



Carbon Neutrality by 2050

Public Policy

Land Conservation & Stewardship

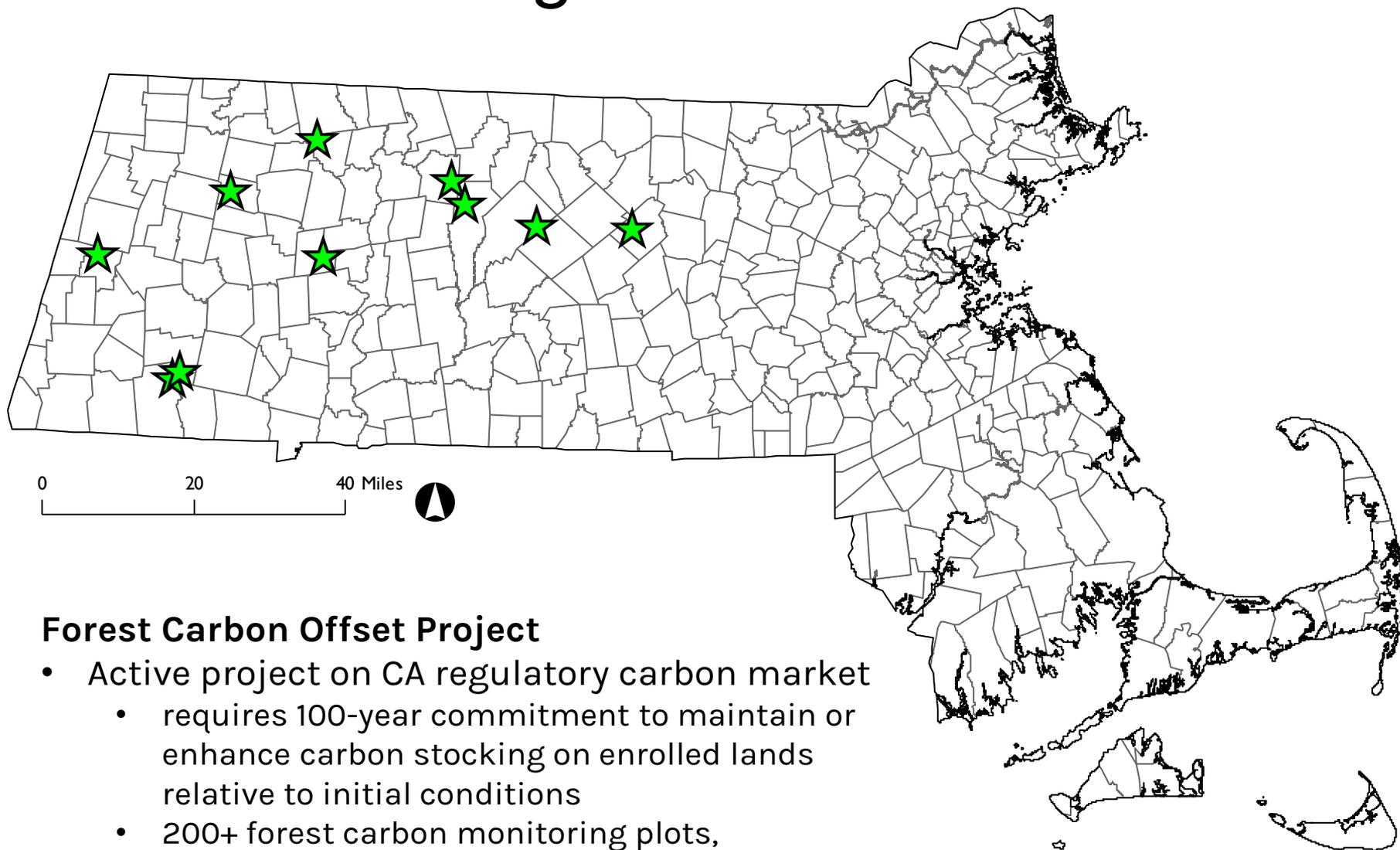
Build Core of Climate Action Leaders

A Carbon Neutral Future

Mass Audubon's Vision and Plan
for Climate Action



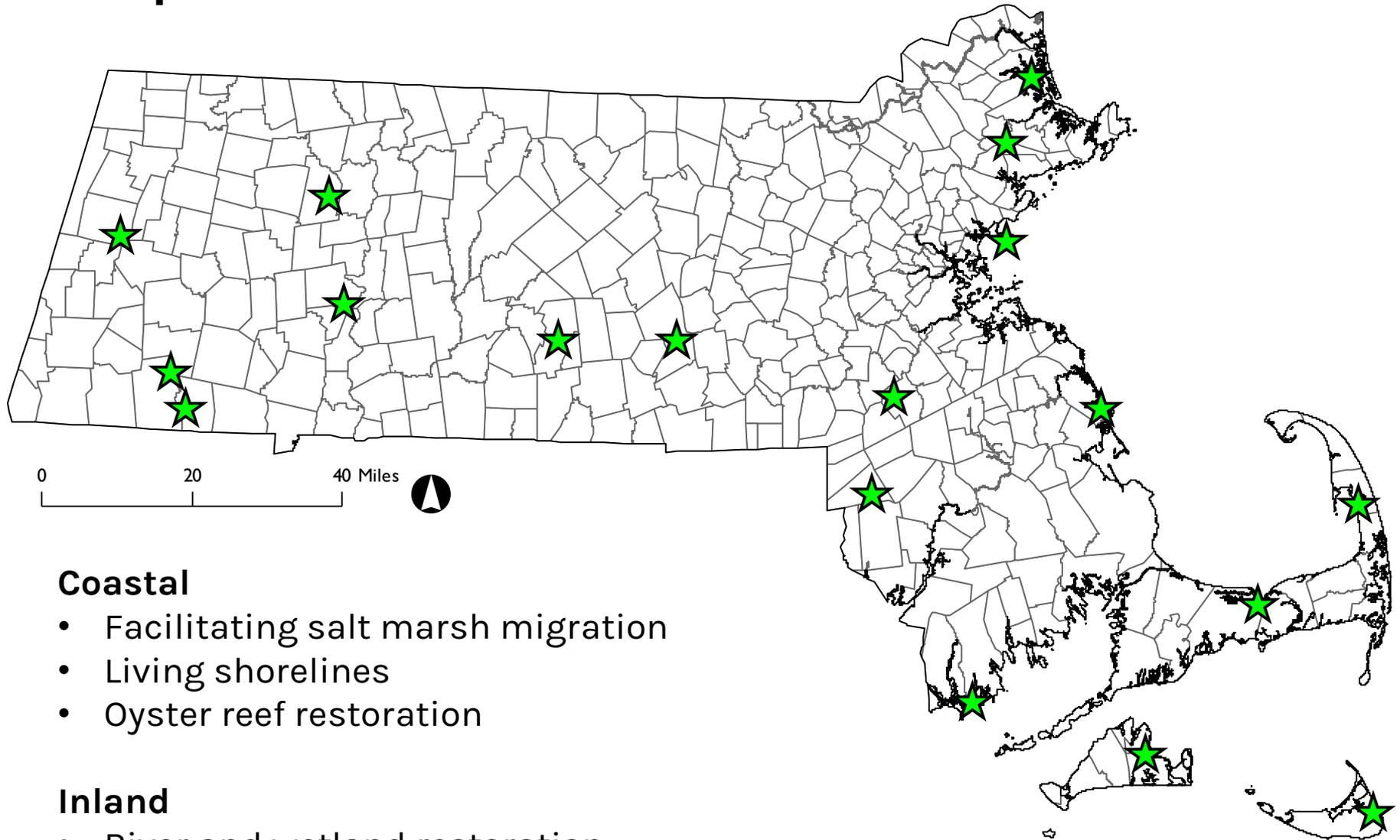
Forest-based Mitigation



Forest Carbon Offset Project

- Active project on CA regulatory carbon market
 - requires 100-year commitment to maintain or enhance carbon stocking on enrolled lands relative to initial conditions
 - 200+ forest carbon monitoring plots, sampled at least every 6 years
- ~10,000 acres across 10 sites
- Avg. ~190 MtCO₂eq/acre

