Forest Conservation Among Competing Uses

RCP Network Gathering
November 13, 2019
UMass Amherst

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Mass Audubon
Shaping the Future of Your Community

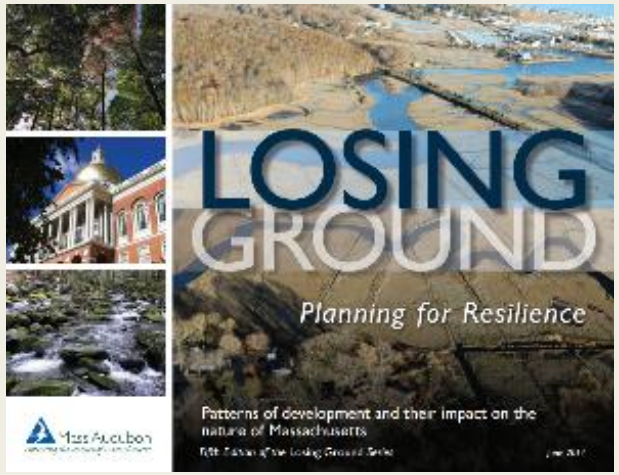
Overview

- Land Use Challenges and Impacts
- Narragansett Bay Watershed and Ecosystem Services
- Taunton Watershed – Resilient Taunton Watershed Network (RTWN)
- Blackstone Watershed – Blackstone River Coalition
- Common Themes
- Initiatives and Resources

Shaping The Future of Your Community Program

Created in 2009 to implement *Losing Ground* recommendations

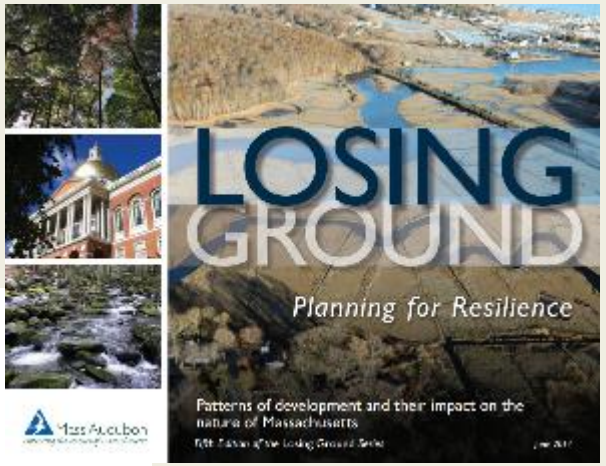
Assists the fastest-developing communities chart a more **sustainable future** through customized community workshops and direct assistance

