EPA United States Environmental Protection Agency New England

Cleaner Cities Healthier Cities

Urban Environmental **Challenges**, Urban **Successes**

Introduction

Residents of New England's cities face more than their fair share of the region's environmental challenges. People living in cities are more likely to breathe polluted air, to live or work by water that has been contaminated, and to garden and play on soil that has been tainted by toxins. EPA New England works directly to reduce the air, land and water pollution that compromises the well-being of millions of city residents in the region's six states.

Here at EPA New England, we have made urban challenges a priority, putting time and money into programs that reduce pollution caused by motor vehicles, factories and dense urban living. We have formed an Urban Environmental Program to focus on the complexity and pervasiveness of the environmental challenge for cities. Every program at EPA is charged with understanding the effect of pollution on the health and well-being of city residents, especially of our youngest and oldest citizens.

EPA's New England office is working to ensure that citizens with the least resources – a great majority of whom live in cities – do not lose out when it comes to environmental protection. Because children are particularly vulnerable to environmental problems, we have appointed a Children's Environmental Health Coordinator to work with communities to reduce asthma, lead poisoning and other diseases prevalent among children, and most prevalent among children living in cities.

As we plan for the future of New England's most populated areas, we are focused on reducing indoor and outdoor air pollution, cleaning our lakes and rivers, reusing existing buildings and developing new buildings in places that are most accessible. In our work to make cities cleaner, healthier and more comfortable, we are working to engage, educate and train urban residents so they have the knowledge, resources and power to play a role in creating a healthy and clean environment for present and future generations.

Robert W. Varney
Regional Administrator, EPA New England

Cleaner Air ... Outdoors

EPA has set national air quality standards for air pollutants. In New England cities, ozone and particulate matter pollution are of particular concern as elevated levels can aggravate respiratory problems, such as asthma. Cars, trucks and buses contribute significantly to urban air pollution. Other chemicals and toxic emissions also contribute to outdoor air pollution in cities.

• **Monitoring and Forecasting Air Quality** – EPA works with the states to monitor air quality throughout New England and to warn residents when poor air quality is expected. Current air quality levels and next-day forecasts are published daily on the web for ozone and particle pollution. When unhealthy air quality is expected, EPA issues air quality alerts. These alerts allow residents to take action, such as using public transportation, to reduce pollution and protect their health. To sign-up to receive free air quality alerts, go to **www.epa.gov/ne/aqi**.

• **Cleaning School Buses** – With funds from EPA's Clean School Bus USA program, the City of Medford has retrofitted all of its 71 buses with a combination of diesel oxidation catalysts and diesel particulate matter filters. In addition, the city has been fueling its fleet of school buses with cleaner ultra-low sulfur diesel fuel since 2003.

• **Reducing Diesel Pollution** – The Northeast Diesel Collaborative combines the expertise of EPA, NESCAUM (The Northeast States for Coordinated Air Use Management) and the eight Northeastern states to improve public health by expanding clean diesel programs. Almost $120,000 in funding from the 2006 Northeast Diesel Collaborative emission reduction grant program will be used to retrofit diesel equipment operating downtown at a New Haven school construction site.

• **Retrofitting Boston Trolleys** – The City of Boston has equipped 35 diesel-powered tourist trolleys with diesel oxidation catalysts using a $64,000 grant from EPA's National Voluntary Diesel Retrofit Program. The city is also fueling the 450 diesel vehicles in its municipal fleet with a blend of bio-diesel and ultra low-sulfur diesel fuel. As of 2006, any new vehicle purchased by the city must be a hybrid or alternative fuel vehicle, if possible.

(top photo) Since 2003, EPA's Clean School Bus USA program has funded projects nationwide to retrofit, replace and reduce idling from school buses, making the "black puff of smoke," a thing of the past.

(middle photo) Greater Boston Breathes Better (GB3) partners, the City of Boston and Beantown Trolley, teamed up to equip 35 diesel tourist trolleys with diesel oxidation catalysts.

(bottom photo) EPA and the New England states are working to promote Truckstop Electrification projects throughout the region.

• **Guiding transportation fleets** – The City of Cambridge and the Massachusetts Institute of Technology used an EPA grant of $83,000 to equip a total of 32 vehicles with advanced pollution control technology. Cambridge and MIT are participating in the Greater Boston Breathes Better (GB3) partnership, a coalition of private and government groups working to reduce air pollution in Boston caused by transportation and construction.

• **Influencing commutes** – Fortune 500 companies such as IBM and Time Warner and community-based organizations such as Alternatives for Community and Environment and Environmental Defense are among the 146 employers on EPA New England's list of Best Workplaces for Commuters. This program recognizes employers that encourage commuters to get to work in ways that reduce traffic congestion and air pollution.

• **Cutting down on idling** – Connecticut, Massachusetts and New Hampshire all have rules to reduce idling diesel-powered engines, a practice that contributes unnecessarily to air pollution in cities. Every New England state has a program to reduce idling from school buses. The state of New Hampshire has teamed up with the NH School Transportation Association to supply school transit providers with information to reduce idling. More than 30 fleets,

Taking on asthma, a New England challenge

New England has the highest rate of adult asthma in the nation - 8.9 percent compared to 7.1 percent nationally. Of the seven states with the highest rates of adult asthma in the country, five of them are in New England where nearly a million adults are reported with asthma and 14 percent of children have suffered from asthma in their lifetime.

