

# A natural solution to carbon pollution



©Lauren Owens Lambert

Only by harnessing the power of natural and working lands to remove carbon from the air, can we avoid catastrophic climate change.<sup>1</sup> From the Berkshires to Cape Cod, the Commonwealth's lands and waters provide clean drinking water, local food and wood, recreational opportunities, fish and wildlife habitat, improved respiratory and mental health, and the natural beauty and quality of life that draws people to live here.<sup>2</sup> **It's time to recognize their critical role in fighting climate change, as well.**

Massachusetts is a national leader on clean energy and energy efficiency, and has already significantly reduced greenhouse gas emissions.<sup>3</sup> But as we continue to feel the impacts of climate change, we also need to better protect, manage, and restore our natural and working lands – forests, farms, and wetlands – to remove carbon pollution already in the air.

Massachusetts policymakers provided strong support for using nature to prevent and prepare for climate change in the 2018 Climate and Environment Bond and in the Municipal Vulnerability Preparedness Program. In August 2018, Massachusetts joined the other U.S. Climate Alliance states in pledging to measure, protect, and take actions to increase the size of the natural and working lands carbon sink.<sup>4</sup>

New legislation, ***An Act to Sustain Natural and Working Lands Carbon in Communities***, would establish Massachusetts as a national leader in using nature to remove carbon pollution, and make good on the promises made in the Environmental Bond and to the partners in the U.S. Climate Alliance.

## LEGISLATION AT A GLANCE

### *An Act to Sustain Natural and Working Lands Carbon in Communities*

**HD 1963:** Reps Peake and Jones

**SD 1409:** Sens Tarr and Pacheco

- Enable the Executive Office of Energy and Environmental Affairs to accurately measure carbon stored by, and released from, natural and working lands
- Set a goal for increasing the size of our natural carbon sink, and develop a plan to reach it with public and private lands
- Establish the Communities for a Sustainable Climate Program for municipalities (like the Green Communities Program), which provides technical assistance and funding to communities that opt in and adopt carbon-friendly local policies and practices

The Nature Conservancy

Mass Audubon · The Trust for Public Land

The Trustees

Environmental League of Massachusetts

For more information, contact:  
Steve Long, TNC: [slong@tnc.org](mailto:slong@tnc.org)  
(617) 532-8367

## FACTS ABOUT NATURAL CARBON

Massachusetts has some of New England's richest natural carbon resources in our forests, wetlands, and soils. We should be taking advantage of these in our efforts to slow climate change.

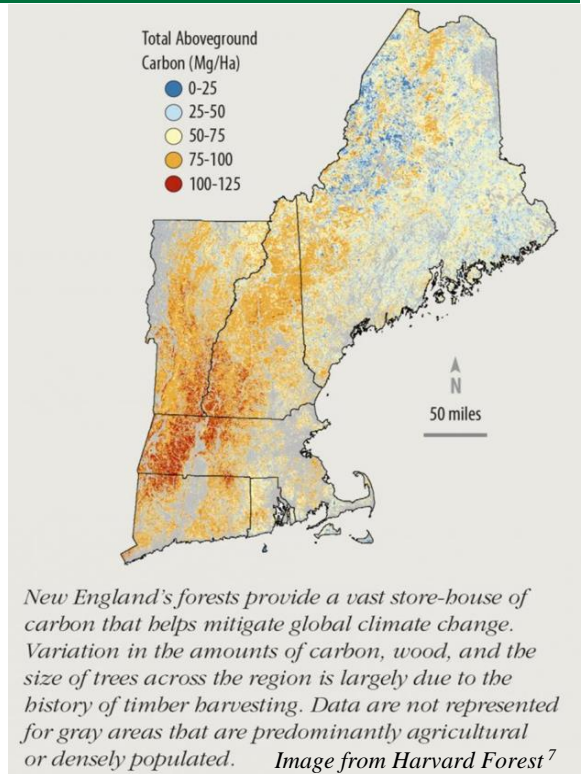
- Massachusetts' forests sequester carbon equal to more than 15% (11.9 million metric tons CO<sub>2</sub>e) of the state's gross greenhouse gas emissions each year,<sup>2</sup> with the potential to do much more.
- Coastal wetlands can store decades-worth of carbon in their soil deep underground but will release that same carbon if degraded or converted.<sup>5</sup>

38,000 acres of Massachusetts forest and farmland were developed between 2005 and 2013<sup>6</sup> – acres that can no longer remove and store carbon. Massachusetts has been losing forestland faster than any other New England state.<sup>7</sup>

## BEYOND CARBON BENEFITS

Investing in better protection, management, and restoration of our natural and working lands is a smart choice for reasons far beyond removing carbon pollution from the air:

