



# The Environmental Policy Briefing Book

2018



# The Environmental Policy Briefing Book

## PARTICIPATING ORGANIZATIONS

ACADIA CENTER

APPALACHIAN MOUNTAIN CLUB

BETTER FUTURE PROJECT

CLEAN WATER ACTION

CONSERVATION LAW FOUNDATION

ENVIRONMENTAL ENTREPRENEURS (E2)

ENVIRONMENTAL LEAGUE OF MA AND ELM ACTION FUND

ENVIRONMENT MASSACHUSETTS

MASS AUDUBON

MASS ENERGY CONSUMERS ALLIANCE

MASSACHUSETTS RIVER ALLIANCE

MASSACHUSETTS SIERRA CLUB

METROPOLITAN AREA PLANNING COUNCIL

THE NATURE CONSERVANCY

THE TRUSTEES OF RESERVATIONS

TRUST FOR PUBLIC LAND

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## MEMO TO THE LEGISLATORS AND CANDIDATES

### **Dear Legislators and Candidates:**

Whoever is elected to the legislature in 2018 will have a strong environmental legacy to build on. This legacy is centuries old, but also one that offers many exciting new opportunities to improve our communities and promote homegrown industries that bring jobs and income to the state.

The purpose of this briefing book is to provide information on some of the most urgent and complex issues facing the Commonwealth and offer solutions for your consideration.

### **WHO WE ARE**

We are environmental organizations who work together regularly on a wide array of energy and environmental issues that impact the health of our citizens and our economy. We represent hundreds of thousands of members across the state.

### **MASSACHUSETTS IS SPECIAL**

From Thoreau and Walden Woods to the Cape Cod National Seashore, from Mt. Greylock in the west to the Blue Hills in the east, Massachusetts' landscapes and natural areas are precious treasures that support our economy and our physical and mental health and contribute to a quality of life that is the envy of many.

### **THE INEXTRICABLE LINK BETWEEN THE ENVIRONMENT AND THE ECONOMY**

Throughout our history there has been -- and continues to be -- an inextricable link between the environment and the economy. We used hydropower to run the textile mills of Lowell and Lawrence and now the growth of clean energy technology has created more than 100,000 new jobs in the Commonwealth. The clean energy sector is the fastest growing segment of our economy but it's not the only economic engine linked to a healthy environment. Our beautiful natural areas support a tourism industry that brings more than \$20 billion a year into the Commonwealth.

Farming and agritourism remain central to the economy of many communities. Massachusetts is home to 7,775 farms that employ nearly 28,000 workers. These farms produce close to \$500 million in agricultural products. The Commonwealth ranks 5<sup>th</sup> in the nation for direct market sales and 6<sup>th</sup> in the nation for the number of farms with Community Supported Agriculture (CSAs), a 95% increase since 2007. Perhaps most noteworthy, agritourism in the state has increased by 127% in that same time period<sup>1</sup>.

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<sup>1</sup> (<http://www.mass.gov/eea/agencies/agr/statistics/>)

## MASSACHUSETTS CAN LEAD THE WAY

The legislature – in partnership with the administration and civic partners – can make Massachusetts the greenest state in the country and a true center of sustainability as we continue to grow our economy. With Washington, DC in serious gridlock and moving backward on environmental issues, the Commonwealth can demonstrate the smart policies that will protect our environment, improve the quality of life in our communities, provide better health outcomes and prepare our state for some of the risks and impacts of climate change.

**Thank you for taking the time to learn more about these urgent energy and environmental priorities.**

# THE ENVIRONMENTAL BUDGET

## SUMMARY

The state's environmental agencies are responsible for a very broad array of policies and programs that protect our natural resources and public health, support significant contributors to our economy such as fisheries and agriculture, and ensure that our environmental laws are enforced.

Massachusetts is blessed with beautiful forests, parks, rivers, beaches, lakes, and ponds yet we are not supporting our agencies to truly steward these precious resources.

And while there is intrinsic value to our myriad natural resources, we also know that a healthy environment is inextricably linked to a healthy economy. In 2015, Massachusetts had a record-breaking 28.2 million visitors—many of them came to take advantage of our beautiful natural areas—be it the Cape, the Berkshires, or somewhere in between.

Tourism means direct spending, tax revenue, and jobs. In 2015:

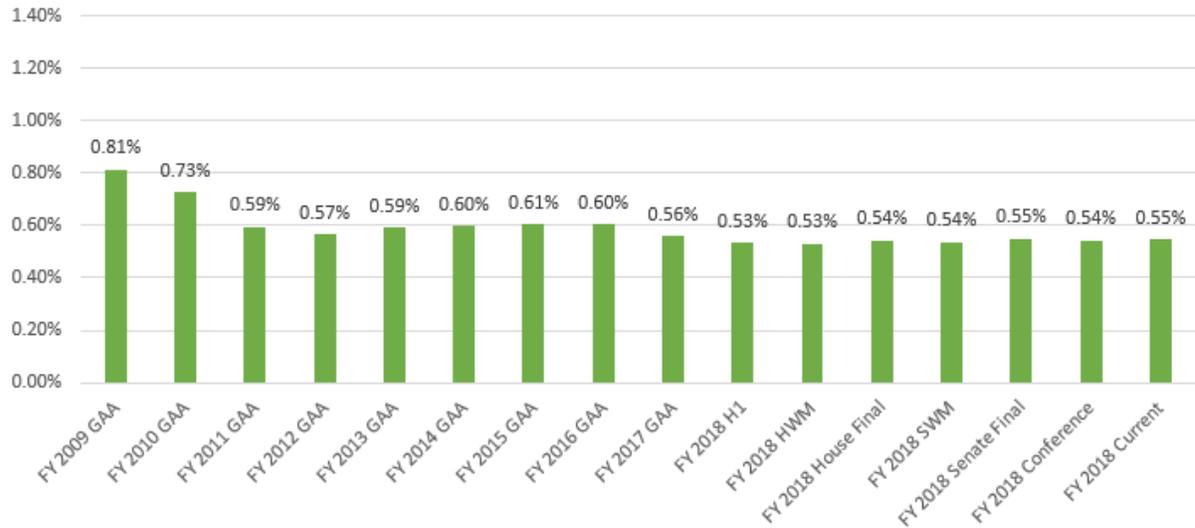
- Travelers to Massachusetts generated \$20.2 billion in direct spending, an increase of 3.8% from the previous year.
- Visitors generated \$1.3 billion in state and local taxes, an increase of 7.3% from the previous year.
- The state added 3,000 new tourism jobs for a total workforce of 135,000, an increase of 2.3% from the previous year.