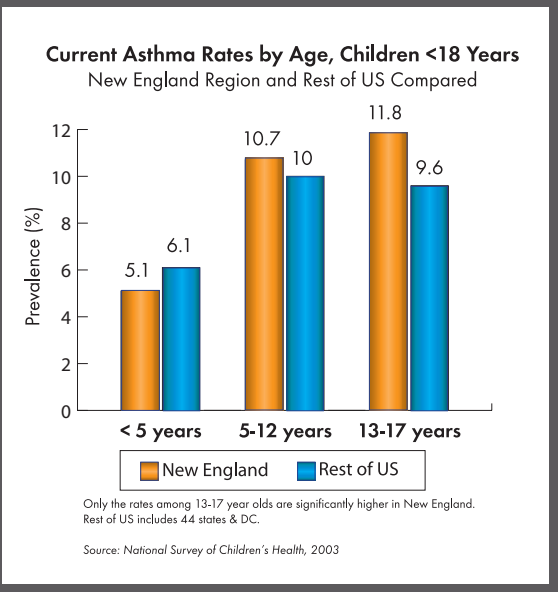
These figures were reported by the Asthma Regional Council, a coalition of health, housing, education, and environmental organizations co-founded by EPA New England to reduce the impact of asthma across New England. The council works to address the environmental factors that contribute to asthma. Indoors, tobacco smoke, dust mites, pest and pet allergens can exacerbate asthma symptoms. Outdoors, fine particles or soot have been associated with respiratory problems. The group has focused on homes and schools and the disproportionate impact of asthma on populations at greatest risk.

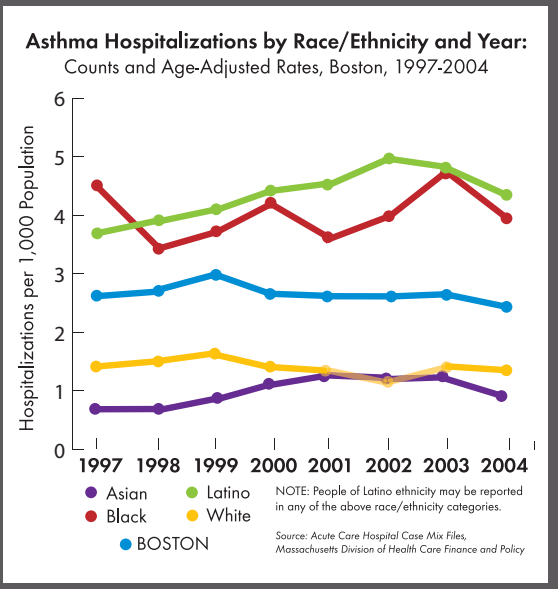
Within New England, Black and Hispanic communities had higher than average rates of asthma, according to the report. Children exposed to environmental tobacco smoke had higher asthma rates, as did people of lower incomes, the report found. The rate of asthma among people living below poverty level was 15.6 percent, compared to 7.6 percent among people earning three times the poverty level.

Children in urban areas are particularly at risk for asthma. For example, the heaviest burden of asthma hospitalization is borne by children under 5, according to the Boston Public Health Commission. In 2004, the youngest Boston children had 7.7 hospitalizations per 1,000 population, which is more than 3 times the rate for Boston overall, the commission reported.

Working with the Asthma Regional Council, Connecticut, Massachusetts and New Hampshire have signed anti-idling agreements with school transportation associations. Rhode Island has put in place a clean green school bus awareness program and is currently developing anti-idling legislation. Vermont has a newsletter for superintendents on school bus idling.

Nationally, asthma is responsible for more than $12.7 billion a year in health care costs and lost productivity. It is also the leading cause of missed school days. Each year, this disease is responsible for 10.1 million lost school days, 15 million missed or lost work days, 423,000 hospitalizations and 5,000 deaths.





Environmental Justice: A Healthier Region for Everyone

EPA New England (EPA NE) is committed to promoting and supporting Environmental Justice (EJ) in communities across New England, and especially in urban areas. EJ is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including any racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

EPA NE's Environmental Justice Program is working to make sure that EJ considerations are factored into the environmental decision it makes, programs it implements, and projects and initiatives it undertakes. This commitment to environmental justice is evidenced by management's leadership and support, especially the active ongoing participation of the Deputy Office Directors in the regional EJ Council. The regional EJ Council is charged with the responsibility of developing EJ guidance and implementation strategies to institutionalize EJ activities throughout the regional office. In urban areas, EPA NE's Environmental Justice Program works closely with the Urban Environmental Program (UEP) to ensure that urban residents in Massachusetts, Rhode Island, and Connecticut are engaged, informed and involved in environment and public health projects to benefit local residents. In addition to these projects, funding resources are available on a competitive basis through the Environmental Justice Small Grant Program and Environmental Justice Collaborative Problem-Solving Grant Program.

representing more than 65 percent of New Hampshire's school buses, have anti-idling policies.

