



September 27, 2021

Subject: Natural Climate Solutions

Dear Member of Congress:

As New England-based organizations working to combat the climate crisis, Conservation Law Foundation and Mass Audubon are proud of our region's leadership role in fighting climate change. Our states have passed into law obligations for reaching net zero carbon emissions in the coming decades.¹ Now, states in our region are implementing climate action plans to meet these obligations. This work can serve as a model for other states and the federal government to take action to slash emissions and protect communities.

On the federal level, we need decisive action across the Executive branch and in Congress to meet this existential challenge and reposition the United States as a climate leader on the world stage. We applaud the 2030 emissions target orchestrated by the National Climate Task Force² and the Biden Administration's commitment to the 30x30 vision³ as important first steps.

The New England delegation has led the way in the Congress, and we call on you to continue to lead by ensuring appropriate investment in natural climate solutions that will mitigate climate change and prepare our communities to adapt to the impacts of climate change. Congress should act to support natural climate solutions, including specific investments in the areas of agriculture, forest and land conservation, oceans, green spaces and vegetation, and wetlands and coastlines.

Natural climate solutions play a key role in combatting climate change

To meet our climate obligations, we must dramatically cut fossil fuel consumption while also promoting natural climate solutions. Natural climate solutions are a key part of the response to climate change. These land-based strategies, including conservation, restoration, and improved land management, can increase carbon storage across a range of landscapes and decrease

¹ Five New England states have passed landmark climate change legislation: Global Warming Solutions, Connecticut (2008), Global Warming Solutions Act, Massachusetts (2008) updated by An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy (2021), An Act to Promote Clean Energy Jobs and to Establish the Maine Climate Council, Maine (2019), Global Warming Solutions Act, Vermont (2020), and Act on Climate, Rhode Island (2021).

² Press Release, The White House, President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies (April 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/>.

³ Executive Order on Tackling the Climate Crisis at Home and Abroad (January 27, 2021), <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>.

greenhouse gas emissions of the activities on those lands.⁴ Globally, scientists have estimated that natural climate solutions could account for up to a third of the cost-effective greenhouse gas mitigation we need through 2030.⁵

Natural climate solutions complement the aggressive emissions reductions that we need from our energy, buildings, and transportation systems to achieve net zero carbon emissions under our state level climate goals. However, carbon storage and decreased emissions are only two of several benefits of natural climate solutions. Other societal benefits include improved air and water quality, recreation, local economic development and jobs, enhanced biodiversity, flood mitigation, reduced heat islands, and improved human health,⁶ making investments in these solutions among the most cost-effective investments available.⁷

Importantly, these interventions build the resilience of our landscapes and communities to better withstand and adapt to the impacts of climate change.⁸ A recent paper released by the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) emphasized that nature-based solutions like ecosystem restoration must focus on a suite of benefits including local jobs.⁹ These interventions can be “cost-effective protection of ecosystems” that help defend us all from the increasingly extreme impacts of climate change.¹⁰

Natural climate solutions in New England

Here in New England, we have the opportunity to invest in improved agricultural land and forest management, natural infrastructure, and other solutions that help fight climate change while driving resilience and a host of other benefits to society. In addition to land-based solutions to climate change, our oceans play a critical role in fighting climate change as one of the planet’s largest carbon sinks¹¹ and as an enormous source for clean energy generation through the harnessing of offshore wind.

⁴ Natural climate solutions are defined as “conservation, restoration, and/or improved land management actions that increase carbon storage and/or avoid greenhouse gas emissions across global forests, wetlands, grasslands, and agricultural lands.” Griscom et al., *Natural Climate Solutions*, Proceedings of the National Academy of Sciences 114 (44) 11645-11650 (October 2017), <https://www.pnas.org/content/114/44/11645>.

⁵ Griscom et al., *Natural Climate Solutions*, Proceedings of the National Academy of Sciences 114 (44) 11645-11650 (October 2017), <https://www.pnas.org/content/114/44/11645>.

⁶ Cohen-Shacham, E. et al. *Nature-Based Solutions to Address Global Societal Challenges*, International Union for Conservation of Nature (2016), <https://portals.iucn.org/library/node/46191>.