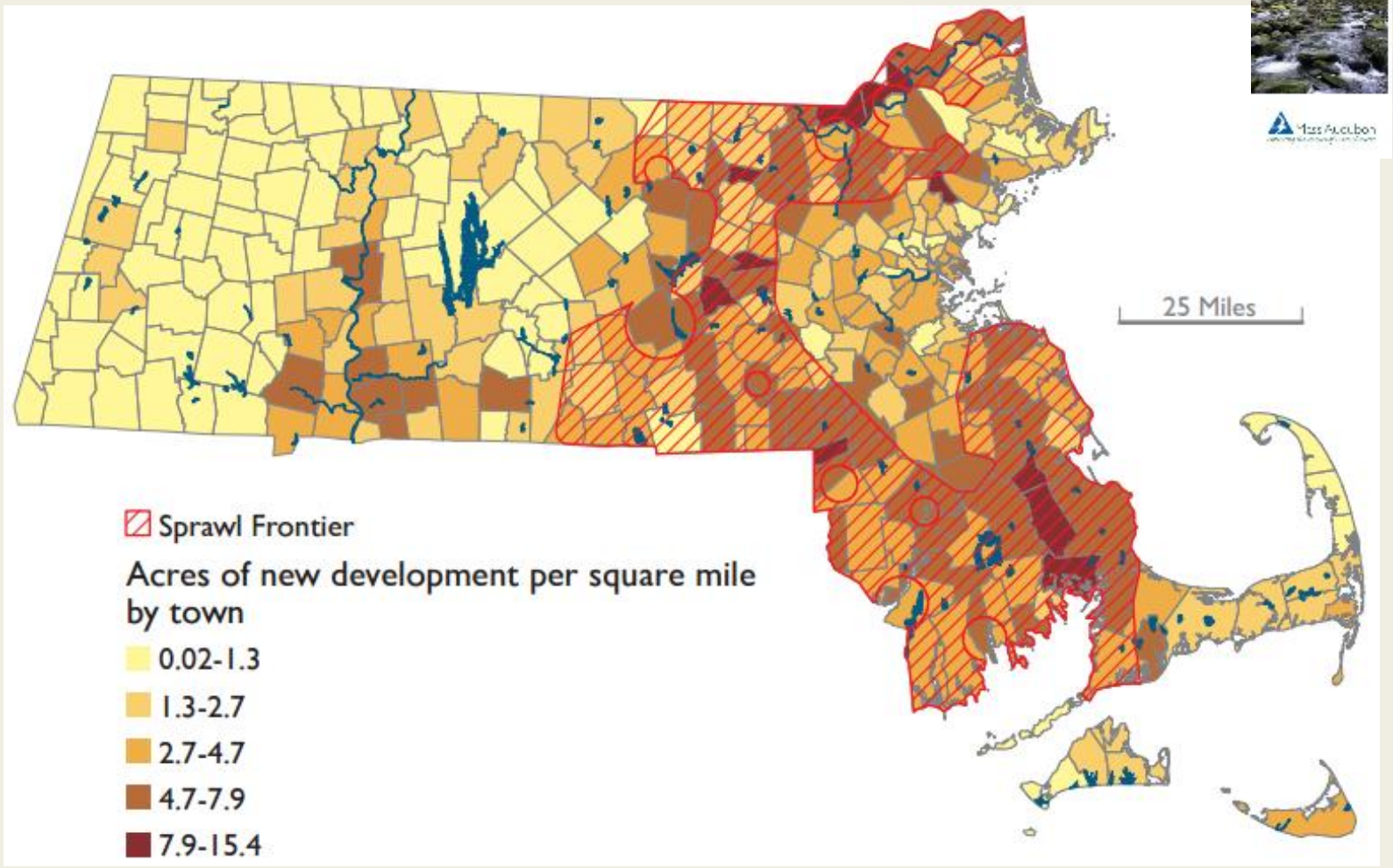


Shaping the Future of Your Community

What's the problem?

