

THE VALUE of Nature

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Forests

Forests are the defining feature of New England's landscape. In Massachusetts, upland forest habitat can range from northern hardwoods like beech and maple, to softwoods like spruce and pitch pine.



Eastern moose

CLEAN AIR & WATER



FORESTS CLEAN THE AIR. Forests in New England remove an estimated 760,000 tons of pollutants every year that cause smog and ground-level ozone.¹



FORESTS ARE NATURAL WATER FILTRATION SYSTEMS. Each forested acre that drains into a public water source filters 543,000 gallons of drinking water per year, meeting the needs of 19 people, with an annual value of \$2,500 per acre.²

CARBON CAPTURE & STORAGE



~7%

OF MASSACHUSETTS' ANNUAL CARBON EMISSIONS ARE ABSORBED BY OUR 3M ACRES OF FOREST,^{4,5} AND THE AVERAGE ACRE STORES ABOUT 103 TONS OF CARBON.⁶

The healthier a forest is, the better it sequesters carbon,⁷ and mature forests are particularly important for carbon storage.⁸

53,000 AUTOMOBILE TANKS OF GASOLINE contain the same amount of carbon as a 40-acre forest in New Hampshire stores.⁹

\$3B

GROSS OUTPUT OF MA FOREST PRODUCTS/YR¹⁰

Responsibly-sourced wood is a climate-friendly alternative to steel and concrete, and sourcing wood products locally reduces transportation emissions and supports local economies.¹¹



CLIMATE RESILIENCE

Massachusetts' forests are already home to

209

SPECIES OF THE GREATEST CONSERVATION NEED, INCLUDING THE WOOD THRUSH.¹²

Hermit thrush



20%

POTENTIAL DECREASE IN FLOOD HEIGHT IN TOWNS DOWNSTREAM BY STRATEGIC PLANTING OF TREES ON FLOODPLAINS.¹³ Protecting forested floodplains is critical for controlling erosion and buffering against flooding.¹⁴

KEY TERMS **Ecosystem Services:** Nature provides countless benefits to people, along with intrinsic values. These components of nature are enjoyed, consumed, or used by humans to support our wellbeing. **Climate Resilience:** The ability of a natural or human community to prepare for and respond to the impacts of climate change.



Forests

INDIGENOUS PEOPLES

One of the clearest examples of the cultural value of forests is within indigenous communities. Indigenous peoples have lived among the forests of Massachusetts and New England for thousands of years. They managed the forests for food, medicine, and ceremonial purposes, and some tribes have continued this tradition despite challenges brought on by colonialism and ongoing native land loss.

The indigenous value of forests can be incorporated into decision-making by involving tribal members in projects and plans that impact their traditional landscapes.¹⁵



URBAN FORESTS IN FOCUS



IN THE 15 COMMUNITIES OF METRO BOSTON ALONE, URBAN FORESTS:

- ✓ Remove 1.75 million pounds of air pollutants annually, worth \$11 million.¹⁷
- ✓ Store 962,000 tons of carbon, worth \$125 million,¹⁸ and capture an additional 23,000 tons of carbon per year, worth nearly \$3 million.¹⁹
- ✓ Help those communities avoid 527 million gallons of stormwater runoff every year, worth \$4.7 million.²⁰

600K TONS OF CARBON

sequestered/year by northern New England's urban and community forests, a \$38m value.²¹

RECREATION & TOURISM

\$2.2B PER YEAR generated by Massachusetts' forest-based recreation economy, supporting 9,000 jobs.¹⁶



LET'S GET SOLAR OFF THE GROUND

A new form of development — large-scale, ground-mounted solar photovoltaic arrays — is converting thousands of acres of forest and farmland.²²

Threats

Climate change and development are two of the biggest threats facing forests.

CLIMATE CHANGE

- 2.9°F RISE IN TEMP since 1895
- 11" SEA LEVEL RISE since 1922, as measured in Boston Harbor
- 55% STRONGER STORMS since 1958^{23, 24}

Rising temperatures, more rainfall and flooding, periods of drought, and pest outbreaks are all expected to stress trees.

DEVELOPMENT



The smaller fragments that remain after forest development are less viable for ecosystem services,²⁵ and this decreased connectivity limits species' ability to migrate as their ranges shift from climate change.

See our Losing Ground report and community planning resources for ways to reduce development impacts.

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