Adaptation



Coastal

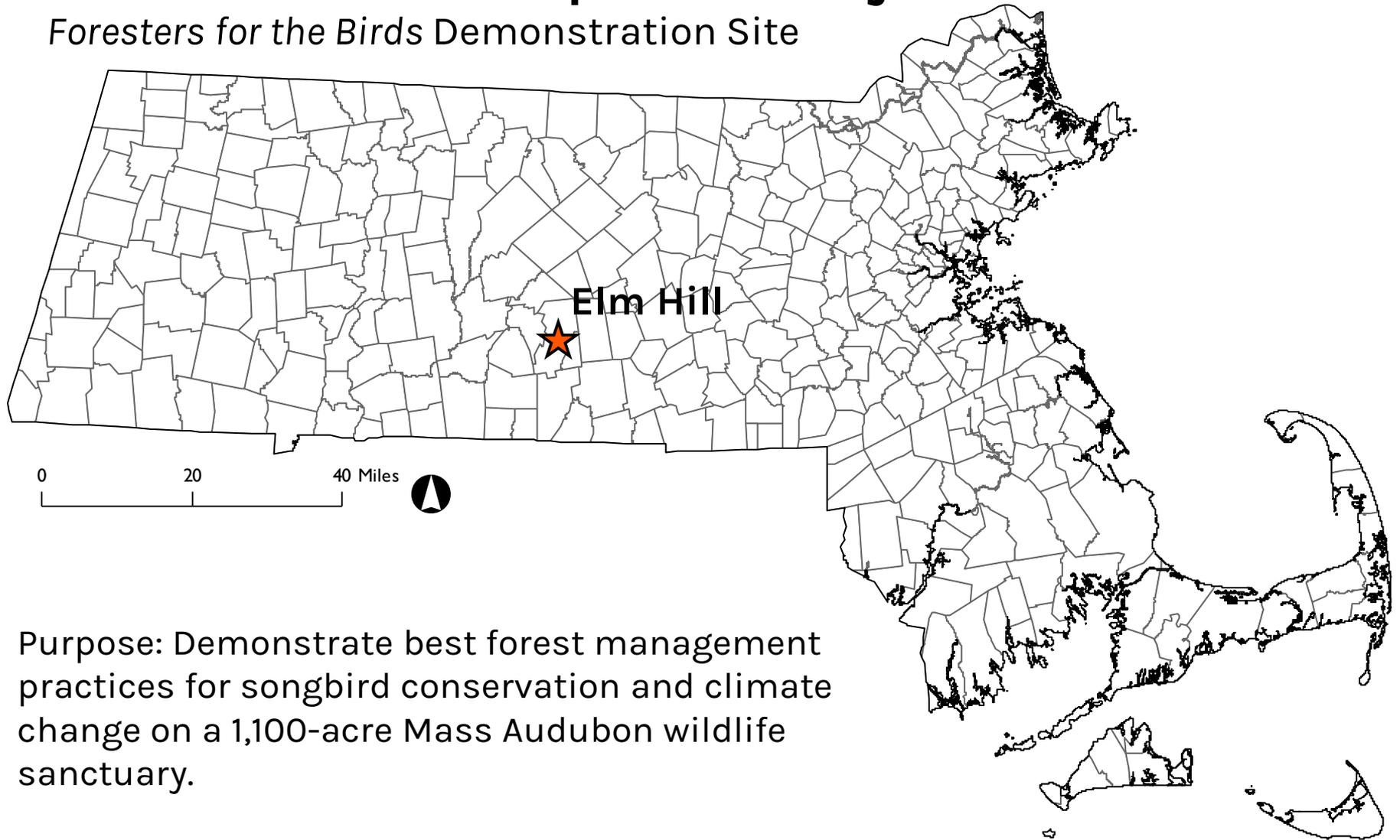
- Facilitating salt marsh migration
- Living shorelines
- Oyster reef restoration

