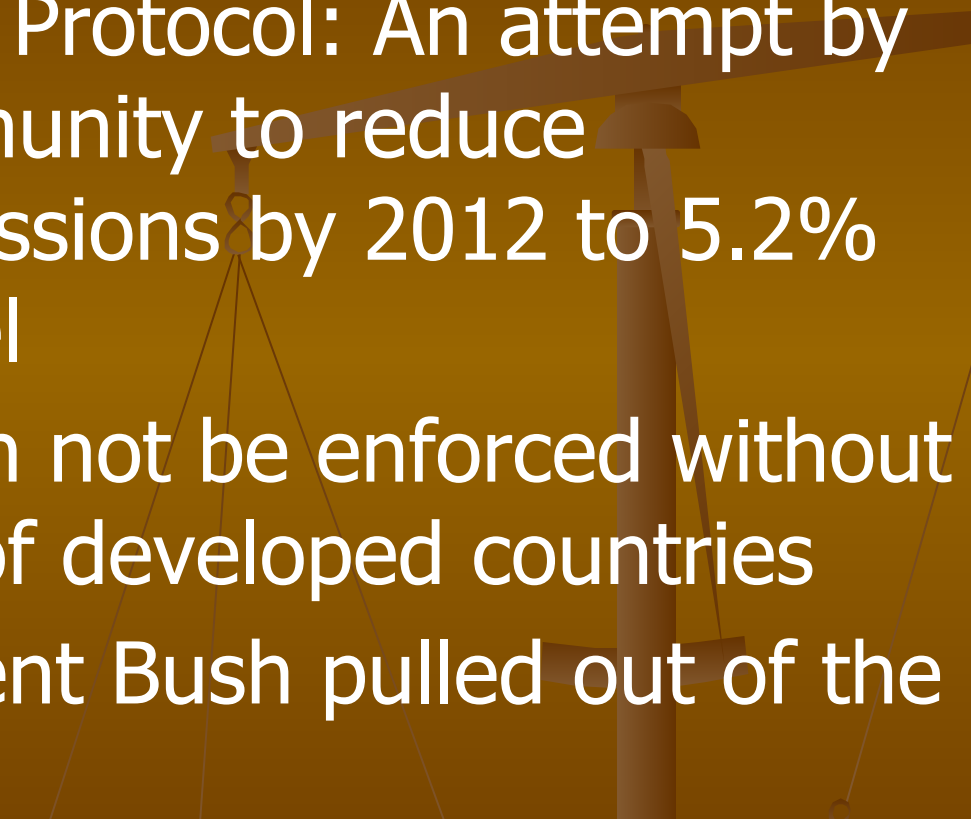


# GLOBAL AIR-QUALITY PROBLEMS

- Global Warming; The majority of scientists think it would be devastating if the trend continues. Effects can be a rise in sea levels, increasing frequency of severe hurricanes, floods, and droughts, and the extinction of plant and animal species. We already witnessed some effects

