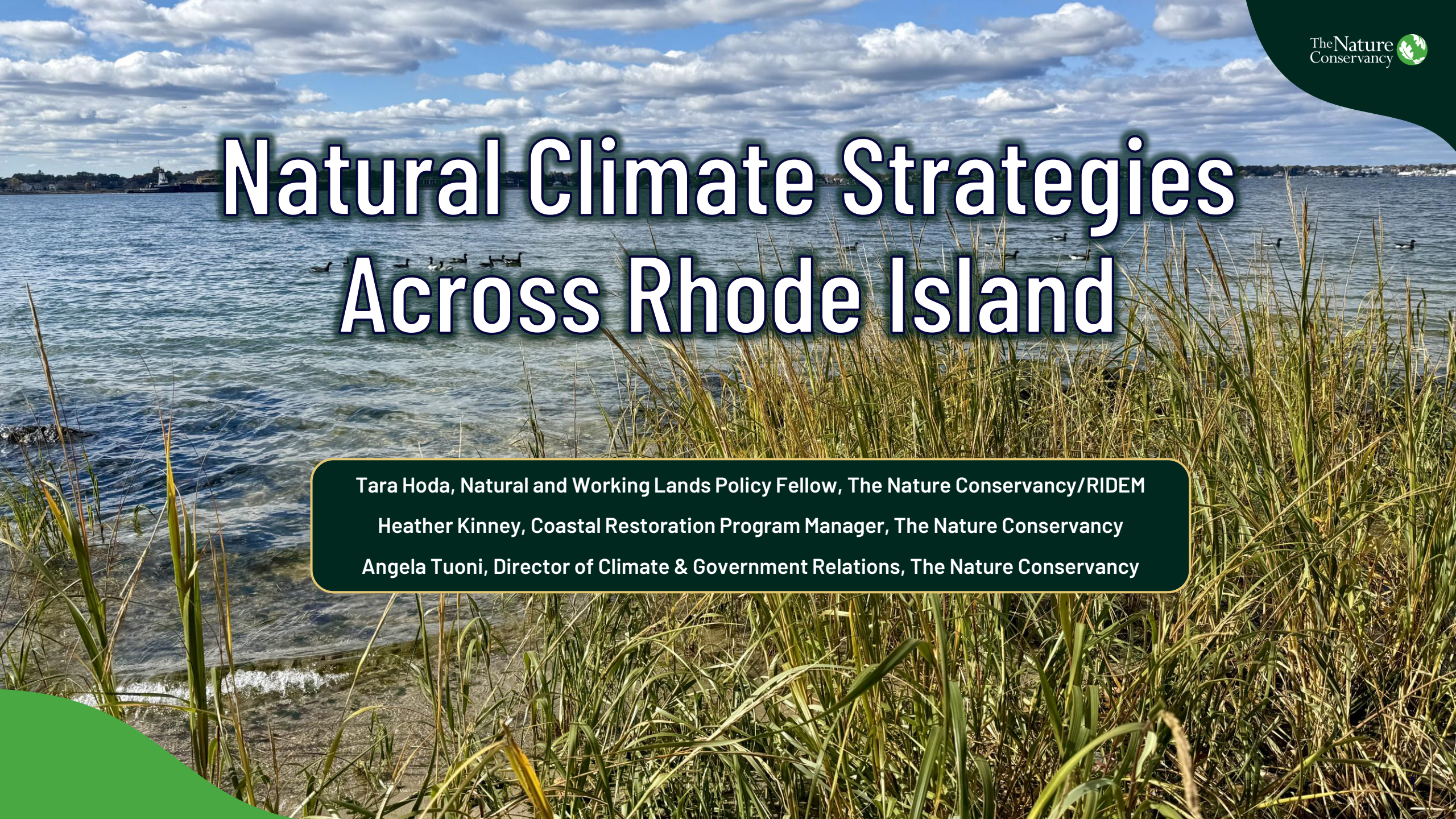


Natural Climate Strategies Across Rhode Island

Tara Hoda, Natural and Working Lands Policy Fellow, The Nature Conservancy/RIDEM

Heather Kinney, Coastal Restoration Program Manager, The Nature Conservancy

Angela Tuoni, Director of Climate & Government Relations, The Nature Conservancy

Natural Climate Solutions in Rhode Island

Tara Hoda, Natural & Working Lands Policy Fellow

The Nature Conservancy/Rhode Island Department of Environmental Management

RI Land & Water Conservation Summit

March 21st, 2026

Capture → Store → Release

Carbon Dioxide, Methane, Nitrous Oxide

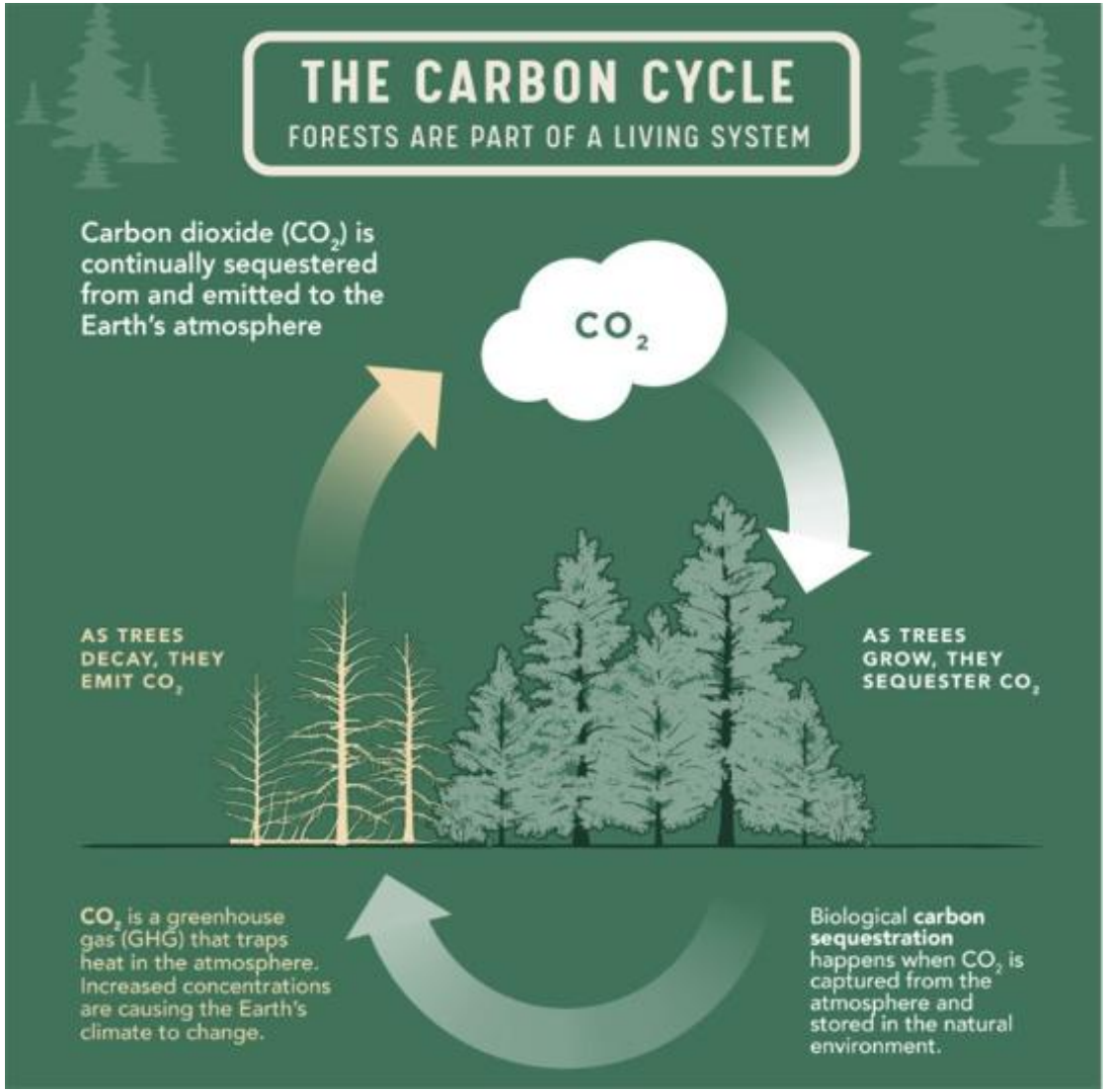
- **Global:** remove 50% of emissions from human activities
- **US:** remove 13% of emissions (2022)