Development is sprawling





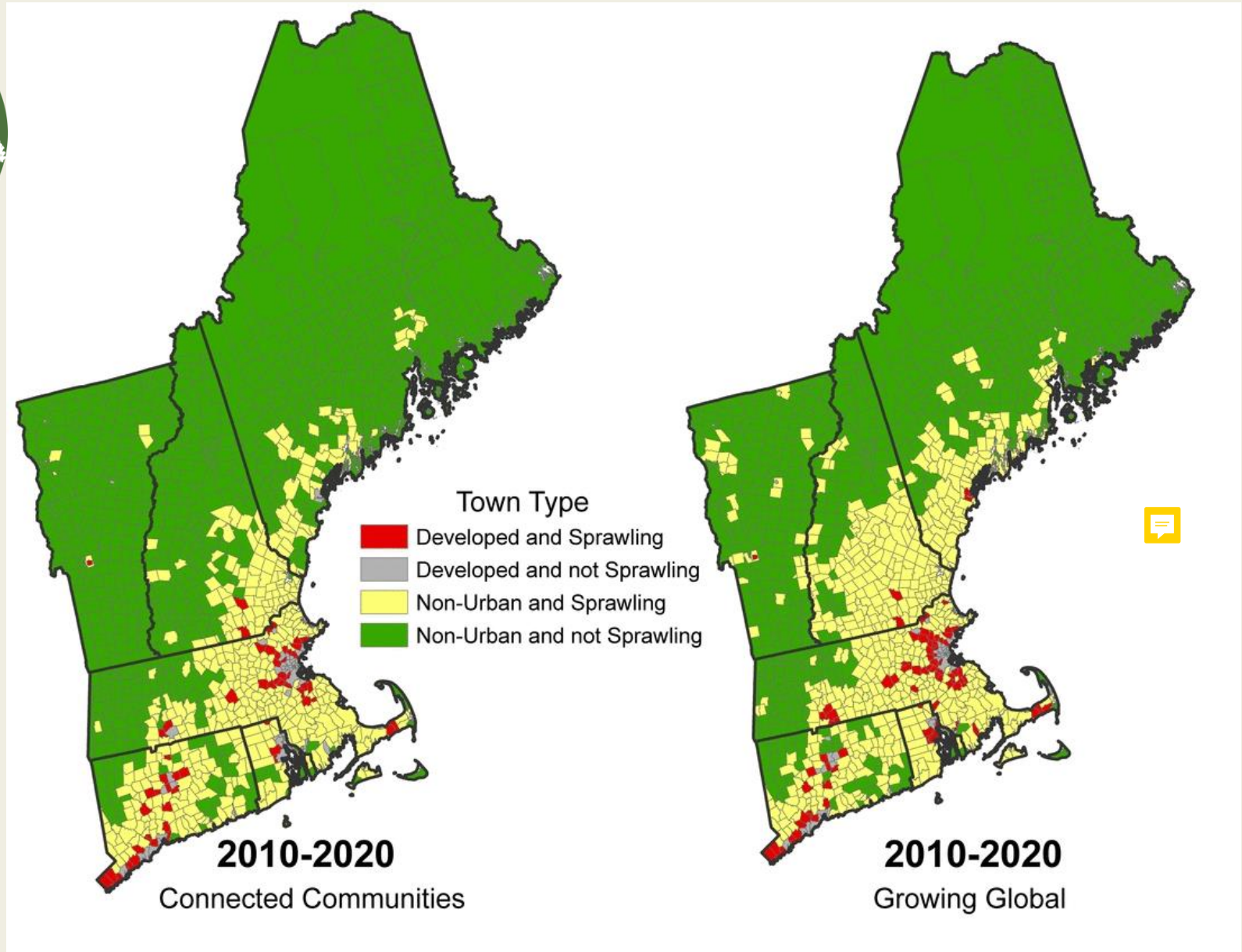
New England Landscape Futures

newenglandlandscapes.org

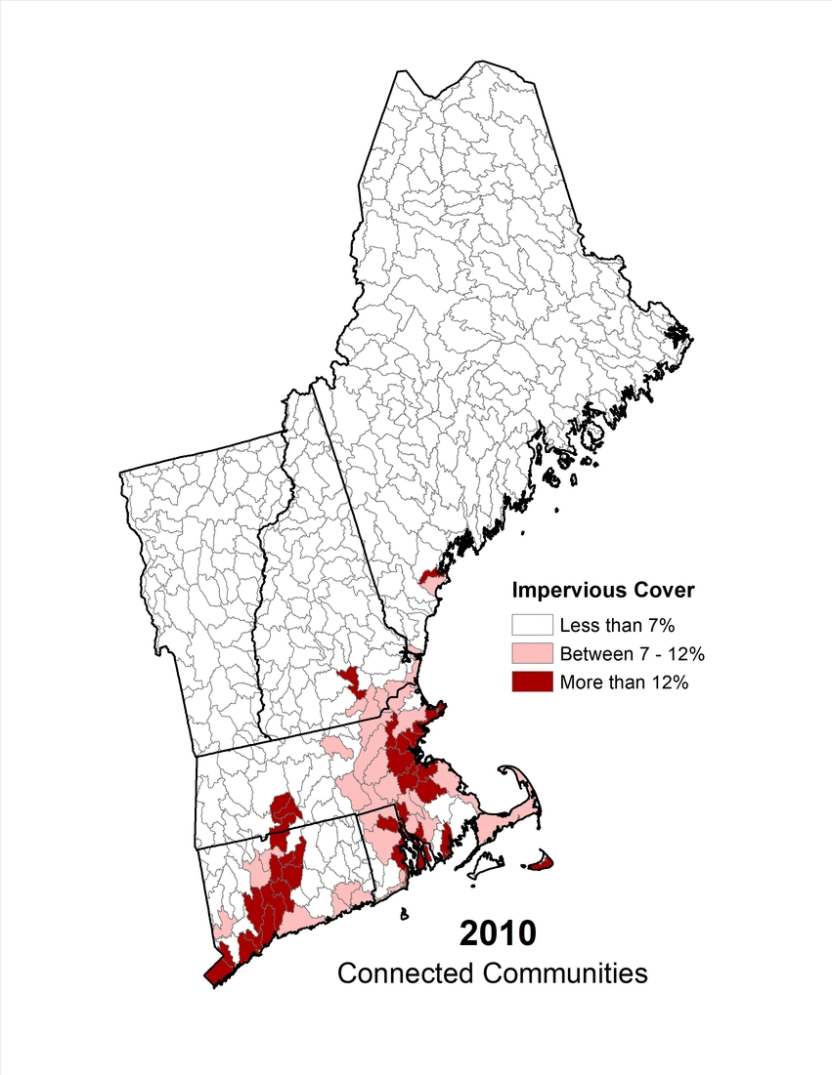
S3RCN Scenarios, Services & Society Research Coordination Network