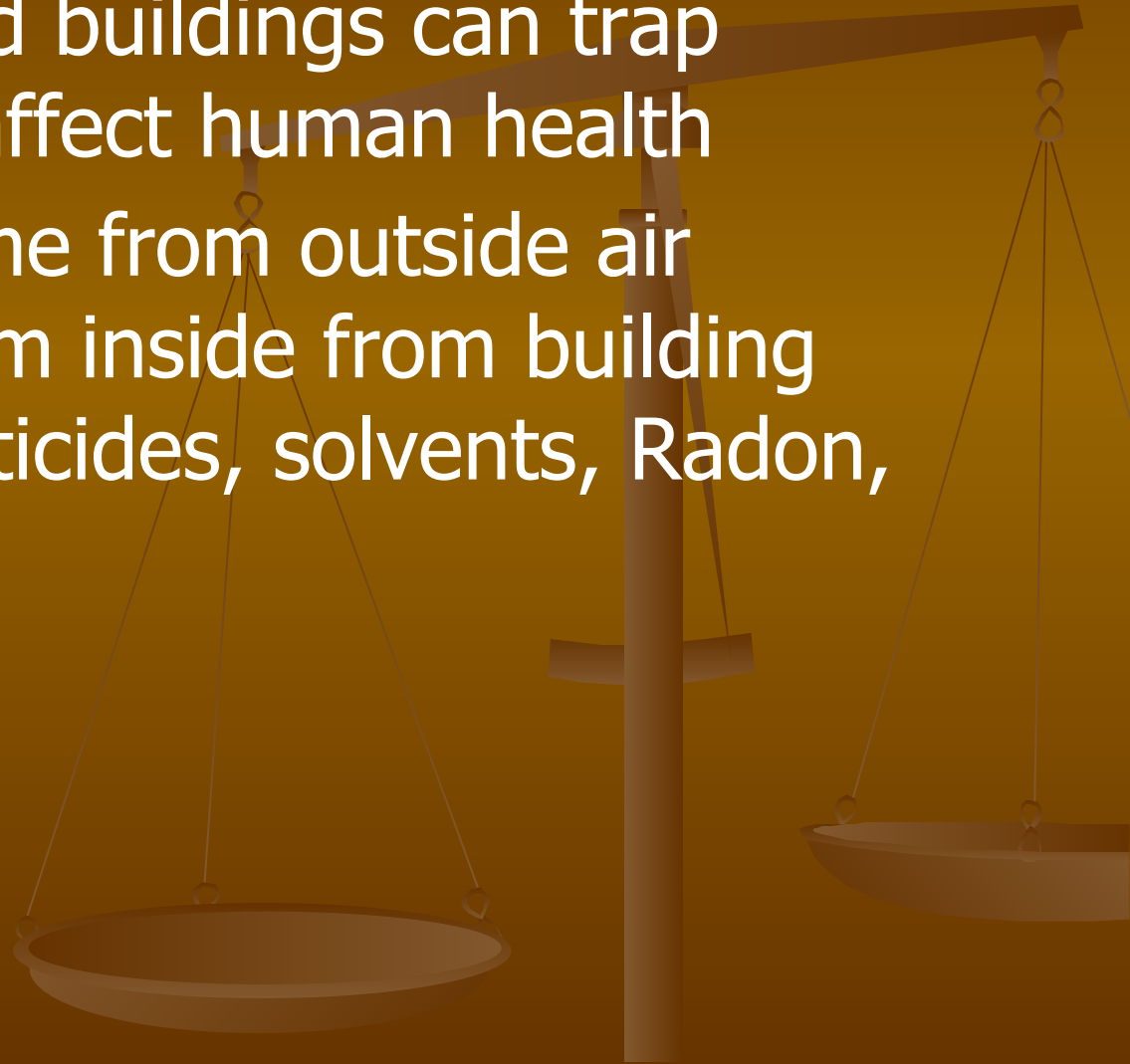


# SOLUTIONS TO HUMAN INDUCED CLIMATE CHANGE

- The 1997 Kyoto Protocol: An attempt by the global community to reduce greenhouse emissions by 2012 to 5.2% below 1990 level
  - The protocol can not be enforced without the ratification of developed countries
  - In 2001, president Bush pulled out of the Kyoto Protocol
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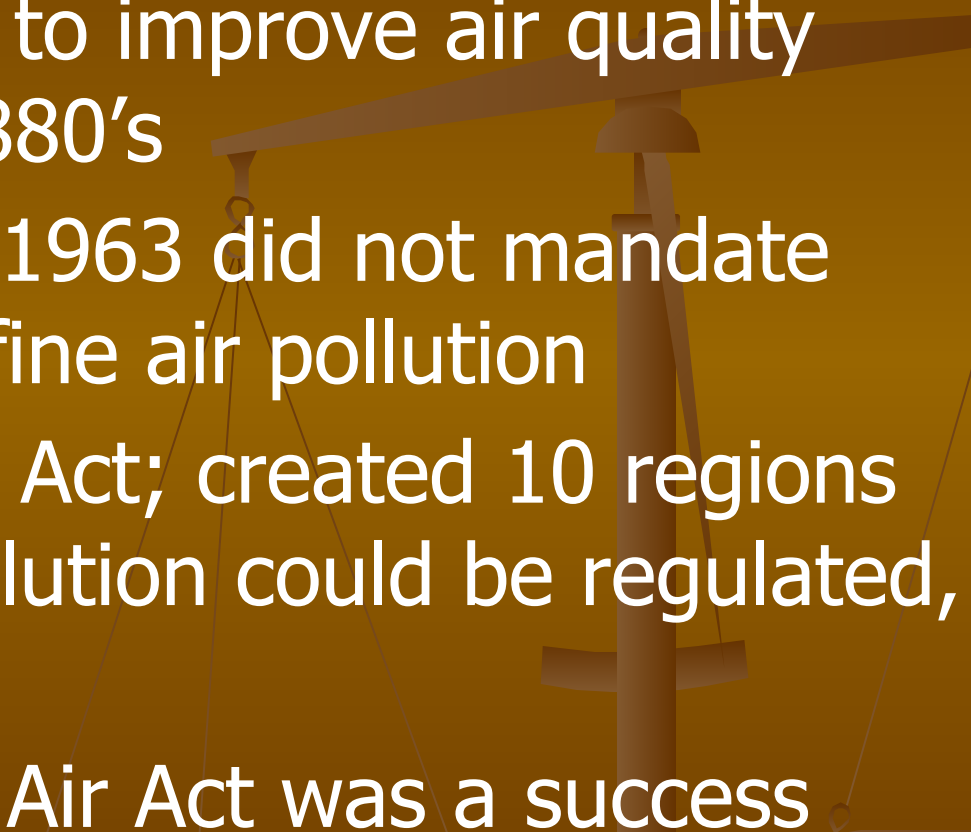
# INDOOR POLLUTION

- Poorly ventilated buildings can trap pollutants and affect human health
- Source may come from outside air pollution, or from inside from building materials, insecticides, solvents, Radon, etc.





# HISTORICAL APPROACH

- Earlier attempts to improve air quality started in the 1880's
  - Clean Air Act of 1963 did not mandate standards or define air pollution
  - 1967 Air Quality Act; created 10 regions within which pollution could be regulated, was ineffective
  - The 1970 Clean Air Act was a success
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# 1990 CLEAN AIR ACT

- Brought more resources under regulation
- More stringent controls on acid rain and air toxins
- Provided compliance deadlines
- Strengthened enforcement provisions

