

OVERVIEW

After centuries of neglect, the environmental movement was born out of growing public concern for increasing pollution and diminishing natural resources in the 1960s. The movement has garnered widespread support among Americans for what are called "green" issues that protect and preserve the land, air and water and its inhabitants. Despite this support, the environment remains fragile and the provisions in place appear to be falling short of effectively keeping our air, water and land free from pollution and exploitation.

Protecting our air

The United States has higher levels of carbon dioxide emissions and energy consumption than any other nation, making it the world's largest global warming polluter. (Public Agenda, 2004) Furthermore, in Massachusetts, recent testing by the Environmental Protection Agency (EPA) has found the Commonwealth, as well as most of New England, in violation of the minimum standards for air quality. (Ebbert, 2004)

The greenhouse effect and global warming

In a poll conducted by Harris Interactive in 2000, 72 percent of Americans believe in the theory of global warming and 46 percent of those polled think it is a serious problem. (Public Policy) Global warming is defined as:

The progressive gradual rise of the earth's surface temperature thought to be caused by the greenhouse effect and responsible for changes in global climate patterns...Global warming has occurred in the distant past as the result of natural influences, but the term is most often used to refer to the warming predicted to occur as a result of increased emissions of greenhouse gases. (MSU)

Greenhouse gases are "gases that trap the heat of the sun in the Earth's atmosphere, producing the greenhouse effect." (ORDOE, 2003) Water vapor and carbon dioxide are the most prominent greenhouse gases, but others include methane, ozone, and nitrous oxide.

In the United States, car emissions, high energy use and power plants contribute the most to the manmade global warming. Manmade warming has proven to be far more detrimental than warming that occurs naturally because it causes changes to happen 1,000 times faster. Because of this rapid warming, analysts believe that changing sea levels, flooding, severe weather changes, and extension of certain plants and animals can be expected unless the process is slowed down. (Sierra Club, 2000)

It is possible to slow down global warming and eventually stop it. The Sierra Club, America's oldest, largest and most influential grassroots environmental organization, suggests the following measure be taken:

- *Curb car emissions:* By making cars more fuel efficient, the amount of carbon dioxide released into the air is greatly reduced. Hybrid cars that utilize both electric and gasoline to operate tend to get more than double the amount of miles per gallon that the average SUV.
- *Convert electrical power plants to gas burning:* Power plants tend to use coal to produce electricity, but if converted to burning natural gas, far fewer pollutants would be released into the air.
- *Utilize solar and wind power:* Using renewable energy sources, like wind and solar energy, results in less coal use. With advances in environmentally friendly energy sources, the costs associated with wind and solar energy is comparable to coal. (Sierra Club, 2000)

The Clean Air Act

In an effort to improve air quality in the United States, the *Clean Air Act* was passed in 1970. The original *Act* provided nationwide air pollution limits. States can set more stringent pollution restrictions, but not more lenient. In 1990, amendments to the *Clean Air Act* clearly delineated the roles of state and federal government. Although it makes clear that states are largely responsible for overseeing the *Clean Air Act*, the EPA has enforcement powers to ensure states are in compliance. (EPA, 2002)

Air quality data collected by the EPA between 2001 and 2003 concluded that 31 states, including Massachusetts, Rhode Island and Connecticut, are failing the standard for ground-level ozone air pollution. In addition, Cape Cod National Seashore and Acadia National Park were both designated as high pollution areas. Although New England showed a 21 percent improvement in eight-hour ozone concentrations between 1983 and 2002, increasingly higher EPA standards and an inability to prevent other states' pollution from contaminating the coastal states made it difficult for New England to comply. (EPA, 2004)

Ground-level ozone pollution is a combination of volatile organic compounds (VOCs), naturally occurring substances mainly

containing carbon, hydrogen, nitrogen and oxygen, that rapidly evaporate into the atmosphere, with nitrogen oxide, generally caused by car emissions a greenhouse gas that reacts with sunlight to cause smog. (MSU) It is estimated that smog creates unhealthy living situations like respiratory conditions for more than 150 million Americans, particularly children and the elderly. (Ebbert, 2004) In New England, more than 400,000 (12.3 percent) young people suffer or have suffered from asthma at some point in their childhood. These asthma rates are above average as there are 6.3 million children nationwide suspected of having asthma. (EPA, 2004)

Protecting our water

Since the 1970s, the United States has made great gains in cleaning up rivers, lakes and costal waters, preventing approximately 900 million pounds of sewage and a billion pounds of toxic chemicals from entering the water annually. Despite these efforts, it is estimated that every American lives within 10 miles of water that is too polluted to drink or swim in. (Sierra Club, *Clean Water*)