  - ***Forests*** = 78% sequestration

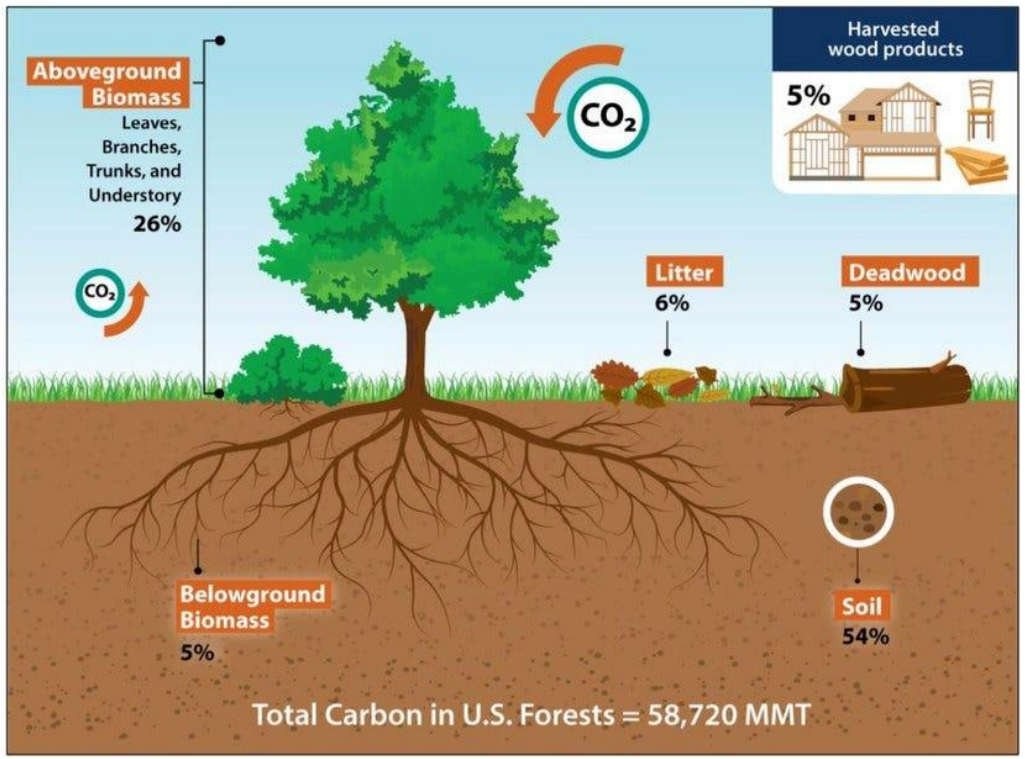
How much can natural climate solutions actually contribute to mitigating climate change?

One-third of what is needed by 2030 to prevent warming of 2 °C.

11.3 billion tons of CO_2e = **stopping burning oil globally.**

-*Griscom et al. (2013)*


THE CARBON CYCLE
FORESTS ARE PART OF A LIVING SYSTEM
Carbon dioxide (CO_2) is continually sequestered from and emitted to the Earth's atmosphere
CO_2
AS TREES DECAY, THEY EMIT CO_2
AS TREES GROW, THEY SEQUESTER CO_2
CO_2 is a greenhouse gas (GHG) that traps heat in the atmosphere. Increased concentrations are causing the Earth's climate to change.
Biological **carbon sequestration** happens when CO_2 is captured from the atmosphere and stored in the natural environment.