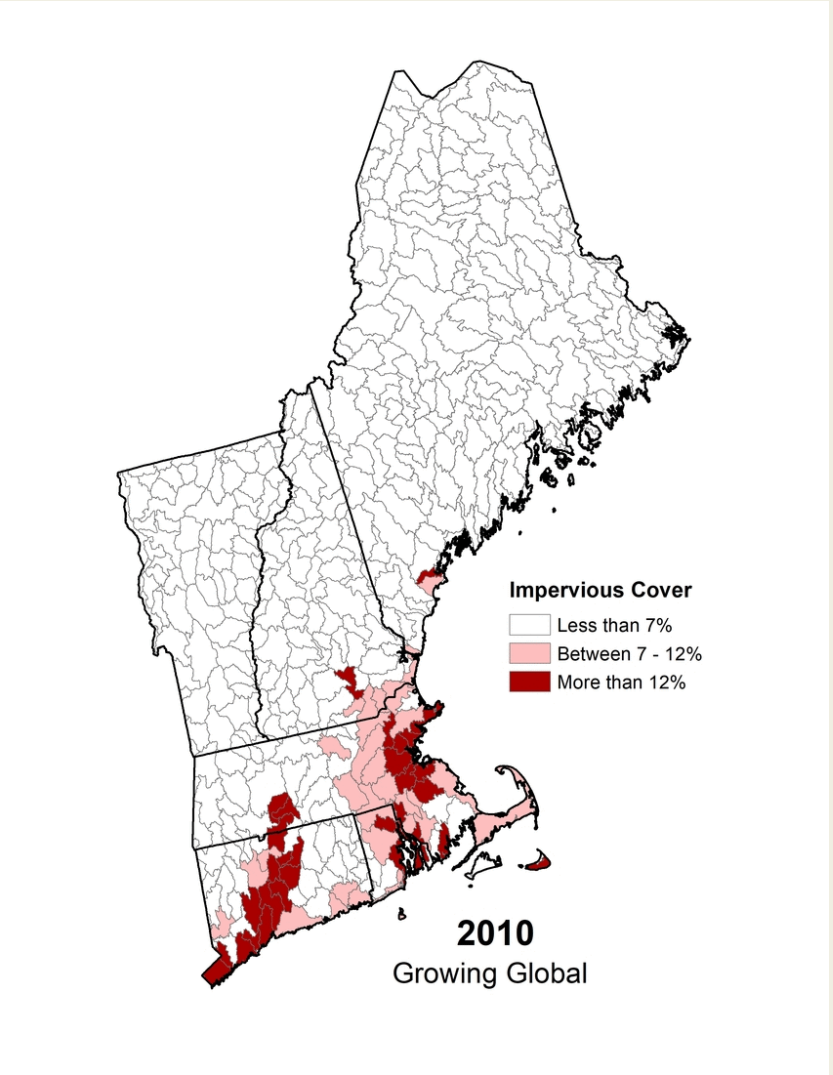
HARVARD FOREST

Two Future Scenarios



Impervious Surfaces





New Challenges in Land Use

Get Solar Off the Ground!

