

# 7

S T R A T E G Y S E V E N

# Protect Natural Landscapes

## Summary

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Adopted in 2008, MetroFuture is Greater Boston's long term regional plan. The foundation of the plan is a well-defined vision for the region. Thirteen implementation strategies were included to support progress towards the vision. An extensive community engagement process ensured that MAPC constructed the vision and strategies from the hopes and dreams of the region. In anticipation of an update to the regional plan, MAPC is evaluating the extent to which regional actors, either intentionally or unintentionally, implemented these strategies. The authors gathered the information that follows through conversations with MAPC staff and content experts.

To fight sprawl and conserve our natural resources, MetroFuture included Strategy #7 [Protect Natural Landscapes](#), which recommended a strong focus on planning for and funding land preservation with particular emphasis on maintaining the region's agricultural heritage. It also sought to protect undeveloped areas: areas that provide habitats for wildlife, aquifer recharge, recreation opportunities, and cultural benefits. Conversion of these resources to low-density residential and commercial development threatens this vision for the region.

Support for protection from the federal government dwindled, but Massachusetts established itself as a leader in legislating and funding for land preservation. The state provided the Metro Boston region with a series of multi-million dollar funding packages, which supported the region in preserving more land than it developed.

MetroFuture advocated for regional land preservation planning, but this remains difficult due to the local nature of preservation funding and planning, which focuses largely intra-municipal projects rather than pursuing regional plans. Nonprofit organizations filled the gap in preserving land that crossed municipalities and added valuable data to help municipalities, the region, and the state plan for land conservation and climate resilience. Locally, municipalities took advantage of funding mechanisms such as the Community Preservation Act and ongoing PARC and LAND grants to create and protect green space. A handful of municipalities enacted zoning changes to allow for less sprawling suburban developments, with support from the state on technical assistance and funding. Climate resilience emerged as one of the most pressing issues affecting the region, increasing the role open and natural land will play in adapting to and mitigating the impacts of climate change. As population continues to increase in the Greater Boston region, increasing the cost of land and demand for more housing, stronger efforts must be made to protect natural landscapes. But the same forces that make protecting natural landscapes so important, make it difficult to protect. Doing so will require innovative solutions to ensure our region preserves and reclaims land for farming, recreation, ecosystems, and climate resilience.

## Sub-Strategy Review

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### Sub-Strategy A: Plan for land preservation on a state and regional basis

#### EXAMPLES OF PROGRESS

- Over 200 miles of the [Bay Circuit Trail](#) were completed in the region, along with other linear trails connecting municipalities.
- The [Western Greenway](#) in Waltham and Belmont used state surplus property to construct a 10-mile loop trail and preserve surrounding lands.
- 77 additional acres of natural land were preserved in the MAPC region between 2005 and 2013, bringing the region to 3,746 acres of protected natural land.
- Several North of Boston Open Space and Recreation Plans (OSRPs) are being updated, and efforts are underway to provide regional context and promote awareness of regional open space networks and opportunities.
- To promote climate resilience, [The Nature Conservancy](#) (TNC) developed the Northeast Resilience Analysis to inform priority planning and conservation actions in the Eastern U.S. TNC collaborated with the Massachusetts Department of Fish and Game to develop a geospatial analysis to prioritize and establish indicators for land conservation across the Commonwealth.
- The [MA Food Policy Council](#) contracted MAPC to lead the Massachusetts Food System Planning Process which included analysis of existing rural and urban farm land and sites for potential expansion of both. The analysis is available in the Massachusetts Local Food Action Plan.
- Similarly, MAPC, Land for Good, Sudbury Valley Trustees, Tufts New Entry Sustainable Farming, and the Massachusetts Farm Bureau, CLF and CLF Ventures and other partners created the [MAGIC Comprehensive Agricultural Planning Program](#) to protect existing agricultural lands.

#### BARRIERS TO PROGRESS:

- There is resistance from some cities and towns to protecting more land from development. Some municipalities already have 40% of their land conserved, which impacts local finances as that land does not generate tax revenue.
- During the 2008-2009 economic downturn and real estate crash, progress around land preservation slowed. It was difficult for municipalities to invest in land protection while people, including municipal employees, were losing jobs.
- There have been efforts to repeal the MA Endangered Species Act. One lawsuit was filed by a private landowner who wanted to subdivide land and was required to avoid, minimize, and mitigate impacts on endangered species. The Act was upheld by the MA Supreme Court in 2014.