In addition, the health co-benefits of a healthy environment are well documented. Outdoor activity is known to increase both mental and physical health. Poor air quality can aggravate asthma and other respiratory conditions and even affect the heart and cardiovascular system. We can reduce our health care costs if we ensure that residents have clean air, clean water, and safe places to recreate and renew.

Unfortunately, funding for our environmental agencies has been significantly cut over the past decade. If we look back to 2001, the environmental agencies received 1% of the state-operating budget; they now are receiving only 0.5%. This is woefully inadequate for the agencies to fully carry out their ever-increasing responsibilities.

Staffing at the Dept. of Conservation and Recreation (DCR) and the Dept. of Environmental Protection (DEP) is down about 30%. The DEP's current staff level of 660 is one of the lowest levels in the past dozen years. The agency has multi-year backlogs in water quality monitoring and the development of water pollution control plans and issuance of water supply permits. The agency has cut community technical assistance on wetlands issues and has not had the capacity to fully implement the Mercury Management Act passed in 2006.

## MA Environmental Operating Budget as a Share of Overall State Operating Budget



At DCR, budget cuts mean closed visitor centers, unstaffed campgrounds, facilities in disrepair, unmaintained trails, fewer programs for children, and the inability to curb illegal uses such as dumping of trash and off-road vehicle use. The Chair of the DCR Stewardship Council, Whitney Hatch, wrote in *The Boston Globe*, “our park system is falling apart, largely due to the fact that adequate maintenance funding and full-time staff positions have slowly withered away.”

### TOP RECOMMENDATION

**Allocate 1% of the state budget to our environmental agencies.**

### RESOURCES

- Nancy Goodman, Environmental League of MA, (617) 742-2553
- Heather Clish, Appalachian Mountain Club, (617) 391-6580
- Gabby Queenan, The Massachusetts Rivers Alliance, (617) 445-0208

# CLEAN ENERGY AND CLIMATE CHANGE

## SUMMARY

The energy sector directly impacts our lives and provides the opportunity for bold state leadership. Massachusetts has a well-established history of leading on energy policy. **Clean energy policies have resulted in more than 105,000<sup>2</sup> jobs in Massachusetts.** This is nearly double the number of coal miners in the entire country. It is essential for our environment and economy that future energy policy continues the transition to clean and renewable energy and away from fossil fuels.

A touchstone for the Commonwealth's energy policy is the Global Warming Solutions Act (GWSA). This groundbreaking legislation requires reductions in greenhouse gas emissions of 25% by 2020 and 80% by 2050 below 1990 levels. Achieving these critical milestones requires concerted action on multiple fronts. This section briefly outlines key energy issues and provides recommendations for future action.

### **Strengthen Our National Leadership on Energy Efficiency**

Investments in energy efficiency (EE) are beneficial for the ratepayers and the Commonwealth. EE has the largest impact on energy use and the pollution emitted by traditional power generators. Largely through utility-sponsored and state-approved EE programs, we invest over \$600 million per year. In addition to reducing demand for energy and reducing pollution, every dollar invested in energy efficiency results in benefits of \$3.21 for homeowners and \$4.27<sup>3</sup> for businesses, creating a total of \$17.4 billion total benefits in Massachusetts over the last 7 years.

### **Increase Clean and Renewable Energy in Massachusetts and New England**

The cost of renewable energy is dropping quickly. However, we still need to promote state policies to accelerate development of more renewable energy sources in order to meet our Global Warming Solutions Act requirements and have a chance at mitigating the worst effects of climate change.

Legislative efforts are underway to:

- Increase the amount of renewable energy that our utilities are required to buy on our behalf (the Renewable Portfolio Standard or RPS),
- Increase the amount of solar that businesses are incentivized to develop (by eliminating the “net metering cap”); and

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<sup>2</sup> <http://www.masscec.com/2016-massachusetts-clean-energy-industry-report-o>

<sup>3</sup> <http://www.neep.org/blog/five-reasons-massachusetts-1-energy-efficiency-fifth-consecutive-year>

- Level the playing field so that low-income families and communities are able to take advantage of the benefits of solar.

All of these measures deserve support from legislators.

### **Overhaul the Electric Grid and Utility Regulation**

The way we get electricity is outdated and is increasingly a roadblock to achieving our clean energy goals. The system is structured to reward utilities richly for building new infrastructure projects, which means that they have every incentive to drag their feet when it comes to finding cheaper and cleaner local solutions, integrating customer-owned solar, developing smart charging strategies for electric vehicles, taking our energy efficiency programs to the next level, and implementing other modernization measures that are needed if we are going to meet our GWSA requirements. The current attempt to modernize the management of the electric system in Massachusetts has seen significant setbacks because of delays by the Department of Public Utilities (DPU). The DPU made little to no progress on these issues from 2015 to 2017, with two lengthy delays in the proceedings by the Department. Moreover, Eversource has failed to comply with key aspects of orders issued in 2014. Legislative and executive branch leadership is needed to improve the process on these issues, with clear deadlines and improved stakeholder input, and to facilitate the transformation that our energy system needs.