⁷ For example, a University of Vermont study found that wetlands and floodplains around Otter Creek reduced potential damage to the Town of Middlebury from Hurricane Irene by about 90% and saved the town \$1.8 million. Watson, K., et al., *Quantifying flood mitigation services: The economic value of Otter Creek wetlands and floodplains to Middlebury, VT*. Ecological Economics 130, 16-24 (October 2016), <https://doi.org/10.1016/j.ecolecon.2016.05.015>

⁸ Seddon, N., et al., *Understanding the value and limits of nature-based solutions to climate change and other global challenges*, Phil. Trans. R. Soc. B (2020), <https://doi.org/10.1098/rstb.2019.0120>.

⁹ Pörtner, H.O., et al., *IPBES-IPCC co-sponsored workshop report on biodiversity and climate change*, IPBES and IPCC (June 2021), 10.5281/zenodo.4782538.

¹⁰ Seddon, N., et al. *Grounding nature-based climate solutions in sound biodiversity science*, Nature Climate Change 9, 82–87 (February 2019).

¹¹ See for example Gruber, N. et al., *The oceanic sink for anthropogenic CO₂ from 1994 to 2007*, Science 363 (6432) 1193-119 (March 2019), 10.1126/science.aau5153

Given the urgency of this problem, we need to invest public and private dollars now to test interventions and begin to rapidly scale the best solutions on public and privately-owned landscapes in our region. In these dynamic natural systems, measuring impact is complex. Developing robust baseline data and measuring the impact of interventions is critical and should happen while piloting and innovating new models and methods for improving ecosystem resilience.

Investments in natural climate solutions must address the legacy of systemic racism that has targeted communities of color in New England and around the country. By centering racial and economic equity, these investments must help to address generations of disinvestment and inequities in land use policies. As recommended by the White House Environmental Justice Advisory Council, at least 40 percent of investments should be spent to benefit communities of color, Indigenous, immigrant, and households with low income and limited English proficiency.

At the same time, in designing natural climate solutions on the federal level, we must account for the distinctive features of the New England landscape. Our beautiful landscapes are unique in many ways, including the patchwork nature of small, diversified farms and largely privately-owned forest parcels that often do not fit neatly into federally funded programs. In federal agriculture policy, for example, government programs generally are designed to benefit industrial-scale agriculture, leaving smaller-scale New England farms without adequate or equitable support. To take a recent example, the small and mid-sized organic dairy operations in our region struggle to compete with massive Western dairy operations that in some instances appear to use loopholes in the National Organic Program standards' Origin of Livestock and Access to Pasture rules to sell their milk as organic, driving further consolidation in an already tenuous industry.¹² This existential threat to organic family dairy farms was underscored in August 2021 when Danone's Horizon Organics brand terminated its contracts with 79 Northeastern dairy farms. This is a blow to our region's struggling family farms and a failure of federal policy.¹³ Any sustainable federal support for natural climate strategies must meet the needs of our unique region.¹⁴

Agricultural lands. On-farm adoption of climate-smart, regenerative practices that build soil health, the majority of which are already recognized and promoted by the USDA through existing conservation programs, can improve farm resilience to climate change. Practices proven to improve soil health include reduced or no tillage, diverse crop rotations, cover cropping, perennial crop production systems, and biologically based nutrient management. Climate-smart

¹² See, for example, Whoriskey, P., *Why your 'organic' milk may not be organic*, Washington Post (May 1, 2017), https://www.washingtonpost.com/business/economy/why-your-organic-milk-may-not-be-organic/2017/05/01/708ce5bc-ed76-11e6-9662-6eedf1627882_story.html.

¹³ Cotton, E., *Danone, owner of Horizon Organics, to terminate contracts with Vermont farmers*, VT Digger (August 23, 2021), https://vtdigger.org/2021/08/23/danone-owner-of-horizon-organic-terminates-contracts-with-vermont-farmers/?utm_source=VTDigger+Subscribers+and+Donors&utm_campaign=e223f0cae4-EMAIL_CAMPAIGN_2021_08_24_02_31&utm_medium=email&utm_term=0_dc3c5486db-e223f0cae4-405593497.