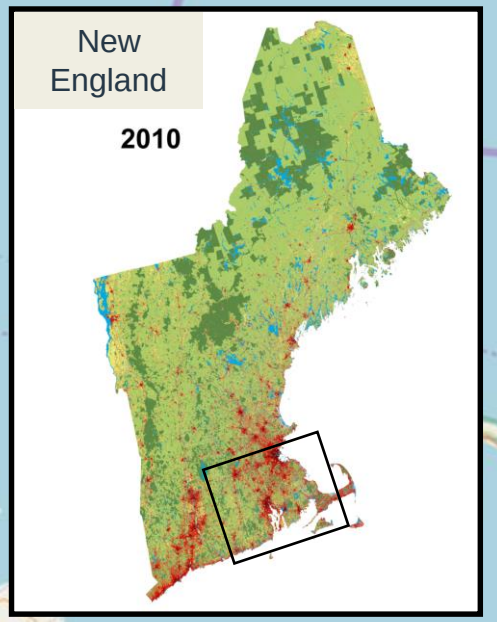
Comparison 3: Shutesbury, MA – 33.8 acres

Previous land cover: Forested (May 2014)

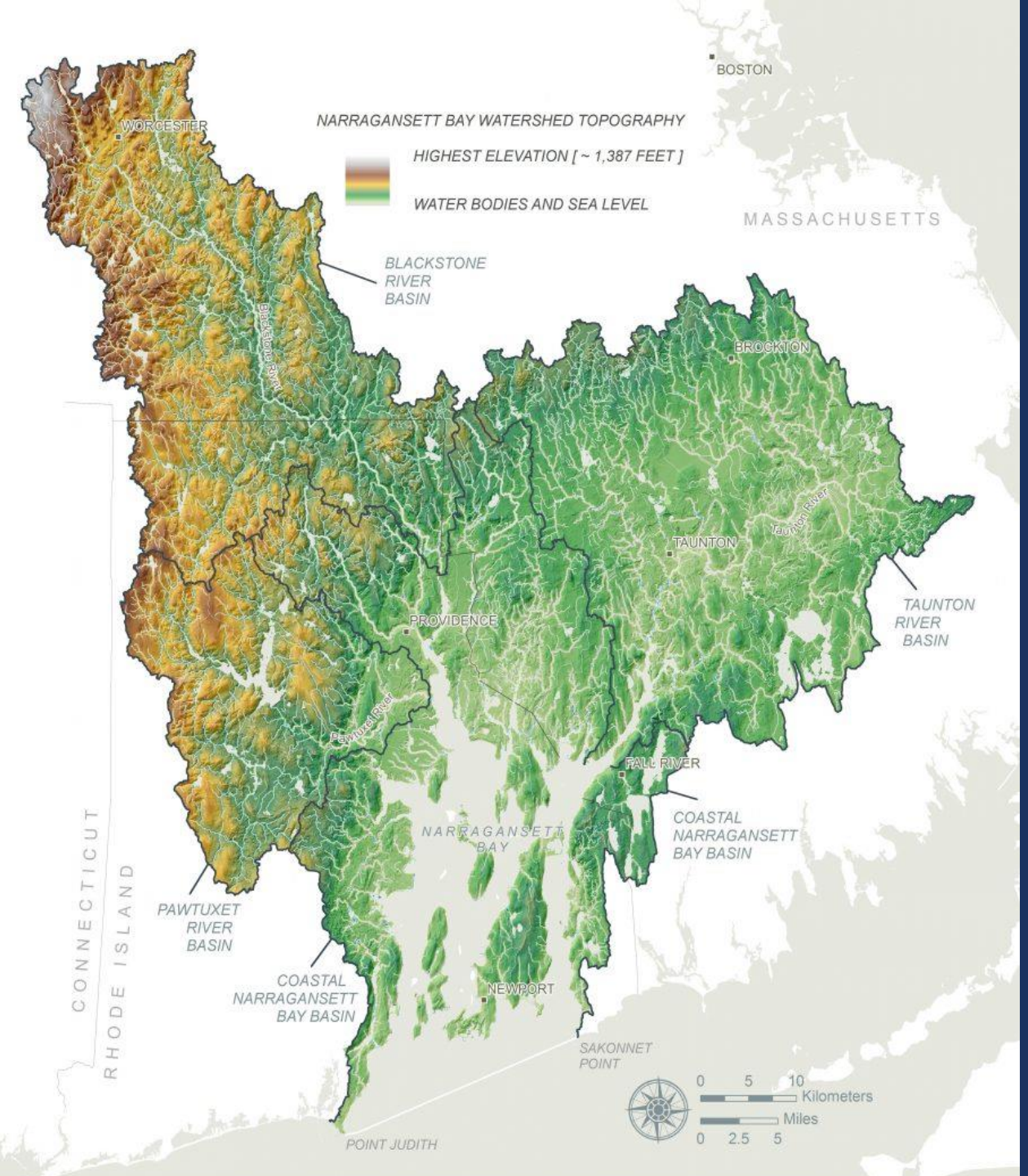
Subsequent land cover: Photovoltaics (June 2018)