Aboveground Biomass
Leaves, Branches, Trunks, and Understory
26%
CO_2
CO_2
Harvested wood products
5%
Litter
6%
Deadwood
5%
Belowground Biomass
5%
Soil
54%
Total Carbon in U.S. Forests = 58,720 MMT

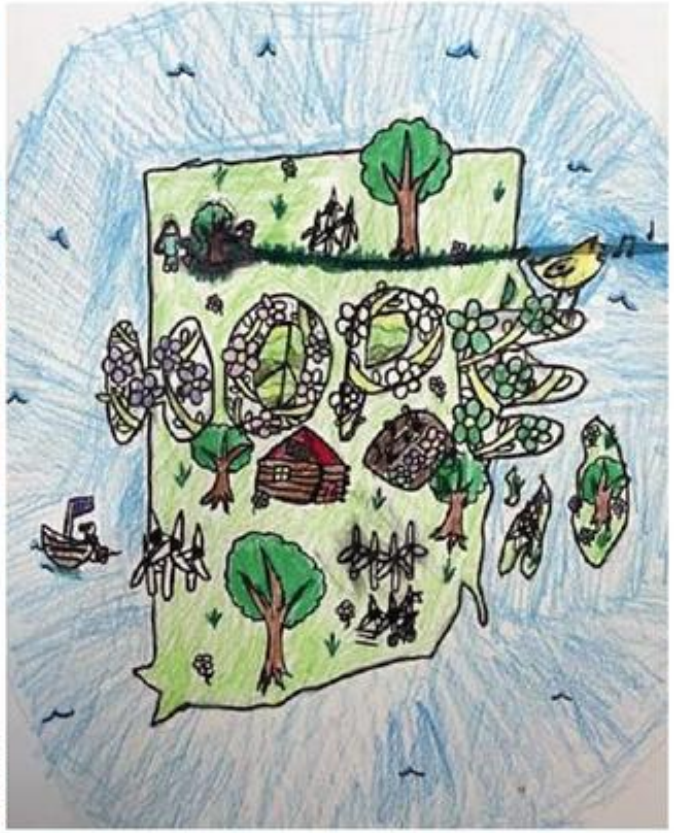
Rhode Island's Forests

- NWL sector offset **7.9% of emissions** in 2023
  - *Forests* = 93%
  - *Urban trees* = 7%

- 377,000 acres of forest absorbed emissions equivalent of **420,000 passenger vehicles**