¹⁴ Another example can be found under North American Wetlands Conservation Act grants, where the minimum size requirements of parcels for restoration make it difficult to fund projects in urban environmental justice populations that do not have vast acreage for wetland restoration. In order for such areas to qualify, environmental justice organizations are forced to seek waivers to qualify for NAWCA funds. See <https://www.fws.gov/migratorybirds/pdf/grants/nawca.progrpt.18-19.pdf>

practices can help sequester carbon in soils, which can reduce the amount farmers and our food system need to adapt to climate change by reducing agriculture's GHG emissions.

Rebuilding soil health improves crop and landscape resiliency in the face of increasing and more extreme weather events. Regenerative and climate-smart practices can increase soil organic matter and can help facilitate the formation of deep and complex root systems, which can increase soil's water-holding capacity and drainage abilities.¹⁵ Increasing soil organic matter also results in an increase in the biodiversity of the soil, which improves resilience to pests and increases productivity.¹⁶

On-farm practices that improve farm resiliency reduce agriculture's overall contributions to climate change. In fact, soil management is agriculture's largest source of GHG emissions – an estimated 10 percent of U.S. total GHG emissions – and use of organic fertilizers in agricultural soils produces most of the United States' nitrous oxide emissions.¹⁷ Adopting climate-smart farming practices that better steward the soil will help to mitigate and adapt to climate change over time.

Congress should support agriculture as a natural climate solution as follows:

- *Create incentives that support the transition to regenerative farming systems.* Farmers should be compensated for incorporating climate-smart practices. Most farmers, especially small- and mid-sized producers in New England, are simply unable to make changes towards farming that is less extractive without financial assistance. Carbon sequestration is a piece of the puzzle, but to protect the environment and the longevity and productivity of our working lands we should incentivize and compensate systems that not only sequester carbon but also result in cleaner water, safer air, and enhanced biodiversity.
- *Increase funding for farm conservation programs.* Congress should increase funding for and increase payment rates of Conservation Stewardship Program (CSP), Environmental Quality Incentives Program (EQIP), and other Farm Bill conservation programs. The scientific evidence is clear that these programs and the on-farm practices they promote reduce agriculture's GHG emissions and other environmental harms and improve the resilience of our food systems. There is also increasing evidence that these practices help working lands sequester carbon.
- *Invest in technical assistance for climate-smart farming practices.* We must increase technical assistance for farmers to implement climate-resilience practices, including by increasing Natural Resource Conservation Service (NRCS) and Cooperative Extension funding and staffing.
- *Increase funding for research, including Climate Hubs.* We must increase funding for programs that research sustainable farming in the context of the changing climate. As part

¹⁵ Williams, A. et al., *Soil Water Holding Capacity Mitigates Downside Risk and Volatility in US Rainfed Maize: Time to Invest in Soil Organic Matter?*, PLoS ONE 11(8) (2016), <https://doi.org/10.1371/journal.pone.0160974.m>.

¹⁶ Penn State Extension, *Managing Soil Health: Concepts and Practices* (July 31, 2017), <https://extension.psu.edu/managing-soil-health-concepts-and-practices>.

¹⁷ EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2019*, (2021), <https://www.epa.gov/sites/production/files/2021-04/documents/us-ghg-inventory-2021-main-text.pdf>.

of this effort, USDA should build out and fully fund the Climate Hub model, which is valuable given the variable ways climate change will impact regions, as well as the relationships these Hubs can build with local producers and systems.

Forests and Open Space Management. Here in New England, where 80 percent of our landscape is forested, we know that creating the right incentives and support for landowners and managers to manage the land for its carbon impacts is key.¹⁸ Recent studies demonstrate that old, wild forests and wetlands are the most resilient to changes in climate,¹⁹ preserve the greatest levels of biodiversity,²⁰ store more carbon,²¹ mitigate against flooding and drought,²² and remove higher levels of phosphorus and other pollutants than young or middle-aged forests.²³ Such forests were the natural landcover of a majority of the region prior to European settlement,²⁴ and species such as pine marten, wood thrush, red-eyed vireo, ovenbird, cerulean warbler, and a variety of salamanders benefit from large blocks of intact, unmanipulated forest for their survival.²⁵ In balance with active management for complex young forests, which are important for some bird and wildlife species, increasing the percentage of old forests in New England (currently estimated at 1% or less of the region's forestland) is an essential component of improving our region's resilience to climate change.²⁶