Inland

- River and wetland restoration
- Floodplain reforestation
- Invasive plant management

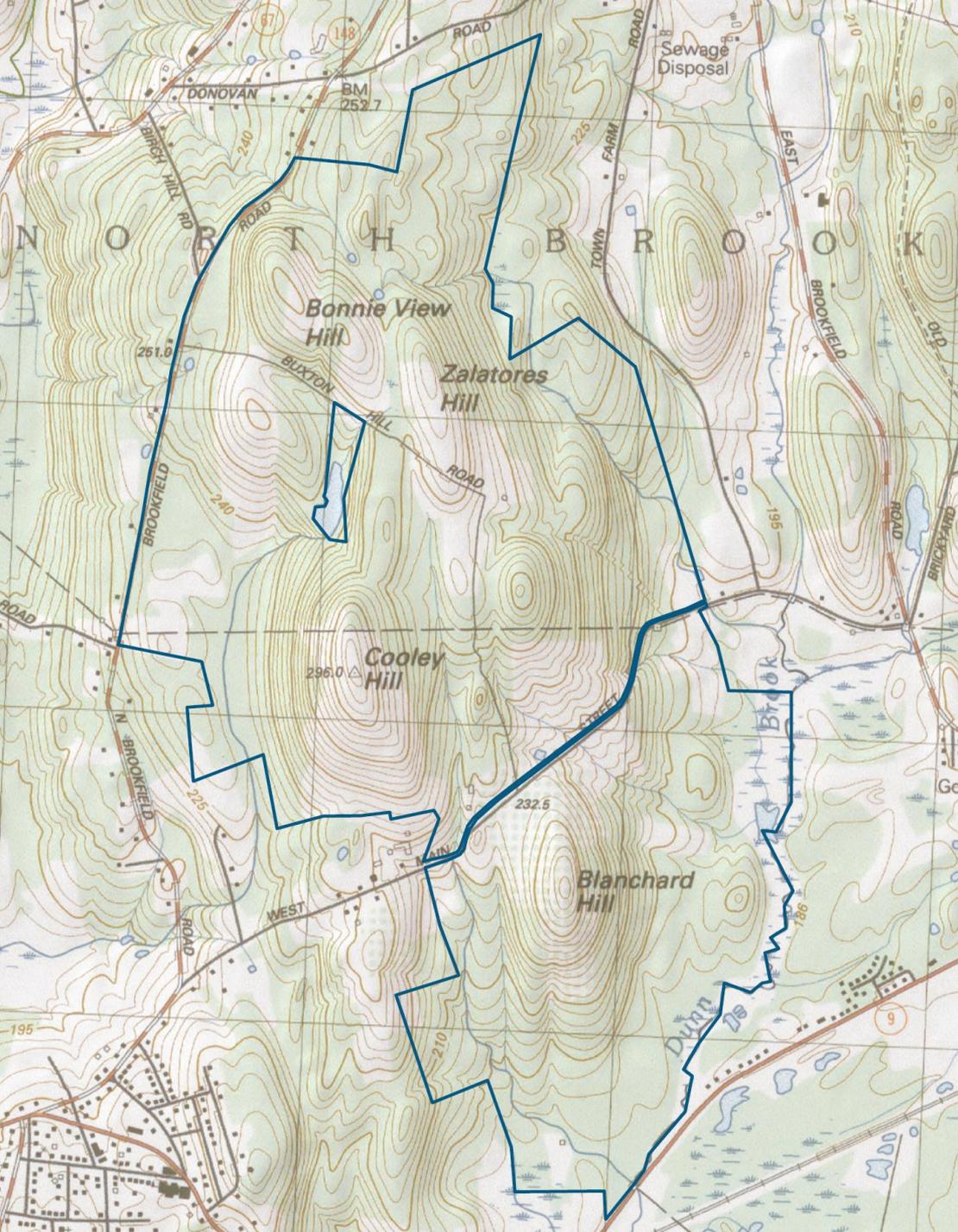
Elm Hill Forest Adaptation Project

Foresters for the Birds Demonstration Site



Purpose: Demonstrate best forest management practices for songbird conservation and climate change on a 1,100-acre Mass Audubon wildlife sanctuary.

Support/input from: DCR NRCS NFWF DFW NIACS UMass Bay State Forestry



Elm Hill Wildlife Sanctuary Brookfield/North Brookfield

Attributes

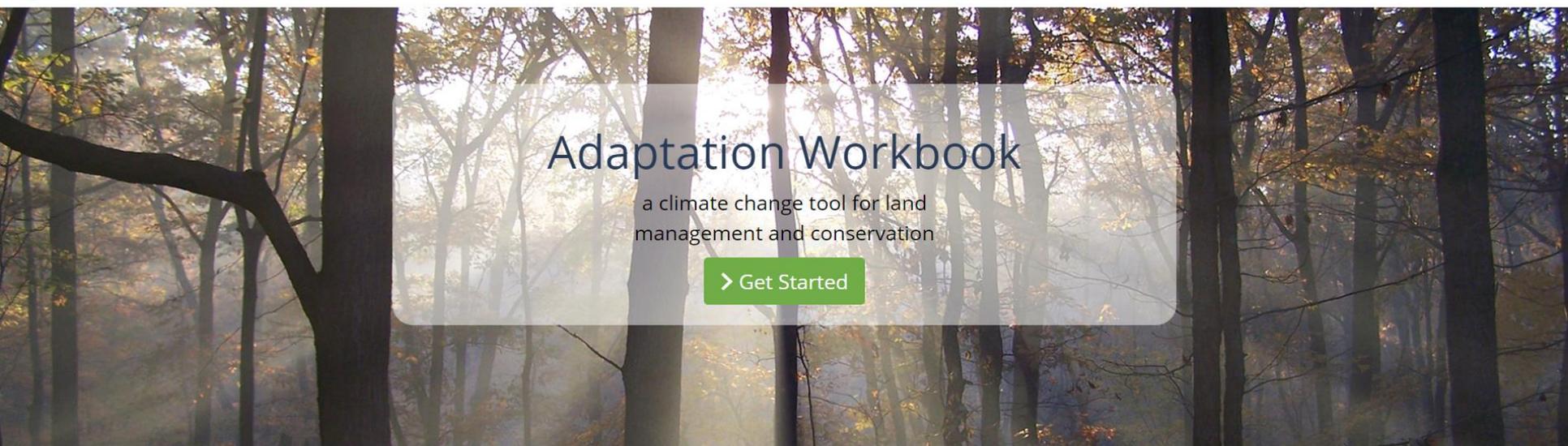
- 830 ac forest
- 210 ac fields
- 60 ac open wetland/water

- Drumlin swarm!
- Rare/unusual plants
- Cold-water stream
- Priority natural community
- 30+ vernal pools
- Grassland/young forest birds

- Invasive plants
- Abandoned orchard
- Invasive invertebrates
- White-tailed deer

- APR – includes forest products

Adaptation Workbook



Adaptation Workbook
a climate change tool for land management and conservation

[> Get Started](#)

Explore

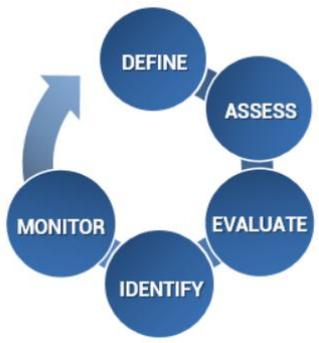
Use a map to explore how climate change may affect your region and forested ecosystems. Understanding and evaluating climate change impacts is an important first step in adapting lands to climate change.