- **Water:** Each forested acre that drains to a public water supply source filters 543,000 gallons of drinking water per year.<sup>8</sup>
- **Food:** Massachusetts' annual total market value for agricultural products is \$492 million,<sup>9</sup> and increasing soil carbon can lead to higher yields.
- **Wetlands:** The creation of the Charles River Natural Valley Storage Area (8,500 acres of preserved wetlands) has prevented approximately \$11.9 million in flood damages through 2016.<sup>10</sup>
- **Health:** Urban trees improve public health by purifying the air (removing particulate matter) and mitigating extreme air temperatures.<sup>11</sup>
- **Recreation:** Over \$16 billion is spent on outdoor recreation in Massachusetts, supporting 120,000 direct jobs.<sup>12</sup>
- **Return on investment:** For every \$1 of state public funds invested in land conservation, \$4 in natural resource goods and services is returned to the Massachusetts economy. These services benefit municipalities and include water quality protection, flood control, air pollution removal, carbon sequestration and storm water management.<sup>2</sup>



## References

- 1 Intergovernmental Panel on Climate Change. 2018. Global Warming of 1.5°C: Summary for Policymakers., page 16: [https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/SR15\\_SPM\\_High\\_Res.pdf](https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/SR15_SPM_High_Res.pdf)
- 2 The Trust for Public Land. 2013. The Return on Investment in Parks and Open Space in Massachusetts. <https://www.tpl.org/return-investment-parks-and-open-space-massachusetts>
- 3 Commonwealth of Massachusetts. 2018. Global Warming Solutions Act 10-year progress report (GWSA). <https://www.mass.gov/files/documents/2019/01/02/GWSA-10-Year-Progress-Report.pdf>
- 4 The U.S. Climate Alliance Commits to Maintain Land as a Net Carbon Sink and Develop Pathways to Act by 2020. <https://www.usclimatealliance.org/publications/2018/8/23/the-us-climate-alliance-commits-to-maintain-lands-as-a-net-carbon-sink-and-develop-pathways-to-act-by-2020>
- 5 Massachusetts Department of Ecological Restoration. 2016. Blue Carbon Calculator: A simple methodology for determining the greenhouse gas budget of aquatic ecosystem restoration projects. <https://www.mass.gov/blue-carbon-calculator>
- 6 Mass Audubon. 2014. Losing Ground: Planning for Resilience (Fifth Edition). <https://www.massaudubon.org/our-conservation-work/advocacy/shaping-the-future-of-your-community/publications-community-resources/losing-ground-report/losing-ground-fifth-edition>
- 7 Harvard Forest. 2017. Wildlands and Woodlands, Farmlands and Communities: Broadening the Vision for New England. <http://www.wildlandsandwoodlands.org/sites/default/files/Wildlands%20and%20Woodlands%202017%20Report.pdf>
- Data from: Kellndorfer, J., Walker, W., LaPoint, E., Bishop, J., Cormier, T., Fiske, G., Hoppus, M., Kirsch, K., and Westfall, J. 2012. NACP Aboveground Biomass and Carbon Baseline Data (NBCD 2000), U.S.A., 2000. Data set. Available on-line at <http://daac.ornl.gov> from ORNL DAAC, Oak Ridge, Tennessee, U.S.A.
- 8 Executive Office of Energy and Environmental Affairs. 2014. Looking to the Future – Massachusetts Land and Parks Conservation and Their Future. <http://www.mass.gov/eea/docs/eea/land/land-report-2014.pdf>
- 9 Massachusetts Department of Agricultural Resources. 2015. A Snapshot of Massachusetts Agriculture. <https://www.mass.gov/files/documents/2016/08/rf/snapshot-of-ma-ag-presentation.pdf>
- 10 U.S. Army Corps of Engineers. 2017. <https://www.nae.usace.army.mil/Media/News-Releases/Article/1132392/corps-public-to-discuss-charles-river-natural-valley-storage-area-master-plan-p/>
- 11 The Nature Conservancy. 2016. Planting Healthy Air. [https://thought-leadership-production.s3.amazonaws.com/2016/11/07/14/13/22/685dccb-a-c70-43a8-a6a7-e3133c07f095/20160825\\_PHA\\_Report\\_Final.pdf](https://thought-leadership-production.s3.amazonaws.com/2016/11/07/14/13/22/685dccb-a-c70-43a8-a6a7-e3133c07f095/20160825_PHA_Report_Final.pdf)
- 12 Outdoor Industry Association. 2017. Massachusetts. <https://outdoorindustry.org/state/massachusetts/>