### **Put a Price on Carbon**

It is past time for Massachusetts to accurately price the fossil fuels that are driving climate change by making their price reflect the burden they place on society. Great strides have been made in this direction in the electric sector through the Regional Greenhouse Gas Initiative (RGGI), and now it is time to translate these successful efforts to the rest of the economy (the transportation, building heat, and industrial sectors). The legislature is considering multiple options for pricing carbon in the current legislative session. If no progress is made, the urgency to adopt some form of carbon pricing in the next session will greatly increase.

### **No New Fossil Fuel Transmission Infrastructure**

Energy efficiency and renewable resources are significantly lowering future peak demand and annual electric energy needs. Continuing to push for the development of these clean sources of energy needs to be a priority over the construction of major new infrastructure to deliver fossil fuels to Massachusetts. The natural gas industry is looking for ways to have electric ratepayers fund new gas transmission pipelines. The courts have said that this is unlawful. Attempts to amend the 1997 Electricity Restructuring Act, that would be counter to the court's decision, must be opposed so that the Commonwealth continues to forge a path forward with new clean power rather than new pipelines.

## TOP RECOMMENDATIONS

**Increase the amount of renewable energy available to customers by strengthening the RPS so that it requires 50% renewable power by 2030.**

**Remove net metering caps as soon as possible** as they are stalling dozens of solar projects across the state and preventing equitable distribution of benefits through community and low-income solar.

**Ensure Massachusetts has a modern grid and regulatory system** capable of serving current and future electricity needs efficiently, including well-integrated, distributed, renewable energy resources.

**Actively support putting a price on carbon emissions** from all sectors of the economy.

**Prevent the construction of new fossil fuel transmission infrastructure in Massachusetts.**

## RESOURCES

- Eric Wilkinson, Environmental League of MA, (617) 742-2553
- Caitlin Peale Sloan, Conservation Law Foundation, (617) 850-1740
- Mark LeBel, Acadia Center, (617) 742-0054
- Eugenia Gibbons, Mass Energy Consumers Alliance, (617) 524-3950

# CLIMATE CHANGE ADAPTATION

## SUMMARY

October 29, 2017 marked the five-year anniversary of Superstorm Sandy. Had the storm hit during high tide, Massachusetts, like New Jersey and New York, would still be dealing with the havoc left in the storm's wake. The costs of the storm, the largest Atlantic hurricane in history, were the tragic loss of 159 lives and \$68 billion in damage. Along with the droughts, heat waves, tornadoes, floods, hurricanes, and wildfires of 2016 and 2017, the total cost to the U.S. was a staggering hundreds of billions of dollars. These extreme events are projected to become more frequent and more severe as our climate continues to be severely disrupted.

The Organization for Economic Co-operation and Development cited Boston eighth among the world's major cities most threatened by flooding due to sea-level rise. A recent McKinsey study ranked Boston fourth in terms of real estate assets most at risk from climate change in the U.S.

While long-term projections hinge heavily on future greenhouse gas reductions, even a drastic cut in carbon emissions would probably leave Boston Harbor at least 2 feet higher by the end of the century; assuming the status quo, we are looking at up to 7 feet of sea level rise locally by 2100. (Regardless, a 1.5-foot increase seems likely by 2050.)

Climate change risks don't just apply to Boston or coastal areas. Inland communities also face risks from river flooding, and everyone, especially low-income, disabled, and elderly populations, face risks from extreme temperatures. The resilience of the natural systems on which we depend is compromised by these threats. The Commonwealth has taken some initial steps toward making our communities more resilient in the face of these impacts, but we must do much more to proactively reduce risks to our state's infrastructure, support our ability to adapt, and plan for emergency response. An interactive version of the map below can be accessed at [seachange.sasaki.com](http://seachange.sasaki.com).<sup>4</sup> The map shows different scenarios and impacts for the years 2050 and 2100 with and without major storms.

In September 2016, the Baker administration issued Executive Order 569 (EO 569): an integrated approach to climate change (emissions reductions and resiliency/adaptation). EO 569 calls for the establishment of a municipal technical assistance program and the preparation of an integrated adaptation management plan.

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<sup>4</sup> Sasaki Associates' interactive, Boston-centric Sea Change map at [seachange.sasaki.com](http://seachange.sasaki.com).



*Sea Change Map of Boston*

The state, through the Executive Office of Energy and Environmental Affairs, also recently launched the Municipal Vulnerability and Preparedness program (MVP) to help communities conduct vulnerability assessments and set priorities for adaptation/resiliency. In its first year, the MVP program provided grants to 66 communities to conduct a stakeholder process, set priorities, and implement their plans.

EO 569 also directs the Executive Offices of Energy and Environmental Affairs, and Public Safety and Security to lead the development and implementation of a statewide integrated and comprehensive climate adaptation and hazard mitigation plan.

Concurrently, the legislature is seeking to codify and strengthen the administration’s approach to climate change by enacting into law the Comprehensive Adaptation Management Plan Act.

## TOP RECOMMENDATIONS

**Provide robust operating and capital funding** to implement the MVP Program and the recommendations of the Plan.

**Support convening a task force to develop policy proposals** and implement policies that will require private sector action to address climate change impacts.

## RESOURCES

- Jack Clarke, Mass Audubon, (617) 523-8448
- Steve Long, The Nature Conservancy, (617) 532-8367

# LAND CONSERVATION AND LAND USE

## SUMMARY

Massachusetts has a strong legacy of protecting land for people and nature, and is home to some of the world's first conservation and outdoor recreation organizations. Our success is tied to significant investment in public and private land protection driven by strong public support. Innovative funding, partnerships, and smart growth programs like the Community Preservation Act are an integral part of our achievements.