Strategies and Approaches

Adaptation "menus" provide a curated list of adaptation actions by topic to help you move from broad ideas to specific actions using the Adaptation Workbook.

Take an Online Course

Enroll in a free guided training to consider climate change using the Adaptation Workbook. Bring a real-world land management project to create a custom adaptation plan.



1. **Define** goals and objectives
2. **Assess** climate impacts and vulnerabilities
3. **Evaluate** objectives considering climate impacts
4. **Identify** adaptation approaches and tactics for implementation
5. **Monitor** effectiveness of implemented actions



- Broad adaptation response – e.g. sustain ecosystem function
- More specific action – e.g. maintain or restore riparian areas
- Prescriptive actions tailored to site & objectives – e.g. certain BMPs





Management Targets

Transition Hardwood Forest

Invasive Species

Young Forest Bird Habitat

Sensitive Natural Communities

Goal: Invasive plant management to maintain good forest health, improve wildlife habitat, and maintain productivity in agricultural areas.

Objective: Manage priority invasive plant infestations in/near proposed timber harvest sites through appropriate techniques, including mechanical and chemical methods. (2018-2026)

Objective: Map and prioritize invasive plant infestations on project site. (2018 – complete)

Progress summary for Elm Hill Forest Management

Step 1. DEFINE areas of interest, management goals and objectives.



4 Management Topics | 5 Goals

Step 2. ASSESS climate change impacts and vulnerabilities for the area of interest.

Identified 31 Potential Climate Impacts | Determined 4 of 4 vulnerabilities

Step 3. EVALUATE management objectives given projected impacts and vulnerabilities.

6 of 6 objectives evaluated

Step 4. IDENTIFY adaptation approaches and tactics for implementation.



5 tactics apply to 6 objectives

Step 5. MONITOR and evaluate effectiveness of implemented actions.

6 of 6 objectives have monitoring variables

Next >

Define Management Topics

Adaptation Actions

5 tactics apply to 6 objectives

Objective

605 acres of mixed silviculture timber harvest, including irregular shelterwood, ... 5 applicable tactics.

Tactical Details

We will follow best management practices with respect to soils, hydrology, and wetland and waterways when conducting forestry activities. For example, we will retain tops of trees, limit operations around wetlands and other buffers, and operate only during stable soil conditions. Stream crossings will be avoided if possible, but if necessary, they will be protected appropriately. Invasive plants will be treated to reduce their competitive effects.

Strategy: Sustain fundamental ecological functions > Approach: Reduce impacts to soils and nutrient cycling

Strategy: Sustain fundamental ecological functions > Approach: Maintain or restore hydrology

Strategy: Sustain fundamental ecological functions > Approach: Maintain or restore riparian areas

Strategy: Sustain fundamental ecological functions > Approach: Reduce competition for moisture, nutrients, and light

Benefits

These approaches are part of good forest stewardship where active management is applied. Measures to to reduce impacts to soils and nutrient cycling (e.g., retaining tops of trees) could provide good habitat features as well.

Drawbacks and Barriers

None recognized.

Timeframe

ongoing

Practicability

High



NIACS Adaptation Workbook

Forests
Urban Areas
Forested Watersheds
Agricultural Lands

Other resources (forestadaptation.org)

Tribal perspectives
Forest carbon
Recreation

In development

Non-forested wetlands
Wildlife
Coastal areas (freshwater and sea-level rise)



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