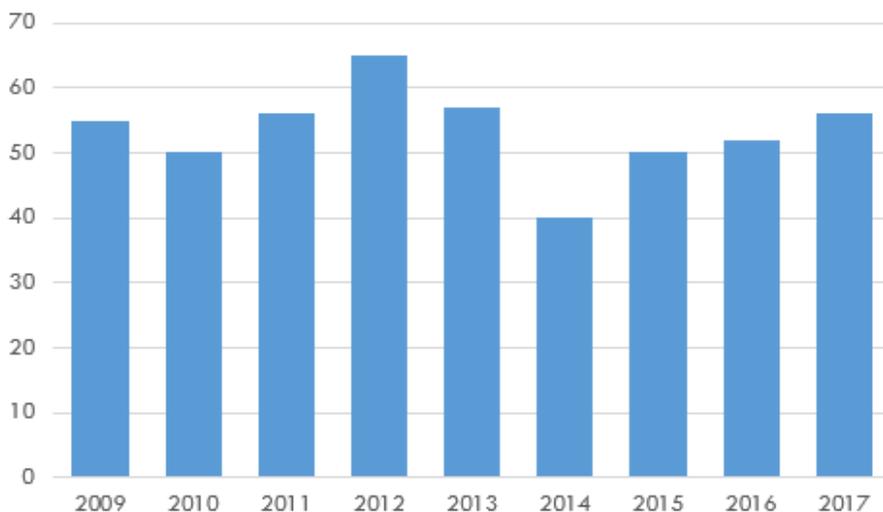
- There is a lack of integration between the carbon capture value of preserved land and land use deals, which could help bolster land preservation as its role in reducing greenhouse gas (GHGs) is recognized.

### Sub-Strategy B: Increase funding for priority land acquisition

#### EXAMPLES OF PROGRESS:

- The [Community Preservation Act](#) (CPA) continues to be an important tool for local land acquisition, allowing municipalities to create a Community Preservation Fund for open space protection, historic preservation, affordable housing, and outdoor recreation. Since 2008, 481 projects in the MAPC region received CPA funds for open space.

Figure 1: CPA Open Space Projects in MAPC Municipalities  
 Source: [www.communitypreservation.org/pprojects?qid=22&dbid=bca5gqwrk](http://www.communitypreservation.org/pprojects?qid=22&dbid=bca5gqwrk)



- The state’s [Smart Growth Planning Assistance Grant](#) provides funding for a range of activities, including zoning that results in permanent land conservation (e.g. Natural Resource Protection Zoning or Transfer of Development Rights). This state grant program is administered by EEA and distributed \$1,296,219 to 37 applicants in 2017.
- The state environmental bond bill, [“An Act Providing for the Preservation and Improvement of Land, Parks and Clean Energy in the Commonwealth,”](#) was reauthorized in 2014. This was the largest environmental bond in state history with \$2.2 billion in funding. Over \$350 million was earmarked for land conservation programs, including \$111 million for a new urban park program for underserved neighborhoods, matching grants for cities and towns, and opportunities for nonprofit partners to leverage local, federal and private investments to protect critical natural resources. This continues support to Local Acquisitions for Natural Diversity (LAND) and Parkland Acquisitions and Renovations for Communities (PARC) grant programs with funding, offering individual grants of up to \$400,000.

In the past three years, Fitchburg, Somerville, and Medford have received grants to build community gardens as a part of a larger park renovation. The state also offered Conservation Partnership grants of up to \$85,000 for nonprofits to conserve land.

- Massachusetts built a [Landscape Partnership Grant Program](#), offering up to \$2 million for land restriction, preservation, or park/playground construction. This enabled a 500-acre preservation project on the North Shore within Essex, Hamilton and Wenham.
- The [Agricultural Preservation Restriction](#) program has over \$10 million in funding and provides grants of \$25,000 - \$100,000. The program offers to pay farmers the difference between the “fair market value” and the “agricultural value” of their farmland, in exchange for a permanent deed restriction which prevents uses of the property that will have a negative impact on its agricultural viability.
- In 2011 Massachusetts established the [Commonwealth Conservation Tax Credit](#), funded for up to \$2 million per year. An estimated 11,000-12,000 acres of land have been protected through the program.

## BARRIERS TO PROGRESS:

- State funding diminished for the [Agricultural Preservation Restriction](#) program due to limited federal government funding. Some farmers want the freedom to do activities not allowed in the APR, making them not inclined to participate in the program.
- Matching funding for the Community Preservation Act has dropped from 100% at its inception to 11.5% on the state level.
- There has been a general decrease in state and federal funding; Governor Patrick promised \$50 million per year in funding for land conservation through state agencies, but was the only governor to date to commit that level of funding.