• **Challenging truckers and shippers** – Hannaford Supermarkets, a chain of 158 stores based in Scarborough, Maine, is conserving fuel and reducing emissions in its trucking operations. Lighter and more streamlined trucks, balanced loads and single-wide tires result in higher driving efficiency. Automatic idle shutdown mechanisms, driver incentives and consolidated deliveries reduce fuel use and emissions at the dock. Hannaford is among over 450 partners in EPA's SmartWay Transport Partnership, which challenges freight shippers and carriers to reduce pollution while saving money and time. Formed in 2004 by EPA and the American Trucking Association, SmartWay provides strategies, technologies and incentives to reduce diesel engine idle time, upgrade vehicles, use cleaner fuel, train drivers and refine pickup and delivery logistics.

• **Car-free transportation** – This EPA New England web page helps residents and visitors get around New England on bikes, buses, boats, ride-sharing, subways and trains. This site offers links to car-free transportation alternatives including; bike paths, buses, ferry services, ride-sharing, subways, trains, and trolleys. **www.epa.gov/ne/topics/air/carfree.html**

• **Cleaning up transit** – To reduce public exposure to diesel exhaust, the Massachusetts Bay Transportation Authority (MBTA) has taken steps to lower emissions from its diesel buses and trains. The entire fleet of 980 buses operated by the MBTA has either been retrofitted with diesel particulate matter filters or is running on compressed natural gas. In addition, the 55 commuter trains that serve the greater Boston area have been running on cleaner low sulfur diesel fuel, with funds from two different EPA enforcement settlements.

Cleaner Air ... Indoors

Americans spend 90 percent of their time indoors, which is why EPA has focused on improving air quality in schools and homes across the region. Buying cleaning agents and other home products without toxins can protect the environment and the health of residents. Exposure to hazardous mercury vapors from broken thermometers or fluorescent lights, for instance, can be avoided if they are properly cleaned up.

• **Reducing second-hand smoke** – More than 1,687 parents and other caregivers in New Bedford and Fall River pledged not to smoke at home as part of a campaign to reduce children's exposure to second-hand smoke in cars and homes. The Smoke-Free Homes Campaign, led by a local non-profit agency, urged parents, especially those who smoke and have children under five, to sign a Smoke-Free Home Pledge. Local agencies, such as WIC and other early intervention programs, made home visits and handed out educational materials. Of the homes assessed, more than 93 percent of

households that pledged remained smoke- free for at least a year.

• **Improving the air in schools** – Connecticut's collaborative approach to assisting schools to implement EPA's Tools for Schools (TfS) program has had remarkable success. This has been helped by a state law requiring every school to have an indoor air quality program. This has led to the creation of TfS Indoor Air Quality (IAQ) building teams in over three quarters of Connecticut schools. As a result, several school districts have reported improvements in health, including a nearly 50% drop in respiratory-related illnesses in North Haven, and a 21% drop in asthma-related office visits in Hartford since they began using Tools for Schools.
www.epa.gov/iaq/schools

(top photo)
Urban youth work with the UEP team to build an urban garden in Hartford, CT.

(bottom photo)
UEP Team works with community volunteers to conduct soil sampling on vacant lots in Providence, RI.

• **Reducing asthma triggers at home** – In New London County, Connecticut, emergency room visits by a group of patients suffering from asthma dropped 85 percent as a result of a team approach to treating asthma. In addition, doctor visits dropped 66 percent and missed school or work days dropped 62 percent. The program of the New London Shoreline Action Partnership linked a medical asthma team with an environmental home specialist and a community health educator to evaluate environmental conditions at home and come up with solutions.

• **Identifying toxic materials in herbal remedies** – In 2004, an EPA chemist co-authored a paper in the Journal of the American Medical Association that concluded that one in five of the ayurvedic herbal medicine products produced in South Asia and available in South Asian grocery stores in Boston contained potentially harmful levels of mercury, lead or arsenic. EPA's role was primarily to analyze the metal content of products, but the study has had significant impacts around the world as governments assess and change their policies on sale of these products.

Getting Polluters To Pay: Environmental Projects Help Clean Our Air, Land and Water

Dozens of environmental improvements in New England have been paid for by companies or institutions that violated environmental laws. A company or organization can offer to pay for an environmental improvement, often in exchange for a reduced penalty. The project, known as a Supplemental Environmental Project or SEP, must produce environmental or public health and safety benefits beyond those required by laws.

One of the largest such projects allowed for the restoration of Mill Creek in Chelsea. This $250,000 project was funded by Exelon Mystic LLC as part of a $6 million settlement stemming from air quality violations over a five-year period at the Mystic Station power plant in Everett. Exelon worked with the Chelsea Green Space & Recreation Committee and the Urban Ecology Institute to restore the land, providing environmental benefits and wildlife habitat, as well as coastal access, passive recreation, green space and environmental opportunities to the residents of Chelsea and surrounding communities. The company also paid for a commuter bike path connecting bike paths in Everett and Somerville along the Amelia Earhart Dam on the Mystic River as well as diesel retrofits on Boston School Buses.