Conservation, especially when complemented by smart growth, is critical to the Massachusetts economy and to job creation. Over 120,000 Massachusetts jobs are directly tied to the outdoor recreation economy,<sup>5</sup> and outdoor recreation generates \$10 billion in annual consumer spending.<sup>6</sup> Every \$1 invested by the state in land conservation returns \$4 in economic value in natural goods and services; and, every \$1 of state spending on land conservation leverages \$1.23 in additional public and private contributions.<sup>7</sup> Working lands such as agriculture and forestry that include conservation restrictions also provide significant benefits to the Massachusetts economy.

Open space safeguards our fragile drinking water resources, sustains a thriving tourism industry, and improves health and quality of life in our communities. Conservation, restoration, and land use planning support: recreation at parks, trails, beaches, and other places; working forests and farms; and protecting rare species and wildlife by providing habitat connectivity and supporting long-term resilience to environmental changes. Healthy forests and land also play a key role in reducing greenhouse gas emissions by cycling and capturing 16% of the carbon pollution generated annually in Massachusetts.

There are also physical and mental health co-benefits from land conservation investments. Studies show that improvements in mood and self-esteem are experienced within 5 minutes of exposure to nature,<sup>8</sup> and contact with nature (interactions with plants, animals, landscape views, or the outdoors) is related to greater physical activity and lower perceived stress.<sup>9</sup>

To date, roughly 25% of the Commonwealth's land area is protected as parks and state forests, wildlife management areas, private conservation lands, and working farms and forests. However, world-renowned Harvard conservation biologist E.O. Wilson, in his

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<sup>5</sup> <https://outdoorindustry.org/resource/massachusetts-outdoor-recreation-economy-report/>

<sup>6</sup> <https://www.tpl.org/sites/default/files/cloud.tpl.org/pubs/benefits-ma-roi-report.pdf>

<sup>7</sup> <https://www.tpl.org/sites/default/files/cloud.tpl.org/pubs/benefits-ma-roi-report.pdf>

<sup>8</sup> Barton and Pretty, What is the Best Dose of Nature and Green Exercise for Improving Mental Health? A Multi-Study Analysis, *Environ. Sci. Technol.*, 2010, 44 (10), pp 3947-3955

<sup>9</sup> Largo-Wight, E., Cultivating healthy places and communities: evidence-based nature contact recommendations, *International Journal of Environmental Health Research*, 2016, pp 1369-1619

book “Half-Earth: Our Planet’s Fight for Life”, advocates for 50% of the earth to be protected to ensure that 85% of the world’s species survive and that our planet is safe and healthy for generations to come. Massachusetts is halfway there.

We stand at a crossroads. Current zoning and patterns of unplanned development have negatively impacted our communities’ ability to conserve land. Massachusetts has many landowners who are cash poor and land rich and are aging and have no heirs to steward the land. Surveys of private landowners by the U.S. Forest Service document that most owners want to preserve and actively manage their land – which is a perfect match for public-private partnerships to conserve land.

According to a study released by Harvard Forest, state and federal funds for land conservation are declining. In Massachusetts, capital investments from the Environmental Bond have fallen from a high of just over \$50 million to \$37 million annually, at a time when there is a once in a lifetime generational turnover of landownership occurring. And given the declining federal support for land conservation, the state should help fill the gap.

## TOP RECOMMENDATIONS

**Increase funding to provide a minimum 35% state match to Community Preservation Act communities.** The Community Preservation Act, passed in 2000, enables communities that have opted in to raise funds (matched in part by the state) to be used for land conservation, recreation, affordable housing and historic preservation. What was once a robust state match is now at 17% and falling. To date, 172 communities have adopted CPA (49% of the Commonwealth’s cities and towns); nearly 60% of state residents live in a CPA community.

**Support the Conservation Land Tax Credit** by increasing the annual cap from \$1 million to \$5 million per year. This credit has helped conserve 12,000 acres of ecologically valuable land, including working farms and forests.

**Support passage of zoning reform legislation** that will provide benefits to all municipalities statewide. Our zoning laws are antiquated and need to be updated to equip cities and towns with the tools they need to shape their futures, help protect identified natural resources, and provide more certainty to landowners and developers.

## RESOURCES

- Karen Heymann, Mass Audubon, (617) 523-8448
- Steve Long, The Nature Conservancy, (617) 532-8367
- Heather Clish, Appalachian Mountain Club, (617) 391-6580
- Nancy Goodman, Environmental League of MA, (617-742-2553)

# ENVIRONMENTAL JUSTICE

## SUMMARY

Environmental Justice (EJ) is based on the principle that all people have a right to be protected from environmental pollution and to live in and enjoy a clean and healthful environment. Further, EJ principles are meant to offer the equal protection and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws and the equitable distribution of environmental benefits and equitable sharing of environmental burdens.

There is considerable documentation of inferior air and water quality and poor health outcomes in low income communities and communities of color in Massachusetts. Residents of these “EJ communities” are most likely to be ill-prepared to respond to storm surges and other impacts from climate change. Moreover, residents of low income communities and communities of color continue to experience a reduced quality of life due to concentrations of polluting facilities, lax enforcement of environmental laws, and lack of access to green and open space. Just one current example is an incinerator that continues to release emissions impacting the surrounding working class communities in Saugus, Lynn, and Revere together with an unlined ash landfill that is leaking into an Area of Critical Environmental Concern.