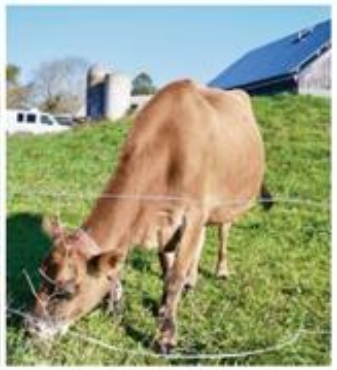
RIEC 4

DECEMBER 2025



RHODE ISLAND 2025 CLIMATE ACTION STRATEGY

RI EXECUTIVE CLIMATE CHANGE COORDINATING COUNCIL



RI 2025 Climate Action Strategy

Natural & Working Lands: Maintain RI's Natural Carbon Sink

Strategy 1: CONSERVE forests, farms, and wetlands

- Land acquisition + permanent protection
- Smart growth

Strategy 2: SUSTAINABLY MANAGE forests and farms

- Climate-smart forestry + agriculture

Strategy 3: EXPAND greenery in cities and beyond

- Urban tree canopy + green infrastructure
- Re-vegetation

Land Protection

124,000 acres of forest permanently protected

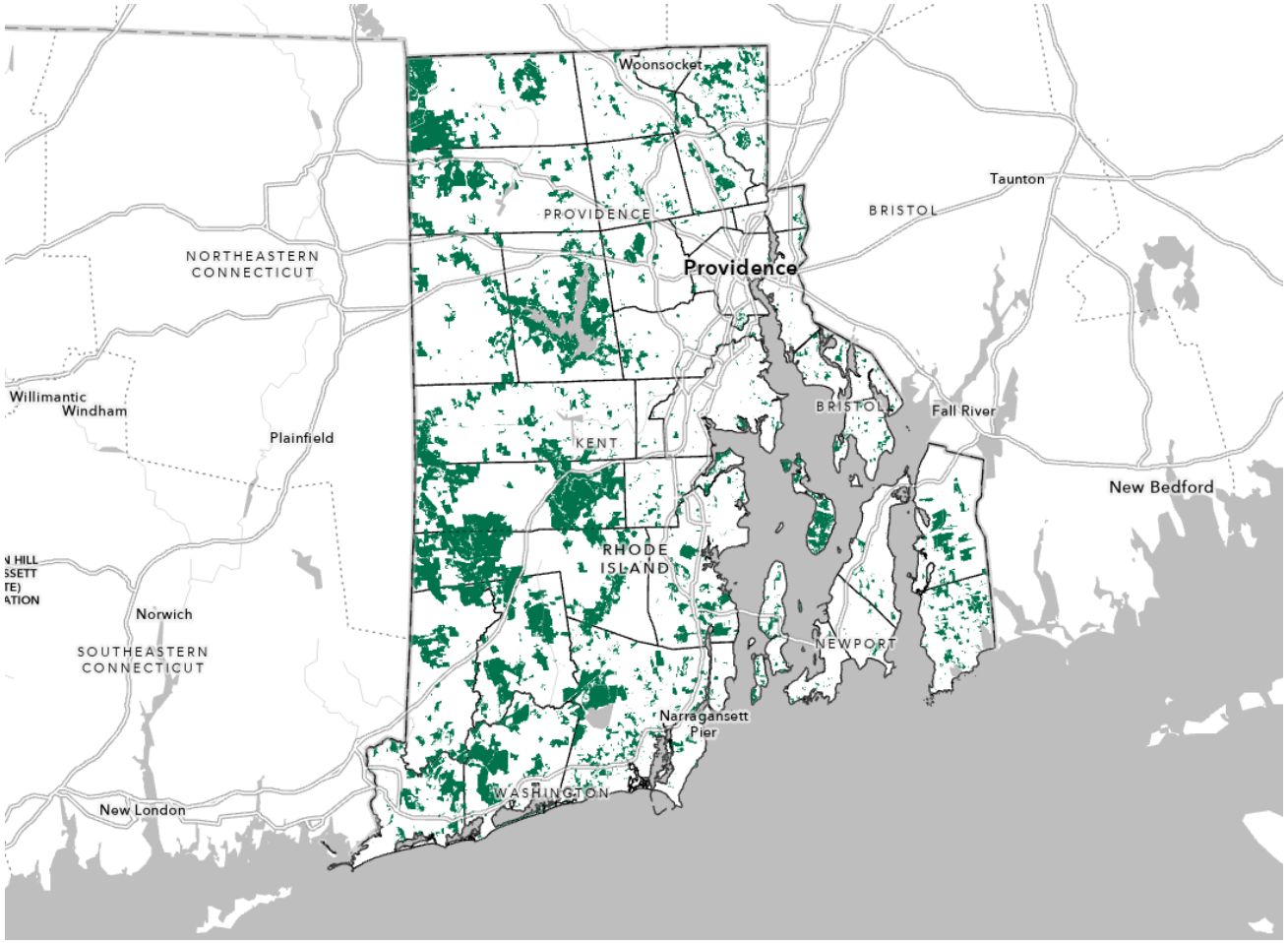
The Nature Conservancy

150 acres in pipeline for 2026

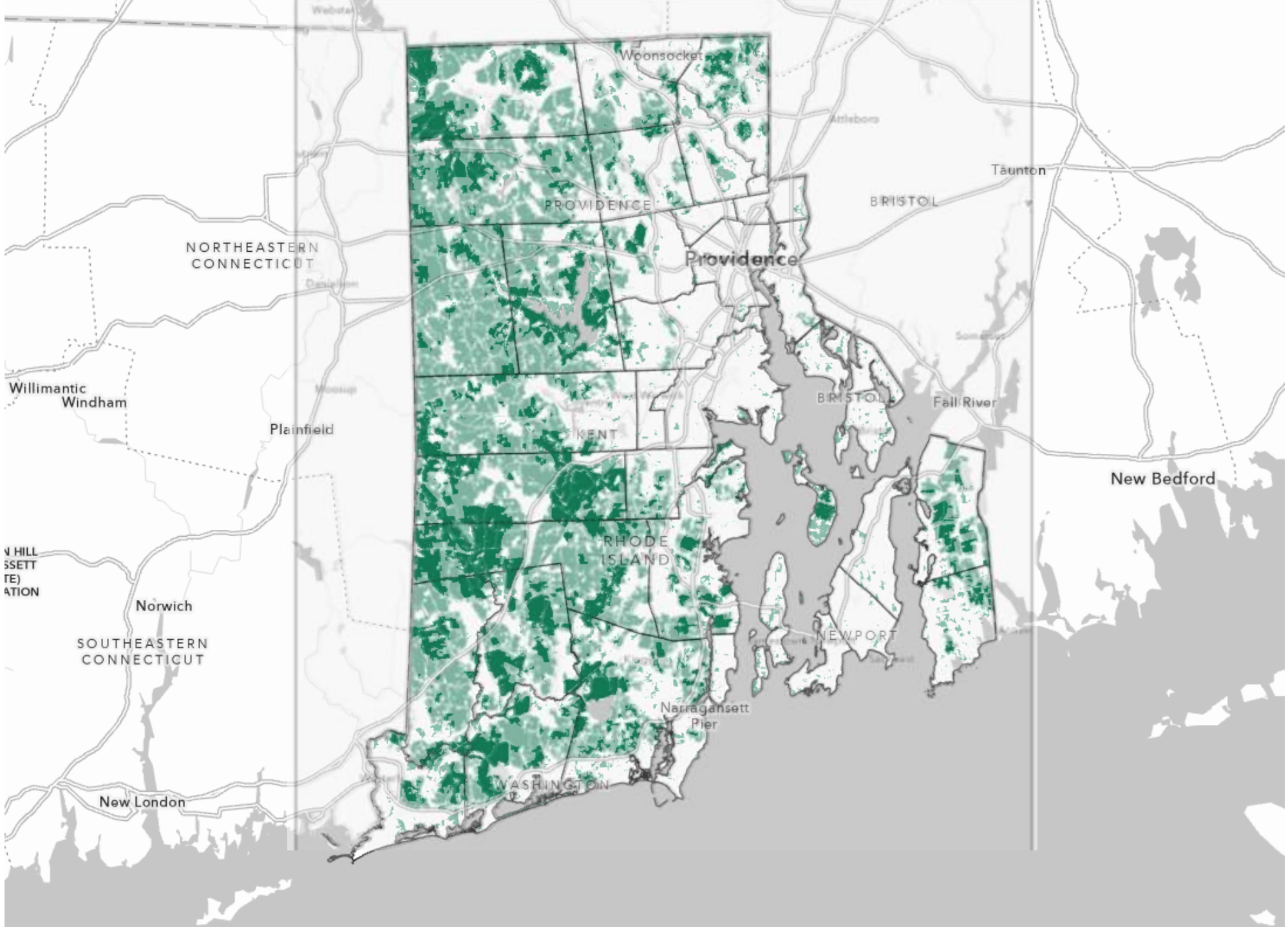
650+ acres over next 2-3 years

DEM RHODE ISLAND

600+ acres in pipeline for 2026



Protected forest in RI. January 2026. Paul Jordan, RIDEM.


Woonsocket
Attleboro
Taunton
PROVIDENCE
BRISTOL
NORTHEASTERN
CONNECTICUT
Providence
Willimantic
Windham
Plainfield
BRISTOL
Fall River
KENT
New Bedford
RHODE
ISLAND
Norwich
NEWPORT
SOUTHEASTERN
CONNECTICUT
Narragansett
Pier
WASHINGTON
New London

Climate-Smart Forestry and Agriculture

- 68% forestland privately owned

- 38,000 landowners

Practices that:

1) Enhance resilience to climate change
2) Increase productivity and long-term sustainability
3) Reduce emissions and increase carbon storage

USDA Climate Hubs.