Residents who have ideas for environmental improvement projects in their community can submit them to EPA. EPA favors projects with a relationship to the violation. It will consider the relevant pollutant, geographic location, its impact on sensitive populations, its impact on sensitive ecosystems and the cost and the length of time to complete the project. Appropriate SEP proposals are included in an EPA library, available to EPA New England employees.

A project can be proposed by filling out a SEP Idea Form at www.epa.gov/boston/enforcement/sep/sepform.html. Helpful guidelines are available at **www.epa.gov/boston/enforcement/sep/index.html** Or **www.epa.gov/compliance/civil/seps/index.html**.

(above photos)
Children may be more vulnerable than adults to environmental hazards because they may be exposed to more pollutants per pound of bodyweight and their systems are still developing.

Mercury

The mercury level in the fish in the lakes and streams of New England poses a significant ecological and public health issue. Although fish throughout the region may contain high levels of mercury, some immigrant populations in urban areas are more apt to get nutrition from subsistence fishing. Pregnant women, nursing mothers and parents of young children can get fish consumption advice from EPA about how often they should eat certain types of commercially-caught fish and shellfish. EPA works with the U.S. Food and Drug Administration (FDA) and with states and tribes to issue these advisories. Advisories are also issued for men, women, and children of all ages when appropriate. Fish is a beneficial part of the diet, so EPA and FDA encourage people to continue to eat fish that are low in methylmercury.

Coal-burning power plants are the largest human-caused source of mercury emissions to the air in this country. Burning hazardous wastes, producing chlorine, breaking mercury products, and spilling mercury, as well as the improper treatment and disposal of products or wastes containing mercury, can also release mercury into the environment and expose people to mercury vapor. Mercury in the air eventually settles into water or onto land, where it can be washed into water. This form of mercury, called methylmercury, builds up more in some types of fish and shellfish than others. Fish and shellfish with high mercury levels are the main sources of exposure to humans.

Reducing Children's Exposure to Lead

EPA New England has made it a priority to reduce exposure to lead among children across the region. In cities, the rate of lead poisoning may be two or three times higher than the rest of New England, affecting as many as 20 percent of children under six in some areas. EPA has helped teach parents and property owners how to recognize and avoid lead poisoning. Lead was once widely used in many materials and is still found in many older homes, toys, and plumbing fixtures. Some herbal remedies used in urban ethnic neighborhoods have also been shown to contain lead and other toxic metals.

• **Educating homeowners** – Nearly 1,475 paint and hardware stores in New England have joined the "Keep It Clean Campaign" to educate families about lead-safe renovation. The campaign promotes inexpensive ways to safely renovate homes with lead paint. Participating hardware stores have trained employees to answer questions about lead-safe renovations. The Keep It Clean Campaign was started by the New England Lead Coordinating Committee, a collaboration of public and private organizations managed by University of Connecticut Cooperative Extension System. **www.nelcc.uconn.edu/**

• **Eliminating lead poisoning** – In Boston, elevated blood lead levels dropped from 1,123 cases in 2001 to 460 cases in 2006, thanks to efforts of the Lead Action Collaborative. The Fenway neighborhood in 2004 became the first neighborhood in Boston with no lead poisoned children. The Lead Action Collaborative was formed by a group of organizations to eliminate lead poisoning in Boston. The collaborative focuses on neighborhoods with the greatest rates of poisoning and successfully lobbied to change state law to give property owners a $1,500 tax credit per unit for lead removal work.

• **Penalizing landlords** – A Connecticut real estate management company and the property owner paid more than $45,000 to settle claims by EPA that they violated disclosure laws at an apartment complex in East Hartford. The companies, which manage or own more than 1,000 units of pre-1978 rental housing in Connecticut, failed to notify prospective tenants about the potential existence of lead-based paint. This case is among dozens EPA has initiated to enforce federal lead laws. Fining landlords who violate lead laws deters other homeowners and landlords from putting residents at risk of poisoning. The media attention generated by these actions leads to education and increased compliance.

Federal law requires anyone leasing or selling housing built before 1978 to give tenants and buyers a pamphlet called "Protect Your Family from Lead in Your Home;" a lead warning statement; statements, records and reports disclosing any known lead-based paint and lead-based paint hazards.
www.epa.gov/opptintr/lead/pubs/leadprot.htm

• **Penalizing real estate managers** – A Providence real estate investor and three of his companies paid $20,000 to settle claims by EPA that they violated federal lead paint disclosure rules. The owners sold six houses in Providence, Central Falls and Narragansett between 2000 and 2002 without warning buyers of potential lead paint hazards. Nearly all the violations were in low-income, minority neighborhoods.

• **Creating Lead Safe Yards** – Nearly 100 house lots in North Dorchester and Roxbury have been treated through the lead-safe yard program. Contaminated soil was contained, mulch was added to raise the level of the ground where children play, and compost was added to garden plots. The Lead Safe Yard Project was created by the Boston University School of Public Health and EPA to demonstrate inexpensive ways to landscape to reduce the risk from lead in urban house yards.