## RELEVANT INDICATORS:

- The Trust for Public Land completed a Return on Investment (ROI) analysis on parks and open space in MA to build support for the 2014 environmental bond bill: Massachusetts conserved an average of 9,350 acres per year, including parks, natural areas and working land from 1998 to 2011 (131,000 acres total)<sup>1</sup>. Every dollar invested in land conservation initiatives returned four dollars to the state.<sup>2</sup>

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1 THE RETURN ON INVESTMENT IN PARKS AND OPEN SPACE IN MASSACHUSETTS, The Trust for Public Land, 2013 (<https://www.tpl.org/sites/default/files/cloud.tpl.org/pubs/benefits-ma-roi-summary.pdf>)

2 THE RETURN ON INVESTMENT IN PARKS AND OPEN SPACE IN MASSACHUSETTS, The Trust for Public Land, 2013

## **Sub-Strategy C: Support private sector conservation initiatives**

### **EXAMPLES OF PROGRESS:**

- Land trusts and preservation groups like the [Trustees of Reservations](#) and other local and regional land trusts continue to conserve land alongside individual towns. The Trustees preserved over 500 acres of land in Greater Boston in 2017.
- Public-private partnerships are analyzing land conservation options. For example, the nonprofit Trustees of Reservations and [Boston Harbor Now](#) are partnering with the Barr Foundation and Boston Mayor Marty Walsh's administration to analyze, parcel by parcel, opportunities to create open space on Boston's waterfront.

### **BARRIERS TO PROGRESS:**

- Land conservation often requires a combination of public and private agencies alongside localities. Sometimes state agencies require a local match to participate in the program.
- There are not many large landowners in Metro Boston so it is difficult to do major private land acquisitions.
- There is a lack of funding for land conservation, especially as land prices rise in the region.
- Grant funding, including the state's competitive grants for open space and recreation planning, is mostly set up for local communities and does not encourage thinking beyond municipality borders.
- Municipalities are often unaware of neighboring communities' open space plans, which could present an opportunity for collaborative land conservation.

## **Sub-Strategy D: Create a new generation of farmers through training, technical assistance and access to capital**

### **EXAMPLES OF PROGRESS:**

- The Massachusetts Food Policy Council commissioned MAPC and partners to create the [Mass Local Food Action Plan](#), which advocates for farmer support through a strong network of research, educational, and technical assistance. It also included plans to attract public and private investment for food distribution innovation through a new economic development fund, coordinating operations of the proposed fund with MassDevelopment's efforts to increase distribution efficiencies and innovations.

- The Massachusetts Department of Agricultural Resources (MDAR) launched the [Urban Agriculture Program](#) in the fall of 2013, one of the nation's first state-wide programs to support and promote commercial urban farming enterprises. Funding through the program targets infrastructure needs, innovative food production, zoning ordinances, technical assistance, land acquisition, and youth leadership development.
- Multiple farming training programs have been developed throughout Greater Boston, including the New Entry sustainable farming program, the [Urban Farming Institute of Boston](#), the [Carrot Project](#), and [The Food Project](#). These programs partner with MDAR, which provides grants to support informal education and youth programming, programs for beginning farmers, and capital grants to help programs acquire land and train more new farmers.

## BARRIERS TO PROGRESS:

- Funding for training and technical assistance and access to capital is always a challenge. Staffing a farm takes a significant portion of its budget, especially on urban farms without the ability to use machines like tractors, which is difficult to find funding for. The Carrot Project is advocating on the state level for increased funding for this need.
- Site control and land acquisition continues to challenge urban farmers in greater Boston. Site control, local regulations and ordinances (or lack thereof), and bureaucracy make acquiring and utilizing land difficult.
- Land values are increasing, meaning buying land for farming is increasingly difficult. Particularly in the Metro Boston area, the cost of land makes it challenging to encourage entry into farming.

## RELEVANT INDICATORS:

- The number of acres of land in farms in Massachusetts increased from 2007 to 2012 (see Figure 2). However this does not necessarily correlate with increased land dedicated to harvesting edible products. Over the same time period, the number of acres of harvested cropland fell from 153,993 to 137,039 acres.