USDA NRCS

Forest Management

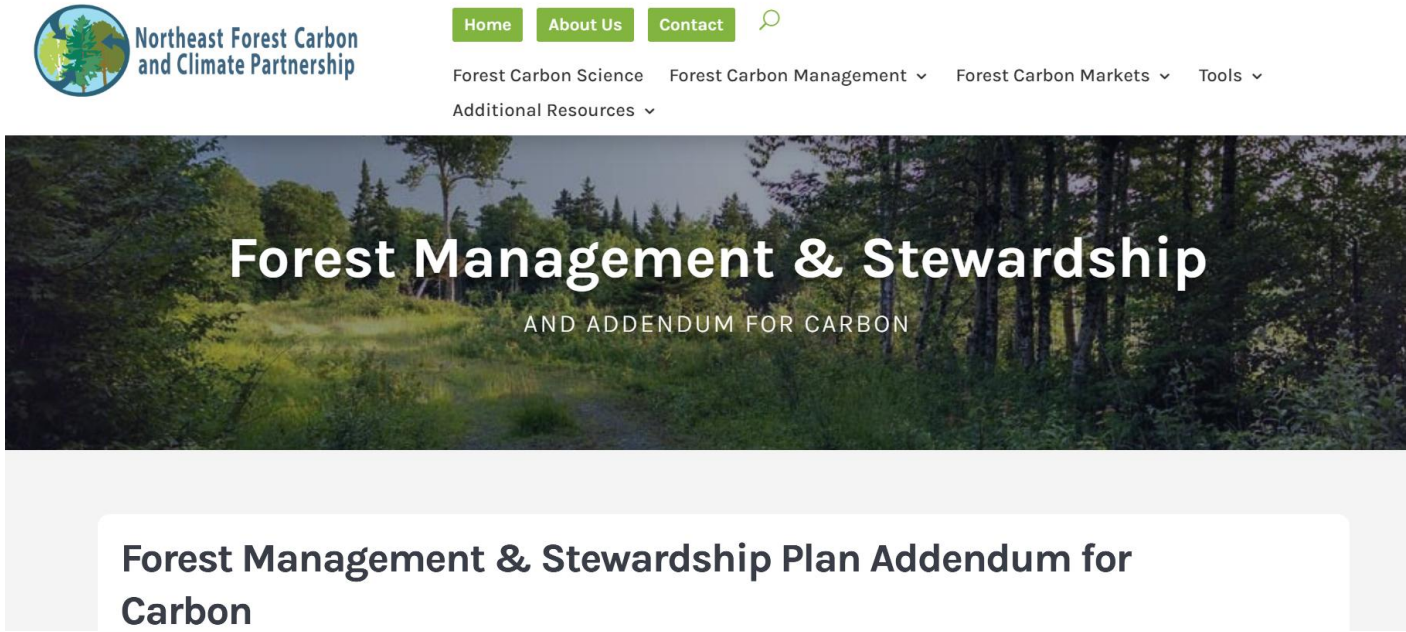
- Targeted forest management practices can **preserve ability of forest to capture and store carbon**:
  - Thinning & prescribed burns
  - Integrated pest management (IPM)
  - Salvage harvests + replanting

- **DIVERSE FOREST = RESILIENT FOREST**

Audubon Society of Rhode Island.

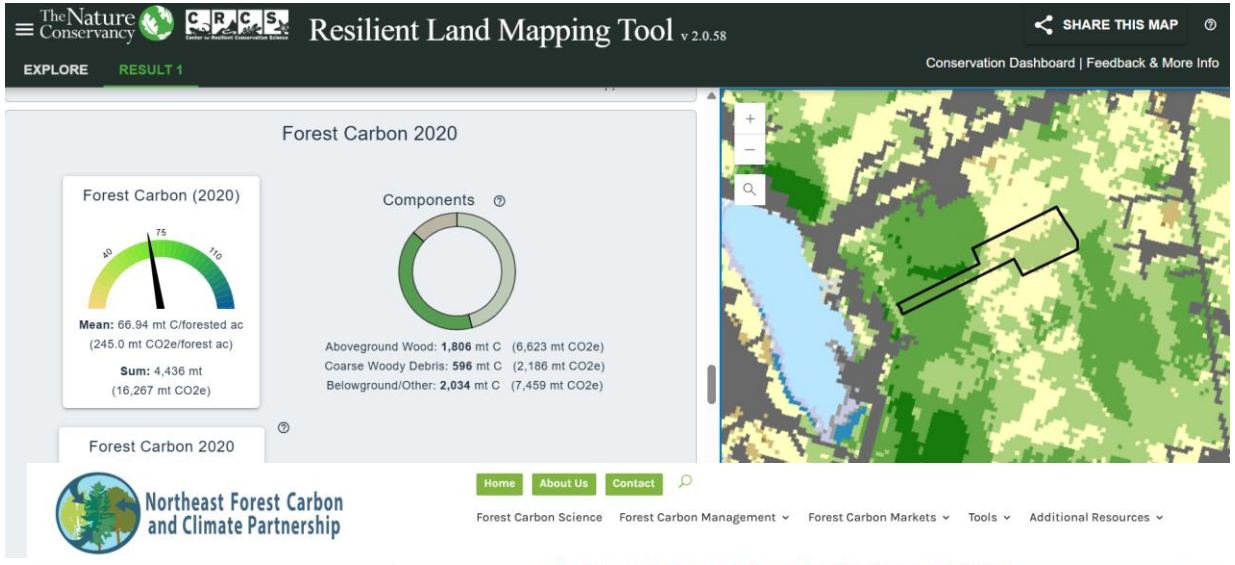
Forest Management Plans for State Lands

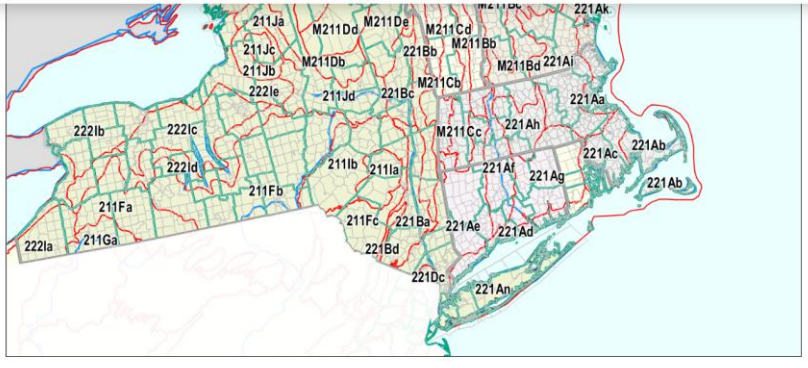
- **TNC-DEM partnership to create Forest Management Plans for over 80% of DEM's land holdings**
  - Starting with W. Alton Jones Campus and Big River Management Area
- **Incorporating carbon and climate into FMPs:**
  - Intro
  - Landowner goals
  - Carbon estimation
  - Recommendations
  - Monitoring