• **Protecting children** – EPA ordered a Fall River dance studio to postpone its classes when lead-paint contamination was found in the studio building. EPA issued the order after samples showed high lead levels in dust caused by recent sandblasting. With help from the building's owner, the studio was closed while the threat was removed. The facility was made safe for children and reopened a few months later.

• **Analyzing products** – The EPA New England Laboratory in Chelmsford was asked to analyze herbal remedies, cosmetics and incense after a child was taken to Children's Hospital in Boston with extreme lead poisoning. Within 24 hours the lab reported that three of the eight products tested had high levels of lead, as well as arsenic and mercury. As a result, medical experts were able to confirm that the child had been poisoned by an herbal remedy the father received from a relative and administered to the child. The EPA lab provides testing for toxic metals in a wide range of materials.

(top photo)
Quieter upstream stretch of the Charles River.

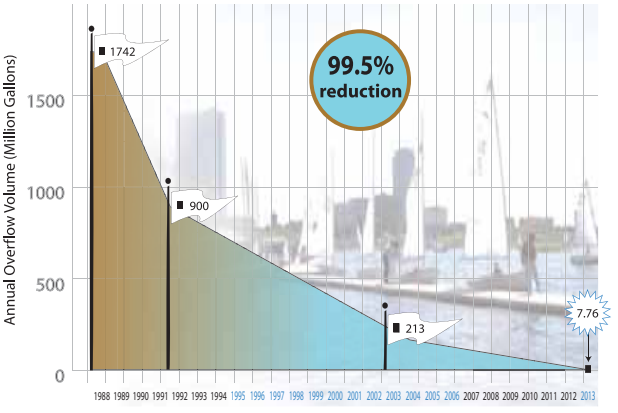
(bottom photo)
Lower stretch of the Charles River Basin, which now has many recreational opportunities due to significant water quality improvements since 1995.

Restoring Our Urban Rivers

New England's industrial history and dense development has turned some of the region's most beautiful rivers into the nation's most toxic rivers. Years of work to end illegal and toxic dumping, build treatment plants, eliminate overflows and educate the public have dramatically reduced pollution allowing for more economic vitality, wildlife and recreation than the rivers have seen in more than a century.

• **The Charles River** – EPA's "Clean Charles" initiative, involving other government agencies and private organizations, has made the lower 8.6 miles of the Charles River cleaner and safer than it has been in a century. Since 1985, when the Massachusetts Water Resources Authority was formed to help clean Boston Harbor, at the terminus of the Charles, the strides have been enormous. Sewer discharges from combined sewer/stormwater pipes have dropped from 1.7 billion to 7.7 million gallons a year. Another one million gallons a year of sewage has been removed by eliminating illicit connections discharging into storm drains. Finally, communities on the river have

Reduction of Combined Sewer Overflow Discharges to Charles River



sources: MWRA & EPA New England

* see chart at right

Significant Events / Grade

1995	CSO Design Phase Begins	D
1996	Early CSO Work continues	C-
1997	Deer Island Treatment Plant Finished	C
1998		C+
1999		B-
2000	MWR 021 & MWR 022 closed CAM 005 optimization	B
2001		B
2002		B
2003	Cottage Farm Upgrade Completed	B-
2004	Flows decreased from MWR 018, 019, 020, 010 due to system optimization	B+
2005		B+
2006	Stony Brook Separation Complete Design Start: Cottage Farm CSO Controls Design Start: Brookline Sewer Separation Design Start: Bullfinch Triangle Sewer Separation	?
2013	Construction Complete: Bullfinch Triangle, Brookline separation Cottage Farm CSO Controls	A?

The Urban Environmental Program: Making a Difference for Urban Communities

Residents of New England's largest cities face a disproportionate share of health risks from environmental threats compared to residents in other parts of the region. Urban residents – especially children and older residents - live with daily health hazards from toxics, heavy metals, poor air quality inside and outside, traffic, limited open and green space.

East Boston and Chelsea Youth learn how urban watersheds work from the UEP Team on Earth Day.

EPA New England's Urban Environmental Program (UEP), the only such program in the country, addresses the wide range of urban environmental problems through a process that directly involves the community. The program works to create a safer, healthier environment in cities in Connecticut, Massachusetts and Rhode Island. Members of the UEP team listen to community concerns, identify projects that respond to these concerns and provide the funding, guidance and expertise to address public health problems most important to urban residents.

The Urban Environmental Program works with people who live and work in the community to make improvements that can be measured, and create systems that will be long-lasting. The program is dedicated to restoring urban neighborhoods so they are healthier and cleaner places to live for local residents.

In Roxbury, Massachusetts., the UEP Team worked with the Food Project and community partners to restore two acres of vacant land into small neighborhood farms. As a result, the amount of farmed land in Roxbury increased from four to 21 acres and more than 3,000 youth got involved in production of more than 300,000 pounds of organic produce a year.