It is imperative that the Commonwealth implements an environmental justice strategy that prevents the disproportionate siting of new and expanded industrial facilities; allocates resources that will support climate adaptation, increased green space, and urban agriculture in environmental justice communities; provides access to safe and affordable public transit, and allocates funding to remediate brownfield sites in distressed neighborhoods so they can be revitalized.

To its credit, the Commonwealth has expressed a commitment to environmental justice since 2002, when the first Environmental Justice policy for the Secretariat of Energy and Environmental Affairs was issued. This commitment was reaffirmed with Executive Order 552 in 2014. EO 552 required all the Secretariats to issue environmental justice policies and assign staff to coordinate environmental justice issues within and between agencies. But the work of environmental justice has now stalled. Virtually all of EO 552 remains un-implemented.

## TOP RECOMMENDATIONS

**Support state legislation that promotes environmental justice**, including An Act Relative to Environmental Justice and Toxics Reduction in the Commonwealth (H. 2913 /S. 426).

## RESOURCES

- Amy Laura Cahn, Conservation Law Foundation, (617) 850-1730
- Elizabeth Saunders, Clean Water Action, (617) 338-8131, x. 203

# PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT FROM TOXIC CHEMICALS

## SUMMARY

Each year, scientific research uncovers more links between toxic chemical exposures and cancer, learning disabilities, asthma, infertility, Parkinson's disease, and many more diseases and disorders. These health challenges put huge burdens on families and on society at large in the form of lost productivity, missed school days, health care costs, special education, and decreased happiness and well-being. A 2016 report conservatively estimated that each year repeated low-level toxic chemical exposures from a variety of everyday sources leads to over \$340 billion in losses from health care costs and lost earnings in the United States.<sup>10</sup>

### **Enforce Existing Laws**

In recent years, two Massachusetts laws to reduce toxic chemical exposures have gone un-enforced and/or under-utilized. The Toxics Use Reduction Act (TURA), which was passed in 1989 and revised in 2006, and groundbreaking for its time, created a system in which the largest industrial users of toxic chemicals report their chemical use and create Toxics Use Reduction Plans. The TURA Program has been very successful both in saving money for companies that participate and reducing toxic chemical use and release. According to a 2010 TURA report, "Among industries subject to reporting since 1990 (and adjusted for changes in production), chemical use has been reduced by 40%, byproducts by 71%, and releases on site by 91%. In 2017 the program reported "Many businesses are saving on their annual operating costs as a direct result of toxics use reduction or resource conservation efforts."<sup>11</sup>

However, despite all of these benefits, TURA has not been allowed to reach its full potential. TURA requires that fees paid by large users of toxic chemicals be adjusted each year according to inflation. However, the fees have never been increased and remain at the 1990 level, hampering the ability of TURA partner agencies to maximize the positive impact of the law. TURA also includes provisions that put a spotlight on chemicals--or uses of chemicals--that are particularly hazardous, and bring more companies into the program. However, these provisions have been under-utilized and as a result the workers, residents, and businesses of the Commonwealth have been denied public health, environmental, and economic benefits.

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<sup>10</sup> Science News, Exposure to chemicals dangerous to hormone function burdens Americans with hundreds of billions in disease costs, October 2016. <https://www.sciencedaily.com/releases/2016/10/161018103657.htm>

<sup>11</sup> TURA 20th Anniversary Leaders Reduce Toxic Chemical Use by 3 Million Pounds [https://www.turi.org/TURI\\_Publications/Publications\\_about\\_TURA\\_and\\_TURI/TURA\\_20th\\_Anniversary\\_Leaders\\_Tour](https://www.turi.org/TURI_Publications/Publications_about_TURA_and_TURI/TURA_20th_Anniversary_Leaders_Tour)

The Massachusetts Mercury Management Act, passed in 2006 and revised in 2014, requires (among other provisions) manufacturers of mercury-added light bulbs to pay a fee to fund light bulb recycling programs. The fee from the 2006 law was never levied, and in 2017, three years after the revised law was passed, the Department of Environmental Protection is only now working on a draft fee structure. Meanwhile, mercury-added light bulbs continue to be incinerated and landfilled.

### **Toxic Chemicals in Consumer Products**

TURA addresses large volume users of toxic chemicals, but most of our chemical exposures on a day-to-day basis are from the multitude of toxic chemicals in consumer products that are in our homes, schools, workplaces, and communities. Furniture, children's toys, cleaning products, personal care products, electronics, building materials, and food packaging are just a few examples of products that expose us to a daily toxic chemical soup.

Some of these hazards are well understood, for example flame retardants in household furniture and children's products. Flame retardants are not needed for fire safety and they pose a significant health risk for both firefighters (because the chemicals vaporize in a fire) and children (because the chemicals build up in house dust which children inhale and ingest when they crawl on the floor and put things in their mouths). Legislation filed in the 2017-2018 legislative session (S.1175 & H. 1245) will ban toxic flame retardants in children's products and household furniture.

Other hazards are unknown, because too often, we don't even know what chemicals are in consumer products. We may have the next DDT or asbestos or lead sitting in all of our homes but if we don't know about it, we aren't able to manage those hazards. On the flip side, disclosure empowers prevention; understanding what toxic chemicals are present in what products allows the state to prioritize uses of concern for further research and evaluation of safer alternatives. A bill pending before the legislature (H.439 & S.1191) would require manufacturers of children's products, personal care products, cleaning products, and others to disclose the presence of some of the most hazardous chemicals in their products.

### **Nanotechnology**

Another concern is nanotechnology – tiny molecules designed at a size of 1 – 100 nanometers (nm) in at least one dimension. Nanomaterials are technologically compelling because of their extremely small size and high reactivity, among other properties. But these same properties mean that they could pose a hazard to public health and the environment. The hazards of nanomaterials should not be overlooked; yet, government regulations have not yet caught up with the science. A focus on nanomaterials is needed to identify where they are being used in Massachusetts – we have among the highest concentration of nanotechnology companies, university research programs, and

innovation laboratories and organizations in the nation. We need to better understand what harms may result from nanotechnology so that as this industry grows, we can ensure that it grows safely.