Figure 2: Agricultural Indicators

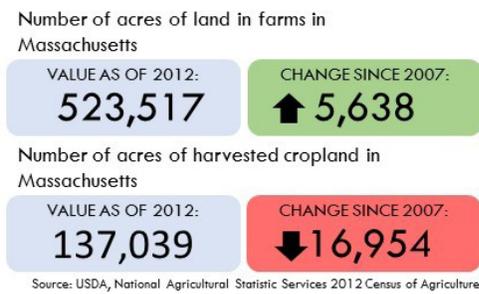
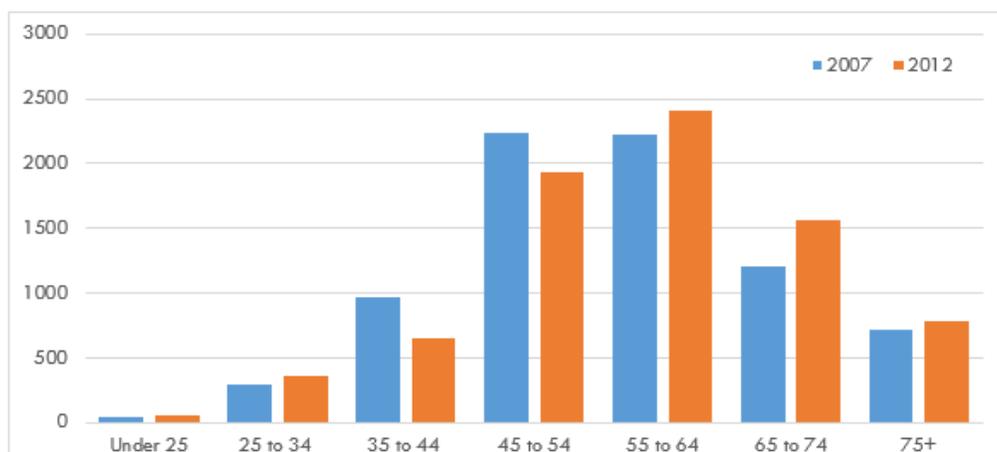


Figure 3: Race of Farmers in Massachusetts 2007-2012



- 97% of Massachusetts farmers are White. From 2007 to 2012 there was relatively no change in who farms despite the most modest of increase among farmers of other races.
- The average age of the farming community increased from 55.2 to 56.7 from 2007 to 2012. The biggest growth in farmers came from farmers 55 years old and older (see Figure 4). The number of farmers aged 35 to 44 fell 33% and the 45 to 54 population fell by 14%. And while ages under 25 to 34 rose by 22%, that only resulted in 78 new farmers.

Figure 4: Average age of the farming community (2007 - 2012)



### Sub-Strategy E:

## Build a stronger market for local agricultural products

### EXAMPLES OF PROGRESS:

- The [Boston Public Market](#) opened in 2015, which has sold \$5 million of local products since opening, including 300 different types of farm goods that traveled an average of 30.6 miles to the market.
- Massachusetts is a leader in markets for local agricultural products. The local seafood industry is building distribution and markets for MA seafood products.
- There are now over 100 farmers markets in the MAPC region<sup>3</sup>. Over the last ten years, farmers markets have increased 200% across the state.
- DAR grants have helped growers bring products to market and build relationships between with local consumers and restaurants. DAR grants have funded vans and mobile markets, smaller versions of Community Supported Agriculture (CSA) programs delivered by bike, investments in wash stations and packaging, and programs at nonprofits such as Commonwealth Kitchen to develop value-added product lines.

<sup>3</sup> Massachusetts Department of Agricultural Resources (MDAR), <https://massnrc.org/farmlocator/map.aspx>

## BARRIERS TO PROGRESS:

- More support is needed to build larger local demand for our seafood since much of the seafood harvested ends up in international markets.

## RELEVANT INDICATORS:

- Since 2002, the total sales of Metro Boston agricultural products rose \$37.3 million dollars. At the same time, total Metro Boston farmland fell by 8,710 acres. Another bright spot is that the total acreage of farms under 50 acres rose.

Figure 5: Metro Boston Agriculture Indicators 2002 vs 2012



- Metro Boston schools, state institutions, restaurants, and health care facilities represent potential large-scale buyers for the region's local food market. The more food these types of institutions buy from local producers, the better the local agricultural economy will be able to flourish. In 2013 the U.S. Department of Agriculture implemented its first Farm to School Census. This Census was intended to provide baseline data on public school engagement and spending in farm to school activities, in order to inform the development of goals around increasing the availability of local foods in public schools. The Census questionnaire was opt-in, and had a response rate of 73% in Massachusetts school districts. All data was self-reported, and the USDA did not delineate a specific definition of local foods, so the answers were subject to the interpretation of each responding school district. According to results of the survey, Massachusetts public schools invest approximately \$8.1 million, or 16% of their district food budgets on foods that they consider local.