In Hartford, Connecticut, UEP worked with local partners to launch a multi-lingual website called "Hartford: Your Health and Your Environment, What You Should Know." The web site gives residents information on lead poisoning, asthma, indoor air quality, outdoor air quality, brownfields, open space and environmental justice. **www.healthy.hartford.gov**

Launched in 1995, The Urban Environmental Program's bottom-up, community-based approach helps create a sustainable infrastructure that increases the capacity for community involvement in a way that produces measurable and sustainable results in urban neighborhoods.

developed stormwater plans to improve the quality of water flowing from streets into drains that lead to the Charles. In 1985, Boston Harbor was among the nation's dirtiest harbors. With billions of dollars invested in anti-pollution strategies, eight miles of beaches are now open to swimmers, seals and porpoises have returned, and the lobster and shellfish industry contributes more than $10 million a year to the economy.

• **Connecticut River** – Fish, wildlife and recreation have returned to many parts of the 410-mile Connecticut River where fish stocks were once woefully low and recreation virtually non-existent. Residents and local officials worked with EPA to eliminate hundreds of millions of gallons of sewage and industrial discharges. They also worked with power companies to better regulate the enormous flow of water and to create passageways for fish that spawn upstream. Today, strollers and anglers, boaters and swimmers are returning to the river just as fish and wildlife are.

• **Revitalizing the Woonasquatucket** – After years of neglect during and after the Industrial Revolution, the 19-mile Woonasquatucket River in Rhode Island is now coming back to life. More than 50 acres of abandoned waterfront in Providence have been restored and construction has begun on a 5.5-mile bikeway linking neighborhoods and parks in one of the state's poorest communities. The Rising Sun Mill dam, 1.5 miles from the mouth of the river, is scheduled for fish passage by the end of 2007, making it one of the first fish passages in Rhode Island on an urban river system. EPA's Urban Environmental Program, after learning in 1996 that city residents were living off fishing and eel trapping in the river, tested and found dioxin contamination in the lower river. The resulting "catch and release" fish advisory has been in place since 1996.

• **Restoring a marsh at the Blackstone** – Seventeen acres of habitat along the Blackstone River in Rhode Island were restored by removing a former drive-in theater within a heavily urbanized watershed. The site of the Lonsdale Marsh is one of the most highly valued freshwater wetlands in Rhode Island and creates a continuous wooded riparian buffer along the Blackstone River. In a parallel effort,

EPA has put $130 million of brownfields funds into the six New England states since 1994. An estimated $524 million more has been leveraged to support more cleanup and development.

Every acre of reclaimed brownfields saves 4.5 acres of green space and every green space created, on average, doubles the value of surrounding property.

the state built a bicycle trail next to the restoration site. The $2.6 million project helped pave the way for the eventual return of river herring, shad and American eel, which are expected back once fish passages are installed along the lower four dams of the river. Already some 40 species of fish have been identified – a testament to the return of this industrial river.

Using Our Space Wisely

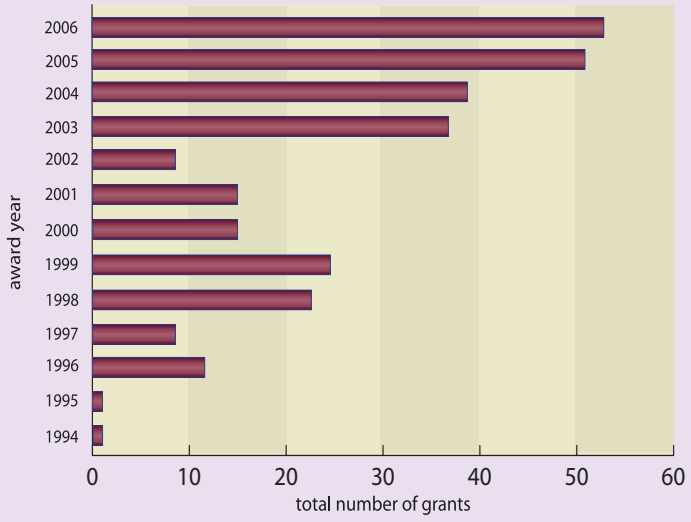
EPA's Smart Growth and Brownfields programs:

Cities become cleaner, safer and healthier when life returns to open space and vacant buildings that were once written off as contaminated. In urban areas, Smart Growth efforts encourage compact development that brings commercial and residential activity to an area that serves pedestrians and is served by public transportation. A healthy urban community is dense, but also retains green space. Cities can encourage Smart Growth by cleaning and redeveloping Brownfields, which are vacant lots and buildings with real or perceived contamination. EPA's Brownfields program provides grants to assess and clean contamination so properties across New England can be turned into new businesses, housing, playing fields and parks.

• **Winooski** – In revitalizing its downtown, Winooski preserved or restored nearly 100 acres of natural habitat, returned vacant properties to productive use, and created several neighborhood parks. The Winooski Downtown Revitalization project created a thriving, attractive center with needed housing, stores, offices and public spaces. The city re-established the street grid that had been demolished in the 1970s and added wider sidewalks. The city also opened a promenade that connects the town to the Winooski River. This work earned the city an EPA National Award for Smart Growth Achievement.