Several widely accepted reports serve as goalposts for forest restoration and preservation across the region. *Wildlands and Woodlands*, originally published by Harvard Forest in 2005 and most recently updated in 2017, sets a target of 70 percent of New England's forests to be conserved, and 10 percent of New England's forestland to be preserved as wildlands. Going beyond either of these reports, the 30x30 Global Deal for Nature,²⁷ recently endorsed by the Biden Administration, calls for 30 percent of lands and waters to be conserved to maintain and restore biodiversity and store carbon.

Incentivizing management of forests for their ecological value and protecting more forested land will drive climate mitigation and adaptation benefits through carbon sequestration and storage, cleaner air and water, and enhanced habitat for species.

Congress should support restoration and preservation of forests, open lands, and habitats as natural climate solutions as follows:

¹⁸ Foster, D., et al., *Wildlands and Woodlands Farmlands and Communities: Broadening the Vision for New England*, Harvard Forest (2017).

¹⁹ Thom et al., *Climate sensitivity of ecosystem services and biodiversity in relation to forest age*, (2019).

²⁰ Watson et al., *The exceptional value of intact forest ecosystems* (2018).

²¹ Keeton et al, *Late-Successional Biomass Development in Northern Hardwood-Conifer Forests of the Northeastern United States* (2011).

²² Underwood and Brynn, *Enhancing Flood Resiliency of Vermont State Lands* (2015).

²³ Warren et al, *Forest Stream Interactions in Eastern Old-Growth Forests*, Ecology and Recovery of Eastern Old Growth Forests (2018).

²⁴ Lorimer and White, *Scale and frequency of natural disturbances in the northeastern US: implications for early successional forest habitats and regional age distributions* (2003).

²⁵ Askins, R. A, *Saving the World's Deciduous Forests: Ecological Perspectives From East Asia, North America, and Europe*, Yale University Press (2014).

²⁶ Di Sacco et al, *Ten golden rules for reforestation to optimize carbon sequestration, biodiversity recovery and livelihood benefits* (2020).

²⁷ Dinerstein et al., *A Global Deal for Nature: Guiding principles, milestones, and targets* (2019).

- *Increase federal funding for land protection.* Congress must build on the commitment it made to robust funding for the Land and Water Conservation Fund (LWCF) and the Forest Legacy Program in the Great American Outdoors Act of 2020, including identifying new revenue streams for the program. LWCF funding protects some of our most important landscapes, helping to build the long-term resilience of our region.
- *Invest in research and technical assistance for climate-smart forestry and land use practices.* We must increase technical assistance through the USFS Forest Stewardship program, which funds state forestry programs to work with private landowners, and support climate-smart forestry research, including increasing funding for the USGS Climate Adaptation Science Centers, which undertake and fund research on climate adaptation, and the USFS FIA, which generates data that forms the basis for almost all national and regional forest carbon inventories.
- *Emphasize production of ecosystem services and habitat protection/restoration on federal public lands.* In keeping with Executive Order 1440’s commitment to conserving 30 percent of lands and waters by 2030, federal public lands including New England’s National Forests and National Wildlife Refuges should be managed to maximize natural carbon storage, reduce the impacts of extreme weather like extreme heat, floods and droughts, and provide essential habitat for fish and wildlife. Congress should revise the National Forest Management Act to emphasize production of natural goods and services instead of raw materials and should designate new protected areas on federal lands in New England in consultation with tribes and local communities.
- *Support habitat connectivity efforts across New England and the nation.* As the climate warms and our regional population grows, we must step up efforts to create connections for wildlife populations across the landscape to increase their resilience to change. The Wildlife Corridors Conservation Act would create a national system of wildlife corridors, allocate funds for connectivity-focused conservation efforts (including on state, private, and tribal lands), and facilitate the construction of wildlife crossing structures. Increase funding for the Regional Conservation Partnerships Program. Congress should also increase funding for replacement of undersized culverts and removal of obsolete dams. These actions reduce the threat of flooding from increasingly intense storms, while also restoring connectivity across landscapes that are heavily fragmented by roads and other constructed barriers.