## **Sub-strategy F: Remove regulatory and labor-related barriers to agricultural expansion/diversification**

### **EXAMPLES OF PROGRESS:**

- Food policy councils have been established at the state level and in three cities in the region (Boston, Cambridge, and Waltham) to expand agriculture and access to healthy food.
- Boston has passed an Urban Agriculture zoning code. Boston, Somerville, Cambridge, Arlington and other cities in the Metro Boston area have implemented or are in the process of implementing urban agriculture policies. In 2017, MAPC provided technical assistance to Cambridge in support of its urban agriculture policy development. Further, the Municipal Food Access Strategies toolkit provides guidance on zoning and other strategies for agriculture, food access, and food systems.
  - The City of Cambridge proposed ordinances that would allow for keeping hens and bees on residential properties. The beekeeping ordinance was finalized. The City of Everett has also proposed ordinances to allow chicken-keeping.
- The MAGIC Comprehensive Agricultural Planning Program hosted a subregional forum with the USDA that identified the top regional concerns for the municipal and agricultural sectors, of which regulatory barriers was number two. As a result, the program's final report included regulatory strategies for communities to promote agriculture.
- The [Community Land Trust](#) model has been utilized to obtain and protect land for future farming. Boston's Dudley Trust and The Food Project are models for Community Land Trusts supporting farming.
- Massachusetts is a national leader for state investment in urban agriculture – over \$2M has been invested over 4-5 years into urban agriculture, financial support, technical assistance, and convening farmers.

### **BARRIERS TO PROGRESS:**

- Zoning restrictions on agriculture in more urbanized municipalities make it challenging. Some cities and towns in the region have allowed farming on a case-by-case basis.
- Article 89 to legalize urban agriculture in Boston passed, but is still bureaucratic. Applicants are required to go through multiple stops including navigating various city agencies, i.e. water and sewer, inspectional services, and the Department of Neighborhood Development (DND).
- Prohibitive MA agricultural regulations make it difficult for farmers to expand food processing facilities, driving up prices for animal husbandry and food distribution. Local regulations and lack of continuity from town-to-town make distribution and processing costly and prohibitive. This especially affects small-scale farmers.

- Rising land prices and gentrification are threatening urban farming.
- There is a lack of green space created for productive growing space, especially in new development.

### **Sub-strategy G: Adopt sustainable land use controls in natural landscape areas**

#### **EXAMPLES OF PROGRESS:**

- Natural resource protection zoning (NRPZ) has been utilized in a number of communities and funding to advance this zoning is provided by the state's Smart Growth Planning Assistance Grant. The state developed an accompanying Smart Growth toolkit to help municipalities implement NRPZ bylaws. See examples in sub-strategy H for municipalities using OSRD, a subset of NRPZ.

#### **BARRIERS TO PROGRESS:**

- Attempts to pass Approval Not Required (ANR) reform over the past ten years has failed due to political opposition.
- "Down-zoning" to allow more open space is typically resisted by property owners who are concerned about negative effects on property values.

### **Sub-strategy H: Increase the use and impact of Open Space Residential Design**

#### **EXAMPLES OF PROGRESS:**

- Open Space Residential Design (OSRD) bylaws to protect open space have passed in a handful of communities. Other communities have implemented it in the form of "cluster development".
- Legislative efforts around zoning reform have been advocated by MAPC, the environmental community, and the real estate development associations to make open space residential zoning more standard and widely used.

#### **BARRIERS TO PROGRESS:**

- Many developers are not familiar with the concept.
- Often, local regulations for OSRD are overly burdensome and impractical, making the standard, cookie-cutter subdivision process a more attractive option for developers.
- Regulations sometimes specify land requirements for septic systems that are excessive; package treatment plants and shared septic systems are expensive and/or not allowed in certain municipalities, which then prohibit OSRD as an option.

- Package treatment plants for septic systems are further complicated by a complex approval process through the Department of Environmental Protection (DEP), which is prescriptive about wastewater technologies.
- Septic systems within OSRD developments can be expensive to maintain. This responsibility often falls on Homeowner Associations (HOAs), which find it hard to finance these costs.

## **Emergent Themes**

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- MetroFuture did not connect land conservation to carbon absorption. Experts suggest that sustainability and climate change strategies should be connected to land conservation and greenhouse gas absorption.