• **East Boston** – The UEP Team worked with EPA enforcement to design a $1.2 million SEP to restore and revitalize 4.5 acres of waterfront property on the Chelsea Creek in East Boston. Citizens in East Boston had been advocating for a park along the creek since 1975. In 1979, the City of Boston purchased the land along the waterfront to create a passive recreational area, but was stymied by contamination. The Chelsea Creek is the most polluted tributary to the Boston Harbor and is the second most polluted body of water in Massachusetts. The city added $400,000 to the project.

Total Number of Brownfields Grants Awarded in EPA Region 1 (1994-2006)



(from top to bottom) Traditional neighborhood development; The RiverWalk in Winooski, Vermont; Downtown redevelopment in Winooski, Vermont; Affordable housing in East Boston.

• **Lewiston** – The 1.2 million-square-foot Bates Mill that closed in the early 1990s has been redeveloped to provide 1,200 jobs and $500,000 in tax revenue through a Banknorth facility, restaurants, a telecommunications company and parts of the University of Maine. This project received $775,000 in Brownfields funding that was leveraged into $41 million in state, private and local funds.

• **Chicopee** – Television Channel 22 built a $2 million state of the art news and production studio on an 8.5-acre former lumber yard and bedding factory site that received Brownfields funding. EPA did the environmental assessment that led to cleanup of the site, making the real estate valuable to the television station as an investor.

• **New Bedford** – An industrial park under construction on 25 acres of a former textile mill will generate 350 new jobs. In 1999, EPA made an initial investment of $61,000 for a Brownfields site assessment that showed some contamination that may have posed a redevelopment risk. With additional funding from EPA's Brownfields Showcase Community program, and matched with funds from other federal and state sources, a multimillion dollar cleanup and redevelopment were made possible.

• **Somerville and Springfield** – Eight Head Start classrooms serving 126 children were opened in 2005 after Community Action Agency of Somerville worked with the city to assess sites for contamination using EPA Brownfield funds. In Springfield, community leaders used part of an assessment grant at the site of a former school that had been contaminated by industrial work next door. The assessment led to the selection of a developer, who constructed a 9,000 square foot building serving 190 children.

• **Bridgeport** – The former 8.5 acre Jenkins Valve site was converted into a 5,500-seat ball park, skating rink and museum. The ball park was built with $11 million in private investments, $1 million of local funds and $2 million in state funding. The project added 58 jobs to the local economy.

• **Nashua** – A brownfields assessment grant determined the extent of asbestos contamination in a parcel once used to dispose of building debris and asbestos materials. A Brownfields cleanup grant allowed the land to eventually hold a 24,000 square foot senior center with 43 housing units and a billiards room, computer room, library, craft area and gym.

• **Londonderry** – The Northeast Enterprise Automobile Distribution Center sits on a five-acre Brownfields site that was most recently home to Lamont Labs, which made chemical products such as windshield washer fluid and pool maintenance chemicals. After a federal investment of $50,000 to determine environmental risks, the state invested to clean the site and prepare for its redevelopment. The city collects vehicle registration fees paid by the car rental company.

(top photo)
The UEP Team and urban residents transform a vacant lot into a passive park and urban garden in Hartford, CT.

(bottom photo)
Volunteers work with the UEP Team to clean up trash from illegal dumping on vacant lots in Providence, RI.

• **New Britain** – A Brownfields assessment grant helped the city construct an organic farm on formerly contaminated Sandelli Greenhouses after it closed in 1997 and became a dumping ground. This non-profit farm provides education in organic gardening and sustainable agriculture and has enhanced the urban environment through demonstrating environmentally responsible farming and providing greenspace in an urban area.

• **Vermont Forum on Sprawl** – A Burlington group is working to both raise awareness and create urban design strategies that include walkable neighborhoods and other pedestrian-friendly design elements. By encouraging urban living that does not depend on automobiles, the Forum on Sprawl, funded with a $30,000 Healthy Communities grant, is also helping to address ailments such as childhood obesity, asthma and diabetes. The Forum on Sprawl is also working with local school children to help them understand and evaluate urban design and raising awareness of issues such as traffic planning, green space, public transportation, and individual physical activity.

• **Researchers at the University of Vermont and State Agricultural College** are developing a curriculum to help address the fact that surface waters in Burlington are polluted by bacteria from stormwater and runoff. Because public education is critical to reducing urban surface

water pollution, the curriculum was tested on Burlington middle school students. Students monitored water quality and a university laboratory verified data. The project was funded with a $27,318 Healthy Communities grant from EPA.

Giving Citizens the Tools to Make Change

Residents of New England's urban areas don't always have the access or funding needed to protect their urban environment. EPA's environmental justice and urban environmental programs work with all residents of New England to create healthier and cleaner communities. EPA has worked with citizens, students and community activists to ensure that they have the means to keep their own neighborhoods clean and safe. The success of this program comes from listening to residents' concerns and ideas and then responding to specific requests for help. Staff with the urban team at EPA believe that residents know best what they need to protect their own environment, and that EPA can make the biggest difference by joining with community groups.