## TOP RECOMMENDATIONS

**Pass new laws that require the phase out and replacement of known toxic chemicals** (such as flame retardants) with safer alternatives and require product disclosure to identify unknown hazards.

## RESOURCES

- Elizabeth Saunders, Clean Water Action/Alliance for a Healthy Tomorrow, (617) 338-8131, x. 203

# URBAN AGRICULTURE

## SUMMARY

Urban agriculture offers exceptional opportunities for creating jobs, improving neighborhoods, providing healthy food to local markets, and absorbing storm-water and heat. Entrepreneurs and community organizers are transforming empty or blighted properties into profitable farms, addressing social and environmental challenges in the process. While the Massachusetts Department of Agricultural Resources (MDAR) recognizes that urban food production plays a role in addressing health, social, economic and environmental issues, policy changes and increased state funding and technical assistance are needed to leverage additional investments, facilitate local efforts, and ensure success of this growing movement. Massachusetts can be a national leader and revitalize urban neighborhoods with urban agriculture.

Urban agriculture refers to a range of activities related to commercial growing of food (especially fruits, vegetables, poultry, and honey) in densely settled neighborhoods, and local processing, marketing and distribution of this food. Urban farms provide the following benefits:

### **Economic Opportunities**

- Create new job, training, and business opportunities.
- Market goods directly to nearby consumers, markets, and restaurants, enabling viable farm businesses, with potentially higher profits.
- Produce a higher quality product delivered fresher and faster, with shorter distribution links and smaller inventories.
- Keep consumers' money within their communities, fostering increased food security.
- Revitalize neighborhoods and improve quality of life.

### **Health and Community**

- Generate hands-on experiences for school children, families, and local groups, building self-esteem and leadership skills.
- Produce nutritious food to combat hunger, diabetes, heart disease, and obesity.
- Foster outdoor exercise, improving physical, mental, and emotional wellbeing.
- Provide education in nutrition and wellness, and sustainable food production.
- Contribute healthy foods to schools, hospitals, shelters, and food pantries.

### **Environmental**

- Transform and revitalize abandoned and blighted properties.
- Build green infrastructure that filters and absorbs storm water and improves surface water quality.

- Create wildlife and habitats for birds, pollinators and invertebrates (when sustainably managed).
- Decrease carbon emissions by reducing food transport over long distances.
- Create a local cooling effect in city neighborhoods.

## TOP RECOMMENDATIONS

**Bring MDAR's Urban Agriculture Program to scale** by increasing incentives, loans and grants in urban agriculture, along with technical support to help with business management, marketing and farming skills. Cities would benefit from resources to help make local policy and permitting more friendly to urban agriculture projects. Boston, Somerville, Cambridge, and Worcester are all working towards this.

**Update state programs** (e.g., Chapter 61) that provide tax benefits to larger farms so that smaller urban farms can qualify.

**Take steps to ensure the long-term sustainability of the Healthy Incentives Program (HIP).** Launched in 2017, HIP doubles SNAP recipients' purchases at farm stands, farmers markets, mobile markets, and CSAs, improving health outcomes for some of the Commonwealth's most vulnerable residents and increasing sales for local farms.

## RESOURCES

- Linda Orel, The Trust for Public Land, (617) 367-6200
- Winton Pitcoff, MA Food System Collaborative, (413) 628-3912
- Jenny Rushlow, Conservation Law Foundation, (617) 850-1763

# WATER RESOURCES

## SUMMARY

“The benefits to society of clean water can hardly be over-stated.”<sup>1</sup> We agree.

Massachusetts’ freshwater resources—rivers, streams, lakes, ponds, wetlands, and aquifers (groundwater) are essential for public health and safety, our water supply, recreation, agriculture, fish and wildlife; in short, for our very survival. While it is difficult to quantify the value of clean water to Massachusetts’ economy, studies show that failure to protect water quality results in very large economic losses. For example, the annual national cost of hospitalizations due to waterborne diseases exceeds \$500M annually, and the annual national economic impact of human-induced eutrophication on US freshwaters, a major problem in Massachusetts, is estimated at \$2.2 billion lost annually in recreational usage, waterfront property values, water treatment costs, and spending on the recovery of threatened and endangered species.<sup>1</sup>

Climate change is profoundly altering the water environment: hotter temperatures, less snow pack to replenish aquifers, flooding from more intense storms, and more frequent summer droughts all combine to increase water demand, pollution, and reduced water levels in groundwater and surface waters. The Commonwealth’s mandate and challenge is to manage these invaluable water resources wisely and sustainably, now and for the future.

A host of state agencies are responsible for protecting freshwater resources: DEP, which regulates large water withdrawals, storm water and wastewater, and assesses water quality; Department of Fish and Game and its Division of Ecological Restoration; Department of Conservation and Recreation’s Offices of Water Resources and Watershed Protection, and the Executive Office of Energy and Environmental Affairs, the steward of our natural resources, and its Water Resources Commission, which is responsible for developing and overseeing water policy and planning. Not surprisingly, water resource protection is fragmented and at times can result in agencies unintentionally working at cross-purposes. **Additionally, severe budget cuts over the past decade have particularly hampered DEP and DCR’s ability to protect water resources just as water challenges are mounting.** Perhaps most importantly, Massachusetts lacks clear and comprehensive water policies for managing water holistically and at the watershed level.