Ocean. The ocean is a central force in our climate, absorbing and distributing heat around the planet, absorbing carbon, driving global weather patterns, and producing the majority of the oxygen we breath. But climate change is having profound impacts on the ocean and the abundance and diversity of life it has long supported. In 2019, the IPCC released its *Special Report on the Ocean and Cryosphere in a Changing Climate* documenting that the world’s oceans have absorbed 90 percent of the excess heat and nearly one-third of the carbon dioxide from greenhouse gas emissions.²⁸ Consequently, the world’s oceans are getting warmer, more acidic, starved of oxygen, and less habitable for fish and marine wildlife. Also in 2019, a global scientific assessment by the United Nations IPBES found that three-fourths of the planet’s lands

²⁸ Intergovernmental Panel on Climate Change. 2019. “Summary for Policymakers.” *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate*. H.-O. Pörtner, D.C. et al. (eds.). In press. International Panel on Climate Change.

and two-thirds of its marine environments have been “significantly altered” by human activity.²⁹ An estimated one million species are threatened with extinction, including approximately one-third of sharks and shark relatives, one-third of reef forming corals, and over one-third of marine mammals, including New England’s North Atlantic right whale. Fishing was found to have had the largest impact on marine biodiversity. Here in New England, the Gulf of Maine is warming faster than 99 percent of the world’s ocean waters – altering the distribution of wildlife and threatening ecosystem productivity.³⁰

In response to the profound effects the climate crisis is having on our ocean, and to build the ocean’s resilience to climate change, the science-driven Global Deal for Nature calls for protecting 30 percent of the ocean in highly or fully protected areas by 2030. It is with this backdrop and a sense of urgency that we urge the New England Congressional delegation to advance the goals of the Global Deal for Nature and work with the administration to advance a strong vision for 30x30 for the ocean in the United States and in New England.

Congress should invest in ocean management as a natural climate solution as follows:

- *Emphasize production of ecosystem services and habitat protection and restoration in the oceans.* In further keeping with EO 1440’s commitments, Congress should work with the administration to advance a comprehensive and strong vision for 30x30 for the ocean in the United States and in New England, including the designation of new highly or fully protected marine areas in our region.
- *Support restoration of protections to the Northeast Canyons and Seamounts Marine National Monument.* Last year, the Trump administration rolled back the monument’s protections, proclaiming it open to commercial fishing. The president’s illegal action immediately imperiled the fragile habitat and wildlife that call the monument home. September 15th marked the fifth anniversary of the designation of monument – please urge President Biden to act swiftly to restore this national treasure.
- *Fund the Regional Wildlife Science Entity.* Provide funding to a new existing center that will support planning and coordination, share information, and standardize data and monitoring protocols for the interactions between ocean wildlife and ecosystems and offshore wind energy development. We suggest that this funding flow through NOAA.

Green spaces and vegetation. Green infrastructure leverages the natural systems capacity of resources like vegetation, soils, and natural processes to manage water and heat and create a healthier environment. Interventions can range in scale from site-specific design approaches like raingardens, tree canopy, and green roofs to regional approaches like conservation of large tracts of open land and protection of existing parks and green spaces.³¹ In urban environments, expanding and preserving tree canopies and maintaining parks play an important role in reducing ambient air temperatures and flooding.

²⁹ IPBES. 2019. *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. S. Díaz et al. (eds.). IPBES secretariat, Bonn, Germany. 56 pages.

³⁰ Pershing, Andrew J. et al. *Slow adaptation in the face of rapid warming leads to collapse of the Gulf of Maine cod fishery*, Science 809-812 (November 2015).

³¹ EPA Office of Water, *Green Infrastructure for Climate Resiliency*, https://www.epa.gov/sites/production/files/2015-10/documents/climate_res_fs.pdf.