• **Educating Teens** – Scientists at EPA New England's laboratory in Chelmsford regularly provide tours and show students the scientific tools available at the lab and encourage them to consider careers in environmental science. After working with a teen environmental group in nearby Lawrence, the lab is working to expand the program to other student grouops in urban communities. The biologists, chemists and other environmental scientists at the lab will try to interest teens in environmental careers using demonstrations and hands-on training in the lab. They offer training in air quality monitoring, water quality monitoring, lead detection and biology or chemistry analysis.

• **Job Training** – More than 600 New England residents have been trained in environmental jobs through EPA's Brownfields Job Training Programs, with graduates earning an average of $13 an hour. This job training program recruits, trains and places residents who come from communities with brownfields property for careers in the environmental field. This helps to get more sites assessed and cleaned for development.

• **Web page** – The Urban Environmental Program's Web page, which provides links to community organizations that work on environmental issues, is a resource page for urban work in New England. The page is updated regularly and is designed for easy navigation. It is one of the most frequently visited EPA sites. **www.epa.gov/ne/eco/uep**

CARE
LOCAL PARTNERSHIPS. HEALTHY COMMUNITIES.

About CARE

The Community Action for a Renewed Environment (CARE) program, sponsored by the Environmental Protection Agency (EPA), is a competitive grant program that offers an innovative way for communities to take action to reduce toxic pollution. Through CARE, communities create local collaborative partnerships that implement local solutions to reduce releases of and minimize exposure to toxic pollutants.

EPA helps CARE communities assess the environmental risks they face and provides access to voluntary programs to address local environmental priorities. In addition, EPA offers support for communities to develop their own approaches to reducing toxics.

There are four steps in the CARE process: joining together, identifying problems and solutions, implementing solutions and reducing risks, and becoming self-sustaining.

The Green New Haven Initiative is an example of a New England CARE community that is working to reduce its risks and is successful in leveraging funds and assistance in its tasks on improving indoor and outdoor air quality, protecting its sensitive waterways and coastline, preserving green space and energy management. The City of New Haven identified diesel emission as a top air toxic risk and has focused on retrofitting its school buses, its city fleet of trucks and now construction equipment. It is working collaboratively with the Port of New Haven regarding land use and its diesel emissions. Recent success include: a Best Practices checklist for auto recycling facilities and site assessments of auto salvage yards; waterfront improvements with plantings and anti-idling outreach and signage; enrollment of 15 businesses into an energy efficiency program; participation of 616 households in its renewable energy purchase commitment; a series of pollution prevention workshops on boilers for New Haven facilities and success in getting St. Raphael's Hospital to switch to low-sulfur fuel; Environmental Management System mentoring of 4 manufacturing facilities; an active Asthma Coalition improving residential indoor air; the New Haven School system implementing EPA's Tools for Schools as well as training some students in monitoring of ambient air and promoting the use of new bike trails and bike racks throughout the city.

New Haven CARE project addresses toxics at port.

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• **Funding** – With help from EPA funding, a River Rangers Program was created in Providence to watch over the health of the Woonasquatucket River. EPA has many competitive grant programs that can help urban communities fund qualified projects to improve the quality of the environment and public health in their neighborhoods. Please visit **www.epa.gov/region1/grants/index.html** to learn more about funding opportunities.

• **Cleaning contamination in community gardens** – Scientists from EPA's laboratory worked with Boston University and community groups to identify chemical hazards in inner city vegetable gardens. In 2006, the laboratory provided soil analysis to assist in mapping the distribution of PAHs and toxic metals (arsenic, chromium, and copper). This information is helping community gardeners identify contaminated soil that need to be replaced. Contaminated soils in community vegetable gardens were identified as a community concern at EPA's 2004 Science of Environmental Justice conference.

• **Listening to citizens** – Residents who live around Chelsea Creek in eastern Massachusetts talked about their environmental concerns at a listening session involving 35 government officials, non-profit representatives, healthcare professionals and school officials. The goal was to let residents know about programs aimed at making sure local polluters comply with the laws and to get community input to guide future environmental activities and enforcement. The session was arranged by EPA New England at the request of the Chelsea Creek Action Group.

LINKS to Region 1 Web Sites

Air: www.epa.gov/ne/topics/index.html#air

Asthma: www.epa.gov/iaq/asthma/index.html

Brownfields: www.epa.gov/region01/brownfields/index.html

CARE: www.epa.gov/CARE

Environmental Justice: www.epa.gov/ne/ej/index.html

"Keep It Clean" Campaign for Lead safety: www.epa.gov/region01/eco/ne_lead/assets/pdfs/ENGLISH_KIC2001.pdf

Lead-Based Paint: www.epa.gov/ne/enforcement/leadpaint/index.html

Lead Hazards: www.epa.gov/ne/topics/pollutants/lead.html .

Mercury: www.epa.gov/mercury/advisories.htm

Pest Management: www.epa.gov/NE/eco/pest/grants.html

Rivers: www.epa.gov/region01/topics/water/watersheds.html

Smart Growth: www.epa.gov/region01/ra/sprawl/index.html

Smoke-Free Homes: www.epa.gov/smokefree

Urban Environmental Program: www.epa.gov/region01/eco/uep

EPA United States Environmental Protection Agency New England

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