

Protecting New England's Forests

An Investment in Clean Water, Public Health, and Disaster Mitigation

What's the Issue?

As states and communities face increasing costs of providing for the needs of their citizens we must look to our region's natural capacity to address some of our challenges. New England's forests and wetlands provide quantifiable economic benefits by significantly reducing the costs of providing drinking water, healthcare, and protection against natural disasters.

The only way to reliably ensure these vital services continue in perpetuity, however, is to conserve the natural areas that provide them. The economic case to do so is stronger than ever. The Trust for Public Land estimates that each dollar invested in protecting land in New England provides a return of \$4-11 in removal in air pollution reduction, carbon sequestration, water protection, and food production. With the advent of natural resources markets, New England's natural services, with an estimated annual value of \$6.3 billion each year, even hold promise to finance the conservation of the ecosystems that provide them.



Photo by Mark Hunt, courtesy of Portland Water District

Annual Cost Savings In New England

Water quality

\$157 million saved in filtration costs

Health care

\$570 million saved due to improved air quality

Carbon storage

\$67 million saved in climate-related costs

Flood Risk

Wetlands saved \$8 million during Hurricane Sandy

Forests Filter Water and Prevent Floods

Healthy forests and wetlands improve drinking water quality. Forests and wetlands prevent pollutants from accumulating in water by increasing rainwater infiltration, absorbing excess nutrients, and preventing erosion, saving New England communities \$157 million in filtration costs each year. In Maine, the Portland Water District (PWD) is partnering with land trusts and other organizations in a new water fund initiative, Sebago Clean Waters, to protect forestland around Sebago Lake. PWD's commitment to conserving the watershed saves them from having to build a \$150 million filtration plant, plus the annual costs associated with operating it.

Forests provide flood control. Trees absorb water during storms, slowing and decreasing runoff. Less runoff means less spending in stormwater infrastructure to prevent flooding, saving 15-64% in suburban developments. Even in cities, urban forests cut stormwater expenditures. For example, New York City's trees save \$35.6 million each year.

Healthy Forests, Healthy People

Healthy forests improve air quality. Trees filter out 760,000 tons of air pollution annually in New England alone. This is estimated to save about \$570 million in health care costs related to heart and lung disease in the region.

Access to open spaces and natural areas, including forests, encourages healthier lifestyles. This results in a 40% decrease in health care costs associated with hypertension, heart disease, and diabetes. Children who exercise regularly also have lower risks of developing childhood obesity, and are better able to manage ADD, ADHD, and childhood stress.

Forests and other green spaces benefit human mental and emotional well-being. Proximity to the outdoors benefits mental health, even when it isn't directly linked to an active lifestyle. Encountering a diversity of creatures, from monarch butterflies to bobolinks to black bears, invokes a sense of wonder that is crucial to the human psyche.

Natural Resilience to Climate Challenges

New England's forests aid in the mitigation of climate change. Our forests store enough carbon to offset 20% of the region's greenhouse gas emissions. This storage is estimated to save about \$67 million each year in a variety of climate-change related costs, including decreased agricultural productivity, negative impacts on human health, and property damages.

New England's wetlands hold carbon and protect property. Wetlands, especially salt marshes, sequester carbon, hold sediment together on coastlines, and

reduce wave heights and storm surges. For example, the preservation of 8,000 acres of wetland in the Charles River Basin near Boston, MA, saves around \$40 million each year in flooding damages, a value likely to increase as storms become more intense and sea levels rise. Coastal wetlands in the northeast protected property and saved a combined total of \$625 million during Hurricane Sandy, including \$7.9 million in New England.

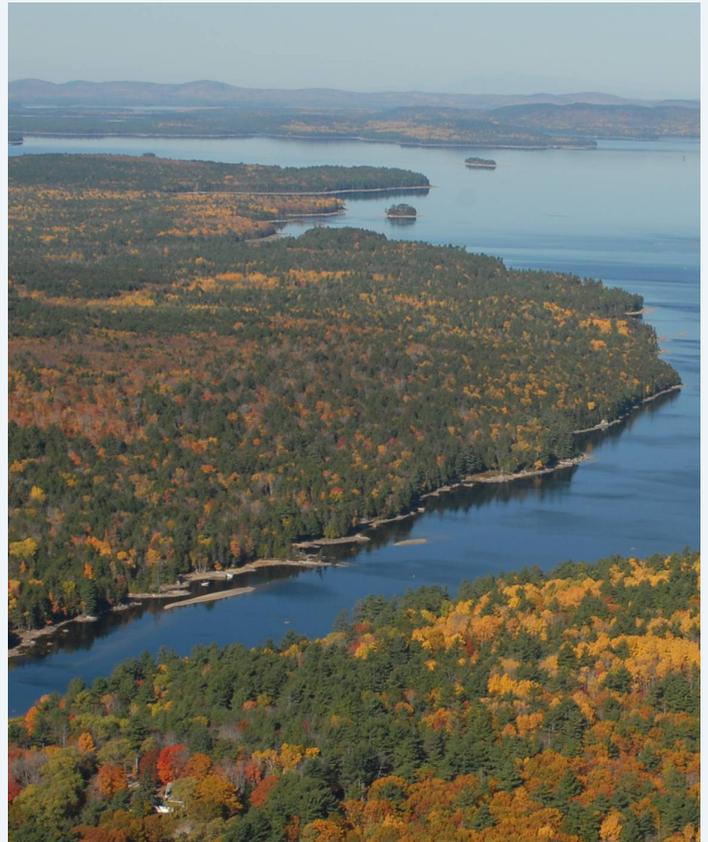
*For further discussion of these issues, complete sources for statistics and other resources, see Holland, I., Culbertson, K., and S.R. Meyer. 2018. *The Economic Case for Conservation*. Highstead Foundation, Redding, CT.*

Harnessing Natural Services to Create Added Economic Benefits

Governments and businesses are beginning to realize nature's capacity to reduce the costs of maintaining clean air and water, and protect against increasingly frequent storms. And environmental service markets are beginning to emerge to take advantage of these natural solutions.

A trailblazer on this scene is carbon markets. The capacity of New England's forests to absorb and store carbon allows for carbon credits to be sold to emitters of greenhouse gases, holding great potential to finance further conservation. In fact, \$25 million in carbon credits generated in New England have been sold on California's cap-and-trade market since 2013, and credits totaling at least \$75 million more are currently in the works. This market provides an economic incentive for landowners to sustainably manage forests for the next 100 years, and can even directly finance the permanent protection of additional forest lands.

According to a 2018 report, Vermont alone contains over 280,000 acres of privately owned forests and 500,000 acres of land trust and town-owned forests that may be eligible for carbon credit sales, with the potential to generate \$21 million per year from sale of carbon credits. Natural resource markets are not limited to carbon; in fact, some water utilities are already helping to finance private land conservation to maintain water quality standards, and other opportunities abound.



In 2013, the Downeast Lakes Land Trust (DLLT) in Maine completed the first project in the US to create and sell forest carbon credits to a compliance carbon market. Credits for 19,118 acres of forest were sold on the California cap-and-trade market for \$1.5 million. Revenue from this project (\$1.1 million) was then reinvested in conserving a nearby 21,860 acre tract of forest. New England's carbon market has expanded, and holds great potential to finance further conservation. Photo: Downeast Lakes Land Trust

Highstead is a regional conservation organization dedicated to conserving the New England landscape and achieving the Wildlands and Woodlands vision through science, sound stewardship, and collaboration with our regional partners.