As climate change causes higher average temperatures and more extreme heat, green infrastructure is an increasingly critical and cost-effective approach. Urban tree canopies have been estimated to prevent around 1,200 heat-related deaths annually.³² Research has also shown that parks and other green infrastructure features, such as rain gardens, can reduce stormwater runoff by as much as 90 percent, reducing the likelihood of flooding in both coastal and inland communities while simultaneously improving water quality and ecosystem health.³³

There are currently stark inequities in our distribution of green infrastructure across the country. For example, numerous studies have found that low-income households and people of color are more likely to live in areas with less tree cover and more asphalt or other impervious surfaces.³⁴ These factors have been shown to exacerbate urban heat island effect, raising surface temperatures, so it is no surprise that these same communities are likely to be disproportionately burdened by climate impacts like extreme heat. Neighborhoods where people of color predominate, or where many earn less than the poverty line, are already much more likely to experience hotter temperatures.³⁵

As the Biden Administration has acknowledged, green infrastructure like parks, trees, and water systems, are an essential part of our modern infrastructure and play an important role in preparing for climate change impacts.

Congress should emphasize green infrastructure as follows:

- *Increase funding for green infrastructure projects.* Congress should increase funding for and expand eligibility of FEMA’s Building Resilient Infrastructure and Communities (BRIC) program to allow for a wider array of green infrastructure interventions including waterfront parks and urban forestry. Congress should also increase access to the program for low-income populations and communities of color (regardless of size) by increasing cost share for such communities up to 90 percent federal/10 percent non-federal. Investments in green infrastructure should be paired with efforts to prevent displacement and gentrification.

Wetlands and coastline. Healthy wetlands, coastal saltmarsh, floodplains, and underwater eelgrass habitat are the unsung heroes of natural disaster mitigation, carbon storage, and restoration of biodiversity. New England has lost a significant portion of its intact floodplains, coastal habitats, and wetlands to development.³⁶ Wetlands, floodplains, saltmarsh, and seagrass

³² McDonald, R.I., et al., *The Value of US Urban Tree Cover for Reducing Heat-Related Health Impacts and Electricity Consumption*. *Ecosystems* 23, 137–150 (2020), <https://doi.org/10.1007/s10021-019-00395-5>.

³³ Schottland, T. *Parks as a Solution to Climate Change*, National Recreation and Park Association (2019), <https://www.nrpa.org/parks-recreation-magazine/2019/april/parks-as-a-solution-to-climate-change/>.

³⁴ See, for example, Watkins, S. L. & Gerrish, E. *The relationship between urban forests and race: A meta-analysis*, *Journal of environmental management*, 209, 152–168 (2018), <https://doi.org/10.1016/j.jenvman.2017.12.021> and McDonald R.I. et al., *The tree cover and temperature disparity in US urbanized areas: Quantifying the association with income across 5,723 communities*. *PLOS ONE* 16(4) (2021), <https://doi.org/10.1371/journal.pone.0249715>.

³⁵ Hsu, A. et al., *Disproportionate exposure to urban heat island intensity across major US cities*, *Nat Commun* 12, 2721 (2021), <https://doi.org/10.1038/s41467-021-22799-5>

³⁶ Massachusetts Office of Coastal Zone Management, *Massachusetts Wetlands*, <https://www.mass.gov/service-details/massachusetts-wetlands>.

systems provide critical environmental, public safety, and economic benefits including flood resiliency,³⁷ water quality protection, wildlife and aquatic vegetation habitat, groundwater recharge, erosion control, carbon storage,³⁸ and recreational and educational opportunities.

Freshwater wetlands also offer critical habitat for New England's threatened and endangered plant species and imperiled animals.³⁹ However, wetland and floodplain resource areas are under threat as sea level rise introduces saltwater into non-tidal wetlands, which are inhibited from migrating inland due to heavy coastal development pressures. Warmer temperatures, drought, and changing precipitation patterns can also alter water quality and the structure and function of wetlands and watersheds.⁴⁰ Restoring wetlands has been identified as a low-cost tool to improve water quality and climate resilience with a multitude of co-benefits for biodiversity and the economy.⁴¹ A study by The Trust for Public Land in Vermont found that for every state dollar invested in conservation of our forests and wetlands, \$9 worth of natural goods and services is returned to taxpayers.⁴²

Coastal saltmarsh ecosystems are under siege by rising sea levels. New England has lost a large share of its saltmarsh habitat, making our region's coastal communities more vulnerable to storms and storm surge. Saltmarsh ecosystems sequester vast amounts of carbon – ten times more per year than terrestrial forests – making their protection another critical component of New England's climate change mitigation strategy.⁴³ We must accelerate the protection of saltmarsh ecosystems and aggressively protect the upland areas where they will migrate as sea level continues to rise.