Johnson, Emily, et. al., *The siting and impact of photovoltaic systems in Franklin, Hampshire, & Hampden counties: A preliminary study*, Harvard Forest, 2019.

NARRAGANSETT BAY



Watershed boundary



The Narragansett Bay Watershed

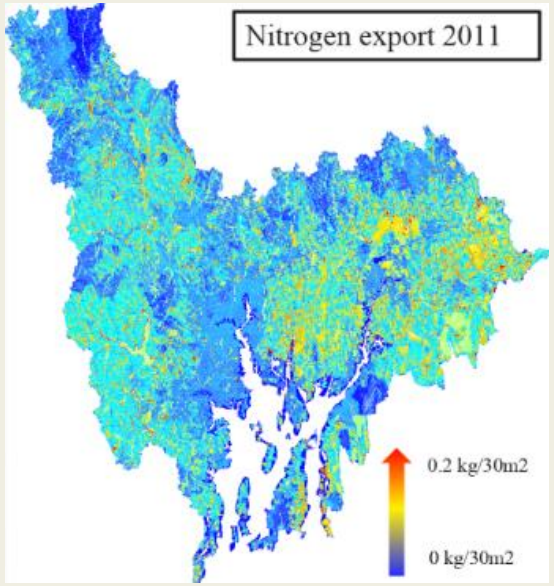
- Home to ~2 million people
- 60% MA, 40% RI
- Dramatic reductions in pollution by wastewater treatment facilities – now other challenges
  - NBEP *State of the Narragansett Bay and its Watershed* report

NARRAGANSETT BAY ESTUARY PROGRAM

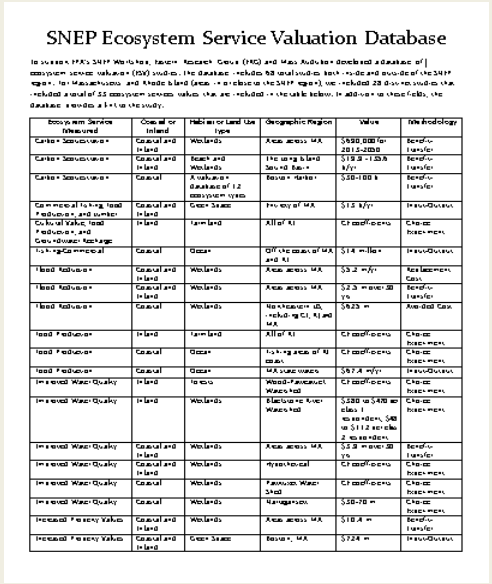
NEIWPCC
New England Interstate Water Pollution Control Commission

Valuing Ecosystem Services in the Narragansett Bay Watershed

Valuation of economic sectors
nbweconomy.org



Modeling of land use changes, sediment/ nutrient transport, wellbeing changes & value