Forest Carbon Estimation Tools

GIS-based + plot-based methods





Step 2 - Fill in the boxes requiring input (below) to receive your carbon estimates:

Forest Basal Area to Carbon Calculator

Choose an ecosubregion subsection (please see map)

Select basal area of your forest stand (square feet)

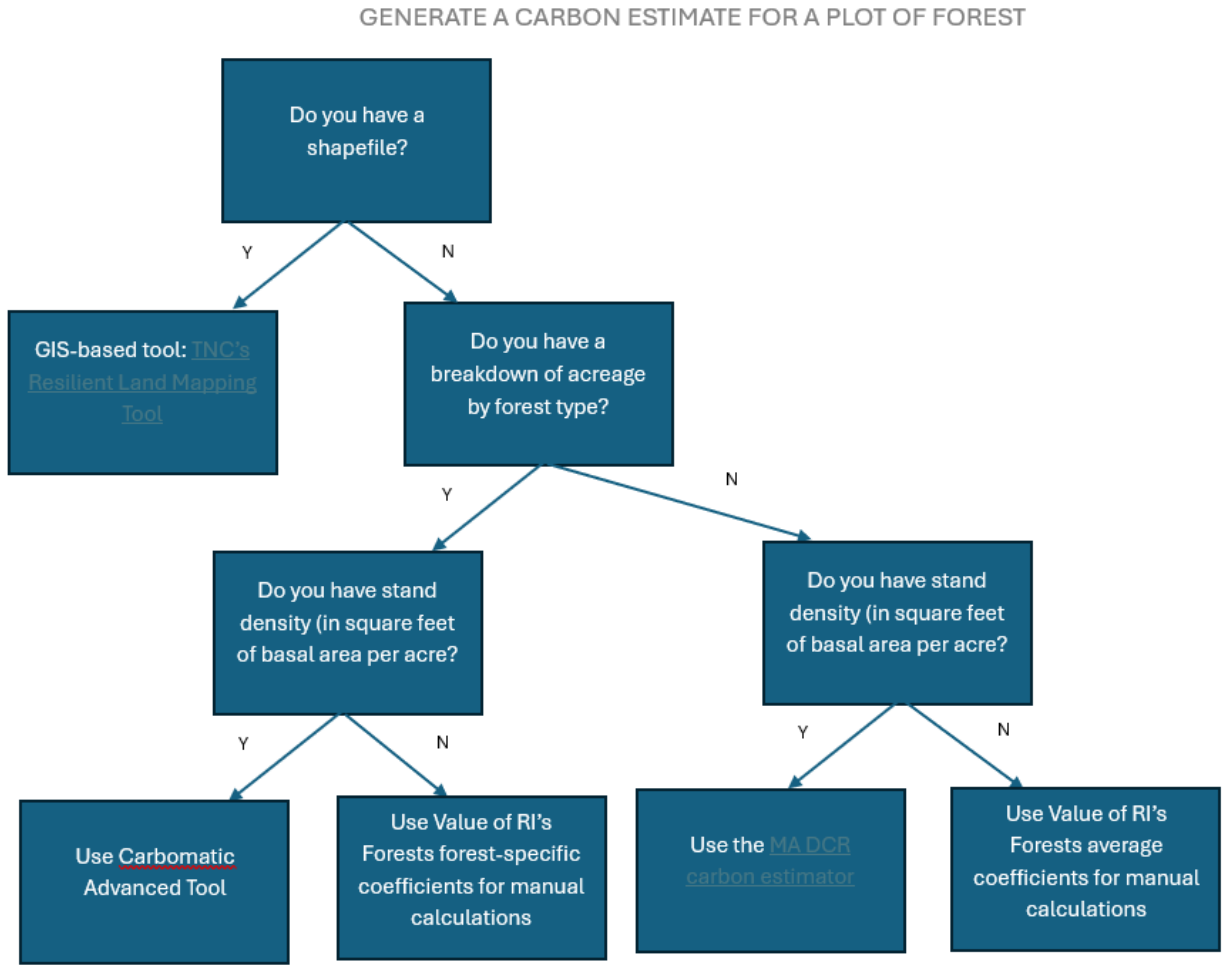
*Select the number closest to your BA

Result: Metric tons of carbon per acre

0.00

(MTCO2e) Metric tons of CO2 equivalent

0.00



2023 Rhode Island Greenhouse Gas Inventory

DEM
RHODE ISLAND

NOVEMBER 2025

2023 RHODE ISLAND
GREENHOUSE GAS INVENTORY

AN ASSESSMENT OF RHODE ISLAND'S PROGRESS TOWARDS THE ACT ON CLIMATE

WHAT'S NEW?

ENERGY SECTOR

- Applied in-house electricity consumption methodology to years 1990-2009.
- Corrected non-road source emissions estimates, see page 30.
- Revised emissions estimates for passenger and freight rail, see pages 31 and 32.
- Accounted for the effects of the Biodiesel Heating Oil Act, see page 33.
- Corrected industrial buildings emissions estimates, see page 34.
- New estimates for fugitive emissions from natural gas systems, see page 35.

INDUSTRIAL PROCESSES AND PRODUCT USE SECTOR

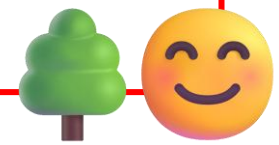
- Added three applications of carbonates: flue gas desulfurization (FGD), flux stone (when carbonates are used as a flux in metallurgy), and acidic water treatment.

WASTE SECTOR

- Revised solid waste disposal emissions estimates, see pages 36 and 37.

NATURAL AND WORKING LANDS SECTOR

- Included carbon stored in harvested wood products, see page 38.