Another coastal resource that provides critical ecosystem services is underwater eelgrass habitat. Submerged meadows of *Zostera marina* produce vast quantities of oxygen and rich habitat for fish and shellfish, take up nutrient pollution, and sequester carbon at rates that, like saltmarsh, exceed terrestrial forests. In many New England estuaries, large percentages of eelgrass habitat have been lost due to land use changes, stormwater runoff, and inadequately treated sewage. Additional funding to help communities improve infrastructure would accelerate improvement in water quality and recovery of eelgrass habitat.

Congress should invest in our wetlands and coastlines as natural climate solutions as follows:

- *Invest in research and technical assistance for climate-smart coastal resiliency solutions.* Congress should increase funding for the USFWS Salt Marsh Adaptation and Resiliency Teams (SMARTeams) initiative, which provides technical assistance and supports research for salt marsh restoration projects.

³⁷ Watson et al., *Quantifying flood mitigation services: The economic value of Otter Creek wetlands and floodplains to Middlebury, VT* (2016).

³⁸ Moomaw et al, *Wetlands in a changing climate: science, policy, and management* (2018).

³⁹ Thompson et al, *Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont* (2019).

⁴⁰ Environmental Resilience Institute, Indiana University, *Climate Implications – Wetlands*, <https://eri.iu.edu/erit/implications/wetlands.html>

⁴¹ Singh et al., *Optimizing wetland restoration to improve water quality at a regional scale* (2019).

⁴² Trust for Public Land, *Vermont's return on investment in land conservation* (2018).

⁴³ McLeod, E. et al., *A blueprint for blue carbon: toward an improved understanding of the role of vegetated coastal habitats in sequestering CO₂*, *Frontiers in Ecology and the Environment* (2011).

- *Invest in technical assistance for coastal resilience.* Congress should invest in technical assistance and innovative resiliency techniques that will provide coastal protection for infrastructure and natural environments. Specifically, Congress should increase funding for CZM coastal resilience grants in order for it to expand focus from solely infrastructure protection to habitat protection.
- *Amend NAWCA eligibility.* Congress should amend eligibility criteria under the North American Wetlands Conservation Act to increase funding for wetlands restoration in urban and densely populated communities.

Finally, and perhaps most importantly, Congress should ensure that racial justice is centered in the design and implementation of natural climate solutions, including by allocating funding in federal agriculture programs to socially disadvantaged farmers,⁴⁴ prioritizing resources and allocating a minimum of 40 percent of funds for green infrastructure in communities of color, limited English proficient neighborhoods, and low-income communities, and by seeking opportunities to facilitate co-management of federal public lands with New England’s tribes. Congress should ensure workforce development opportunities for people of color, formerly incarcerated persons, people living with disabilities, those without formal education, and people working in the fossil fuel economy interested in the transition to a fossil fuel free economy.

The investments that the federal government will be making in the coming months, including through infrastructure legislation and pandemic relief, are critical opportunities to advance natural climate solutions to combat climate change, reduce environmental and health inequities, and build resilience in New England and across the country.

The climate crisis is the defining challenge of our generation. It requires bold, coordinated, sustained federal action to bring about the transformative solutions we need. We urge our Congressional delegation to lead in this critical effort. Our organizations stand ready to support your important work.

Sincerely,



Bradley Campbell
President
Conservation Law Foundation



David J. O'Neill
President
Mass Audubon

⁴⁴ Socially disadvantaged farmers and ranchers are defined in federal law as belonging to a “group whose members have been subjected to racial or ethnic prejudice because of their identity as members of a group without regard to their individual qualities.” 7 U.S.C. § 2279(a)(6).