While Massachusetts gets plenty of rain, the built environment has short-circuited the natural water cycle. Rain that would have gone back in the ground to replenish our aquifers now hits pavement and other impervious surfaces and quickly discharges through storm drains carrying pollution with it. This storm water runoff is the major source of

pollution to the state's rivers and streams and the reason that 55% of these waters today fail to meet water quality standards.<sup>1</sup>

The good news is that “green infrastructure,” or nature-based solutions, such as rain gardens, bioswales, bioretention basins, and constructed wetlands, put water back in the ground, reduce pollution, and control flooding. Even wastewater, which can be cleaned to drinking water standards, is an asset which can recharge aquifers and produce energy. Using water wisely through conservation measures (particularly reducing nonessential outdoor water use on lawns) can dampen the effects of drought as well as save the energy used to pump, treat, and distribute water.

Our aging water infrastructure has now reached a crisis funding deficit of \$22 billion,<sup>1</sup> contributing to beach and shellfish bed closures, stream pollution, water main breaks, and hundreds of millions of gallons of clean water lost annually through leaking pipes. About one-fifth of our rivers and streams are severely flow-depleted and biologically-impaired, due in part to excessive water withdrawals, and increased pollution is causing more frequent cyanobacteria, or blue green algae, outbreaks. While our coasts and marine environment provide an abundance of resources, loss of habitat and impaired water quality have resulted in a dramatic decline in fishery populations. Massachusetts has lost about 70 percent of its seagrass and only 10 percent of shellfish and oyster reefs remain.

There are concrete actions Massachusetts can take to protect and restore our critical water resources.

Truly sustainable water management requires rethinking the way we value, pay for, use, transport, and manage water. To accomplish this we need to:

- Adopt, implement, and enforce science-based policies that protect the health and sustainability of our water resources,
- Ensure ratepayers pay the *full cost* of water and sewer services,
- Provide state agencies with the resources they need,
- Protect wetlands and floodplains, which buffer the impacts of extreme storm events,
- “Keep Water Local” through green infrastructure for storm water and distributed wastewater systems that infiltrate water back into the ground to replenish aquifers while removing pollutants, and by fixing leaky water pipes, and
- Make every drop count by using water wisely, and conserving water during dry times.

## TOP RECOMMENDATIONS

**Provide critical water funding for DEP research, assessment, permitting, implementation, compliance assistance, and enforcement.**

**Oppose legislation that would transfer the federal water pollution permitting program (National Pollutant Elimination System, or “NPDES”) to the state without adequate, dedicated funding and until DEP increases its science-based water capability.**

**Support legislation that would improve how the state responds to droughts.** A bill before the legislature would give the Secretary of Energy and Environmental Affairs the authority to impose restrictions on outdoor water use and update our drought management planning to lessen the impacts of droughts.

**Incentivize green infrastructure at the state and local levels** to restore natural hydrology, create resiliency, and improve storm water management.

## RESOURCES

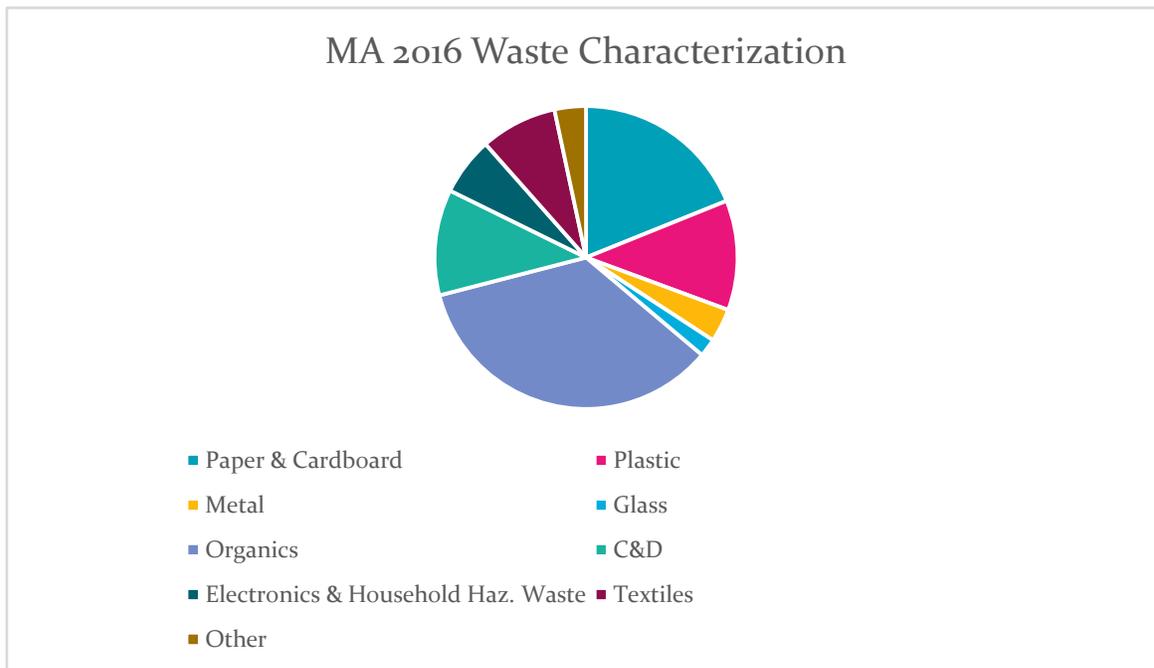
- Julia Blatt, Mass Rivers Alliance, (617) 714-4272
- Margaret Van Deusen, Charles River Watershed Association, (781) 788-0007

# SOLID WASTE

## SUMMARY

The Commonwealth of Massachusetts has a solid waste problem – a five and a half ton a year problem, to be exact. Our landfills and our incinerators are polluting our air and water, contributing to climate change and blighting communities that host them. Our solid waste system wastes energy and raw materials, is very costly to municipalities and consumers, and creates many fewer jobs than robust Zero Waste programs would.