- Forest carbon accounting methodology
- Urban versus non-urban forest

RI's Urban Trees

- Average **37%** canopy cover
- Urban Forestry Specialist at DEM
- Municipal Resilience Program: urban greening + green infrastructure

Co-Benefits of Urban Greening:

- Shade
- Clean air
- Recreation
- Wildlife habitat
- Clean water
- Stormwater control

RI's Wetlands

- Great at absorbing and storing carbon
- Release methane through anaerobic respiration
- Salt marshes hold more GHG than average because of high salinity
- RI coastal wetlands absorbed 14,000 metric tons of CO_2

THANK YOU

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tara.hoda.ctr@dem.ri.gov

Restoring RI's Coasts for Climate Resilience

Habitat Recovery, Living Shorelines, Monitoring for a Changing Bay

Heather Kinney, Coastal Restoration Program Manager

Image Credit: Chris Deacutis (Potters Pond 2016)

Coastal Habitats Are Climate Assets

- Protect shorelines and reduce storm damage
- Support biodiversity and adaptable ecosystems
- Enhance fisheries and food webs
- Improve water quality and strengthen nutrient cycling

The Coast is Where RI's Vulnerabilities and People Overlap

- Sea level rise/increased coastal flooding
- Increased storm intensity/storm surge
- Shoreline erosion/land loss
- Nursery habitats and high traffic/biodiverse areas

What Bringing Nature Back to the Coast Means

- Restoring self-sustaining coastal habitats
- Reducing reliance on hard infrastructure
- Monitoring ecological change to guide restoration

Monitoring for Adaptive Management

Beneficial Reuse of Dredge Material

Image Credit: Tim Mooney

Transforming hardened or degraded shorelines

Image Credit: Tim Mooney

Erosion Control Across RI

Image Credit: Tim Mooney

27 Rocky Point State Park, Warwick, RI

Coastal Restoration as Community Resilience

- Working with municipalities, DEM, CRMC, other local non-profits, community groups
- Co-developing designs that protect neighborhoods
- Building public access and education into coastal projects

Community-Based Climate Solutions

Angela Tuoni

Director of Climate & Government Relations

March 21, 2026

TNC's 2030 Goals

Climate Adaptation

Help **100M PEOPLE** at risk of climate emergencies.

Climate Mitigation

Avoid or sequester **3B METRIC TONS** of CO_2 equivalent annually.

Freshwater: Lakes & Wetlands

Conserve **30M HECTARES** of lakes and wetlands.

Freshwater: River Systems

Conserve **1M KILOMETERS** of river systems.

Lands

Conserve **650M HECTARES** of land.

Oceans

Conserve **4B HECTARES** of ocean.

People

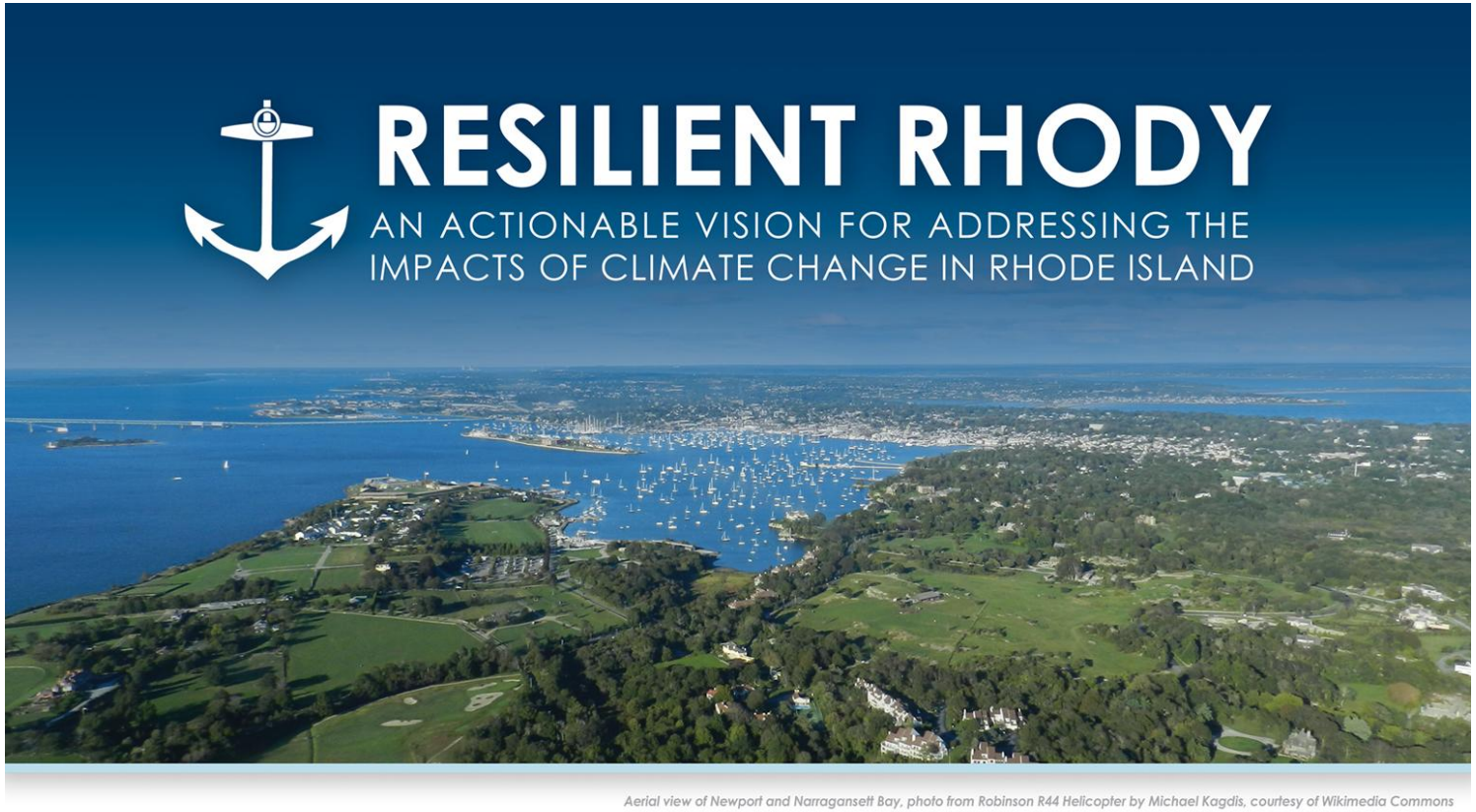
Support **45M PEOPLE** who rely on healthy lands and waters.