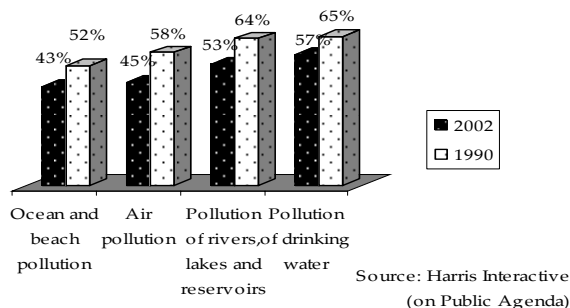
The Clean Water Act

The *Federal Water Pollution Control Act*, know known as the *Clean Water Act*, was passed in 1972 to address growing concern for numerous contaminated waterways. The *Act*, overseen by the EPA, regulates the dumping of pollutants and creates standards for industry waste disposal. (EPA, 2004) Since its enactment, considerable gains have been made in improving water quality.

- Approximately 60 percent of rivers and 55 percent of lakes are safe for swimming and fishing, a 19 – 24 percent improvement since 1970.
- More than one billion pounds of toxic chemicals are removed from waste water annually.
- 32 trillion gallons of wastewater are treated daily. (Sierra Club, 2004)

Massachusetts in particular has benefited from the *Clean Water Act*. Prior to its enactment, Boston Harbor was considered one of the most polluted waterways in the United States. In 1985, the Massachusetts Water Resources Authority (MWRA) was created and a \$3.5 billion dollar clean-up initiated. Now in its final stages, the environmental quality of the Harbor has been vastly improved. Sewage is no longer dumped directly into the Harbor, but into an offshore treatment facility eight miles away. (USGS, 2000)

Environmental Issues that Worry Americans, 1990 and 2002



Protecting our land

Several disturbing trends have emerged in recent years counteracting many of the protections put in place to protect both private and public land from exploitation.

Urban sprawl and smart growth

More and more Americans are willing to face long commutes into cities to live in a quieter suburban setting. In Massachusetts alone, 44 acres of open space is converted daily (300 acres weekly) into residential, commercial or industrial properties. (EOEA, 2001) Nationwide, an estimated 365 acres of countryside are developed hourly. (NRDC, 2000) Unfortunately, to meet the growing demands of an ever growing population working in the city, but living in the suburbs, sprawl has become increasingly taxing on the environment. Sprawl is defined as "low density development on the edge of cities and towns, poorly planned, land consumptive, auto-dependent, and designed without respect to its surroundings." (CPI) Sprawl creates a host of problems that affect the environment negatively.

- *Dependence on cars and traffic congestion:* Because areas outside of the city are less densely populated, residents must rely on cars for transportation to and from work and for shopping. The increased popularity of suburban and rural homes also means that commuters will likely experience traffic going in and out of the city. Because of increased mileage and time spent idle during traffic, more car emissions are released into the air polluting it and contributing to global warming.
- *Disappearing open spaces:* Developers continue to acquire open spaces and convert them into "communities." This process makes flooding more likely, as land that once was able to absorb the rain, now is covered by asphalt where runoff carries pollutants into nearby waterways. (Chang, 2000) Other consequences of converting natural landscapes are mudslides, landslides, and animal and plant extinction. (Sierra Club, 2000)
- *Environmental injustice:* Environmental justice is the "equal protection and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits." (EOEA) Because suburban homes tend to command high values, low-income families are pushed into poor inner-city living conditions that are densely populated, contaminated and/or polluted. Furthermore, affluent families move out of the city, putting the tax burden on less wealthy residents. As a result, the quality of schools and services decline and crime increases. The Massachusetts Executive Office of Environmental Affairs (EOEA) determined that these low-income neighborhoods are home to 29 percent of the state population while only encompassing five percent of the state's land. In Boston, the Urban Environmental Program of New England (UEP) works to address environmental justice issues faced by the city's multi-racial communities that are caused by environmental hazards like auto emissions, lack of space and overpopulation.

Because the population continues to grow and people continue to need places to live and work, "smart growth" has been proposed as an alternative to sprawl. Smart growth creates homes within walking or biking distance of public transportation and shopping. Homes tend to be close together, however they are built around public parks and greenery to provide privacy. In sprawl communities, the land is completely bulldozed resulting in no greenery or privacy between neighbors. Because these communities generally exist away from shopping centers and public transportation systems, residents are reliant on automobiles therefore contribute to increased pollution. Sprawl communities are growing faster than the population is and an estimated to be about 365 acres are destroyed every hour in the United States. (NRDC, 2000)

Public land is being depleted

There are more than 726 million acres of parks, forests and wilderness in the United States designated as public land, however many environmentalists fear that these lands are being depleted by commercial use, such as mining, logging and drilling, sanctioned by the federal government. (NRDC) Since the 1920s, the United States has cut down more timber than it has grown. (Public Policy, 2004)