In Massachusetts it costs more than \$60 a ton to burn or bury waste in incinerators or landfills. The pie chart below shows what went into our landfills and incinerators in 2016. Most of the materials, including paper & cardboard, plastic, metal, glass, organics, textiles, and construction and demolition materials can be recycled or composted.



Recycling and composting saves municipalities, businesses, and residents money. Recycling costs about \$30 a ton in Massachusetts – less than half the tipping fee at most landfills and incinerators. And while most municipal composting programs in the Commonwealth are still just pilots, grocery stores, hospitals, schools, and other big producers of food waste have cut disposal costs by increasing their food donations, and diverting their food waste to composting and anaerobic digester facilities.

Reuse, recycling, and composting programs also increase jobs. In general, for every 10,000 tons of materials incinerated, one job is created. For every 10,000 tons of materials

processed for recycling and composting, five to ten jobs are created. Research by the Institute for Local Self-Reliance indicates that on a per-ton basis, composting sustains twice the number of jobs as landfills and four times the number of jobs as incinerators.

### **Waste Bans**

In 1990, the Massachusetts Department of Environmental Protection (DEP) introduced its first bans on landfilling and combustion of easy-to-recycle and toxic materials. Additional "waste bans" have been phased in over time to include a wide array of items.

The easiest way to save Massachusetts municipalities, residents, businesses, and institutions money is to enforce these waste bans. If fully enforced, DEP estimates that we could divert 40% of the waste that is currently going to landfills and incinerators. In addition, rigorously enforcing the waste bans in Massachusetts could create 800 to 2,000 new jobs.

### **Need for Better Data**

Decreasing the Commonwealth's disposal first means understanding what is happening now. Due to cuts at DEP, there are no good numbers for how much the state is recycling. Each year about one third of municipalities don't report the tonnages that their programs handle. And business and multi-family waste and recycling is unreported for almost all of the state.

This lack of data makes it impossible to plan, implement or evaluate waste reduction, reuse, recycling or composting programs in the Commonwealth. We need additional staff at DEP to collect and analyze data that can lead to better policies, programs and results. With more resources and data, DEP would be able to conduct a robust and meaningful planning process, accurately evaluate our existing waste system and create a 2020-2030 Solid Waste Master Plan with strong, enforceable goals.

## **TOP RECOMMENDATIONS**

**Enforce waste bans** by supporting funding for DEP to hire qualified, waste ban inspectors whose time is dedicated to carrying out this work.

**Increase DEP funding and Bureau of Waste Management staff to collect and analyze solid waste data** so we can determine the best ways to meet our solid waste reduction goals.

## **RESOURCES**

- Kirstie Pecci, Conservation Law Foundation, (617) 350-0990

# TRANSPORTATION AND ITS ENVIRONMENTAL IMPACTS

## SUMMARY

The quality of the Commonwealth's transportation system is essential for a high quality of life, environmental sustainability, and economic prosperity. The state needs a reliable, affordable, efficient, and clean transportation system but today we have a chronically underfunded system, with congested roadways, crumbling bridges, and deficient transit infrastructure. Much of the current system was built during the Eisenhower Interstate Era and earlier. Our commute times are worse than California and more than twice as many of our roads are in poor condition as the national average. As anyone who has owned an old car knows well, older assets become more expensive to maintain as they age. Across the state's transportation system there are strong unmet needs for modernization that could improve economic growth, but will largely remain unmet without additional revenue sources.

The transportation system collectively produces 40% of the state's climate pollution. We cannot meet our mandated greenhouse gas reduction targets without addressing pollution from the transportation sector. We need to reduce emissions by 80% by 2050.

The public health effects of burning transportation fuels and the direct impact of cars on the most disadvantaged neighborhoods also call us to reduce transportation emissions. Transportation remains a source of toxic air pollutants and fine particulate matter that have been linked to respiratory illness and elevated rates of asthma.

We need state policies to upgrade and decarbonize our transportation fleet, moving to phase out gasoline only vehicles. The good news is that remarkable progress has been made in electric vehicles in recent years, including both performance improvements and cost reductions. New passenger battery electric vehicles on the market have ranges of over 200 miles on a single charge, far more than nearly all drivers need in their daily lives, and deployment of charging infrastructure on interstates has begun to scale up. Still, alternative fuel vehicles account for only a small portion of vehicle sales today; widespread market penetration will require additional innovation and policy support well beyond the good programs already on-going in the Commonwealth.

And since the regional power sector is getting cleaner every year, so are electric vehicles that run on power from the regional grid. Interestingly, some automakers are closing out their design of gasoline only vehicles all together and are switching over to electric and plug-in hybrids. State policy should be moving these vehicles into the fleet faster.

## TOP RECOMMENDATIONS

**Ramp up investments in electric and other clean vehicles** and set a clear policy that the state is moving to electrify the transportation sector by 2030 to achieve deep decarbonization, and ensure that we get maximal benefits from technology.

**Promote smart growth and reforms to zoning** to ensure that well-located housing and development patterns reduce vehicle miles traveled over the long term. Work with the legislature to build on successful efforts to date including the Community Preservation Act and the Governor's Housing Choice Initiative.

**Support funding for Complete Streets.**

**Support adequate funding for the Regional Transit Agencies.**

## RESOURCES

- Nancy Goodman, Environmental League of MA, (617) 742-2553
- Jordan Stutt, Acadia Center, (617) 742-0054
- Lizzi Weyant, Metropolitan Area Planning Council, (617) 451-2770
- Emily Norton, Massachusetts Sierra Club, (508) 397-6839