What is the Municipal Resilience Program?

MRP aims to identify the top resilience priorities in each city & town in Rhode Island and then provide funding for those resiliency projects through action grants.

Image Credit: Tim Mooney

Municipal Resilience Program (MRP)



Aerial view of Newport and Narragansett Bay, photo from Robinson R44 Helicopter by Michael Kagdis, courtesy of Wikimedia Commons

DEM RHODE ISLAND

The Nature Conservancy

RHODE ISLAND INFRASTRUCTURE BANK

BROWN

RHODE ISLAND EMERGENCY MANAGEMENT AGENCY

SAVE THE BAY®
NARRAGANSETT BAY

THE UNIVERSITY OF RHODE ISLAND

RHODE ISLAND DIVISION OF STATEWIDE PLANNING
METROPOLITAN PLANNING ORGANIZATION

Community Resilience Building

- Provide Opportunities for Connection
- Identify Strengths & Vulnerabilities
- Advance Priority Actions

Oakland Beach

- Storm drain and infiltration area to address flooding and pollution into Greenwich Bay
- Paired with other improvements that provide recreation, shoreline access

Walker Farm

- Increase stormwater filtration, wave buffering, and flood storage
- Shoreline stabilization through nature-based solutions
- Move recreation areas landward to provide areas for floodable open space

Truman Drive

- 33,000 Gal of stormwater capacity
- Public Access
- Pedestrian Safety
- 60+ Trees Planted

MRP By The Numbers

100% of Cities & Towns Participating

800+ Local Leaders Engaged

2,000+ Resilience Actions Identified

$24.5 Million in Action Grants Awarded

Completed Projects as of 2025

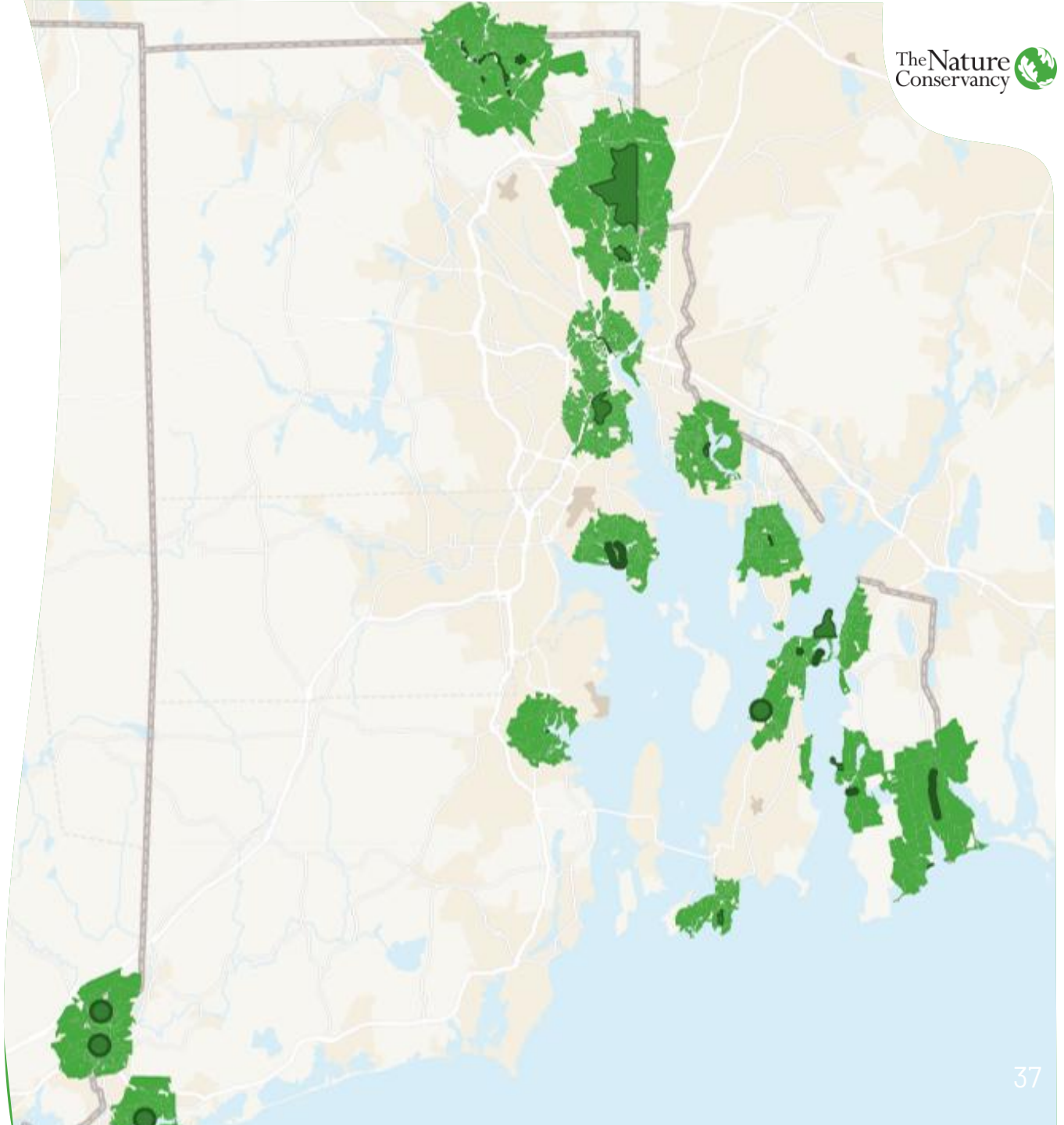


Image Credit: Kevin Ruddock

Statewide Support for Natural Climate Strategies

2026 Green Bond

- $20M Resilient Rhody Infrastructure Fund
- H-8144 to fund conservation programs

Thank you!

Tara Hoda

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Heather Kinney

Coastal Restoration Program Manager

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Angela Tuoni

Director of Climate & Government Relations

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