Logging is a serious concern among environmental groups who feel the importance of forest preservation is undercut by the economies that rely on the logging industry. Fifty-two percent of US national forest lands have been exploited by the timber, oil and mining industries. (Sierra Club, 2000) In a study conducted by ECONorthwest for the Sierra Club, it was determined that the damage done by logging on U.S. forest lands far outweighed the benefits. The study concluded that logging no longer dominates regional economies as it had in the past, and when logging is restricted or prohibited, little or no consequences were found community-wide. It also determined that 84.6 percent of goods and services provided from national forests are derived from recreation, fish and wildlife activities, whereas timber provides only 2.7 percent while costing taxpayers more money, polluting the land, and reducing its ability to provide other goods and services. (Sierra Club, 2000)

Most recently, the *Healthy Forest Initiative* was passed in an effort to protect national forests after the large amount of forest fires in 2002. However, most environmentalists feel that the new policy undermines efforts to protect forests, because its solution is rooted in allowing more commercial logging to "thin" out forests. In addition to further depleting and polluting public land, no scientific evidence supports the premise that by thinning out trees, fewer fires will occur. (Sierra Club, 2000)

Recycling

Recycling reduces pollution of land, air and water because reusing materials consumes less energy and creates less waste than creating new materials. When first introduced, recycling was very popular, but in recent years has experienced a backlash. In 2001, the recycling rate of aluminum cans reached a 15 year low, with people recycling less than 50 percent. (Schueller, 2002) Some experts believe that this drop-off can be correlated to a weakened economy shifting the attention of individuals and government elsewhere. However, in addition to protecting the environment, recycling is smart business for industry providing substantial savings. According to the Northeast Recycling Council, Inc., recycling in Massachusetts accomplishments in 2001 included:

- Reduced industrial carbon dioxide emissions by 20.3 percent and greenhouse gas emissions by 5.1 percent;
- Reduced industrial energy use by 2.4 percent, the equivalent of 2.2 million barrels of oil saved at a value of 65 million dollars;
- Reduced as much as 118,204 metric tons of pollutants from the air and water through recycling paper, plastic, glass, aluminum cans and steel cans; and
- Recycled 1,443,453 tons of paper, newspapers, and phonebooks saving 17 million trees from being cut down. (NERC, 2003)

Protection and conservation in Massachusetts

Massachusetts has nearly 5.2 million acres of land with more than 3,000 rivers, streams, lakes and ponds, 1,519 miles of coastline, 500,000 acres of public forest land and 27 watersheds. (EOEA, 2001) In an effort to preserve and protect this land, the Massachusetts Executive Office of Environmental Affairs (EOEA) and the Massachusetts Department of Environmental Protection (DEP) serve as the primary stewards of the Commonwealth's land. The EOEA directs its resources to several different program areas and the DEP serves as the statewide enforcer of EPA laws and regulations.

Many of the initiatives promoted by the state equate a healthy environment as good business. The [Strategic Envirotechnology Partnership \(STEP\)](#), a partnership between the University of Massachusetts (UMass) and the EOEA, provides technology-based environmentally-sound solutions for businesses and residents. By assisting with environmental technology (envirotechnology) projects, STEP helps remove the risk of private investment in innovative ideas. (EOEA, 2003) In addition, the *Massachusetts Environmental Policy Act* (MEPA) requires state agencies not only actively avoid damaging the environment, but also study the consequences of their work on the environment. Support is provided to state agencies to seek out environmentally sound alternatives to a proposed project. (MEPA, 2004)

As the national conscious has shifted to other issues that appear to be more pressing, many environmental provisions and protections continue to fall by the wayside. As a result, the environmental movement has experienced a setback that is having devastating effects on the health of Americans and the land they inhabit.

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ONLINE RESOURCES

Local & State

Boston Natural Areas Network

www.bostonnatural.org

Massachusetts DEP

<http://www.mass.gov/dep/dephome.htm>

National

The Trust for Public Land

www.tpl.org

The Sierra Club

www.sierraclub.org

Government

U.S. Environmental Protection Agency

www.epa.gov

U.S. Department of the Interior

www.doi.gov

For more information on this and other local issues, we encourage you to utilize the *Boston Indicators Project*, available online www.tbf.org/indicators. Produced and maintained by the **Boston Foundation**, this web site features indicators of change and progress in ten sectors and is regularly updated with new information and reports.



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About Boston Cares

Boston Cares organizes and leads volunteer teams and services in and around Boston that have a positive impact on individuals and communities. Since 1991, thousands of people of all ages have volunteered through Boston Cares at over 240 Greater Boston schools and non-profits.

Boston Cares is a member of the Hands on Network (formerly City Cares,) an alliance of volunteer organizations working to transform individuals and communities through service and civic engagement, with affiliates and partners in 41 US and international locations.



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