Project organization, stakeholder outreach, materials, literature review

COASTAL INSTITUTE

natural capital PROJECT

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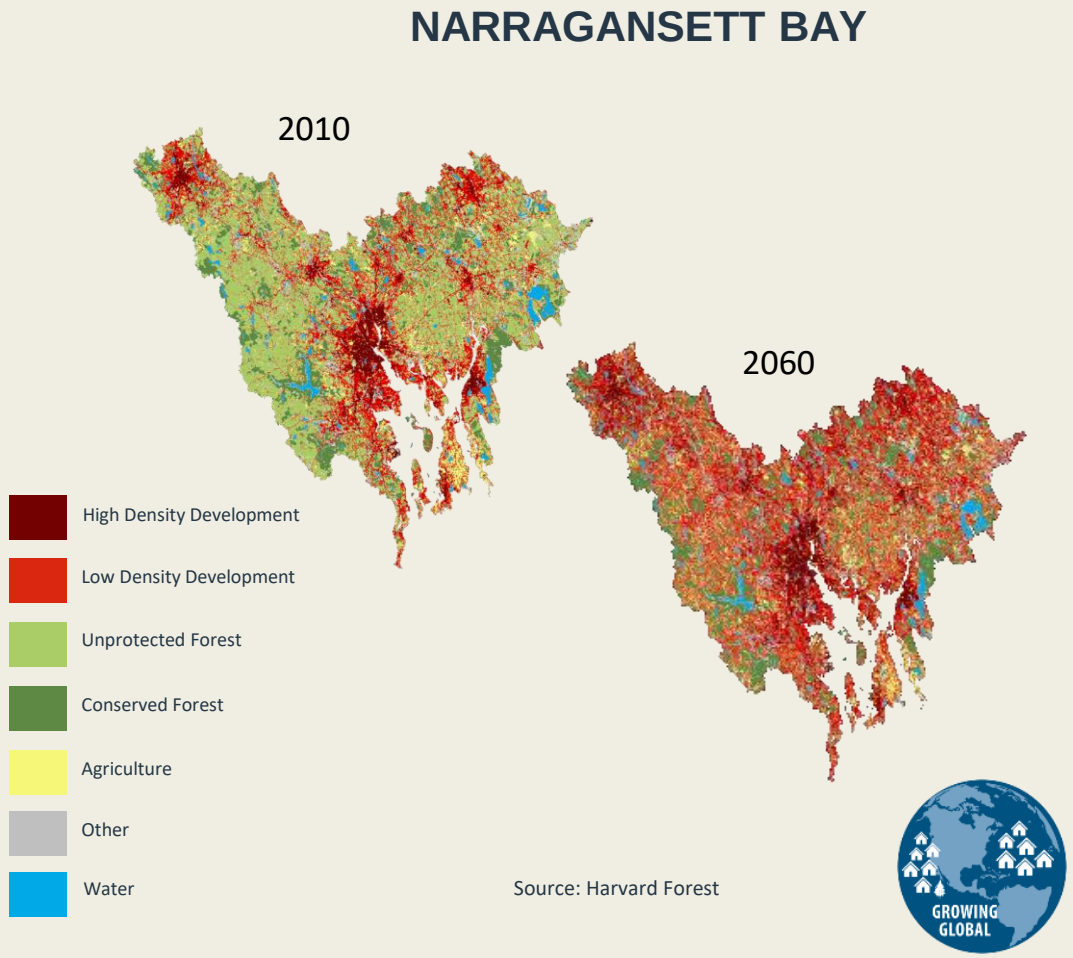
Land Use and Water Quality Modeling

- Harvard Forest Land Futures scenarios – forest cover by 2060
  - "Connected Communities" - 46%
  - "Growing Globally" - 22%

- Modeled pollution retention benefits of land for water quality
  - If all natural areas are converted to development, significant changes in bacteria levels – no longer fishable/swimmable

- Willingness to Pay (WTP) for maintaining water quality improvements in the lower and upper Bay:

  $38 and $51 million



Ecosystem Services

Five Fact Sheets

Forests | Grasslands and Farmland | Coastal | Wetlands & Waterways | Urban

- Carbon Capture & Sequestration
- Flood Mitigation
- Air and Water Quality
- Recreation
- Food and Fiber
- Human Health
- Social and Cultural
- Wildlife

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Taunton River Watershed

- Fastest developing watershed in Massachusetts
- 30% of the watershed is undeveloped, unprotected, and of high priority for resilience for people and wildlife
- Low-lying watershed, susceptible to flooding

Resilient Taunton Watershed Network (RTWN)

20 state, local, non-profit and federal partners.

Promote ecological, economic, and social resiliency

www.srpedd.org/rtwn

SNEP Southeast New England Program

SRPEDD

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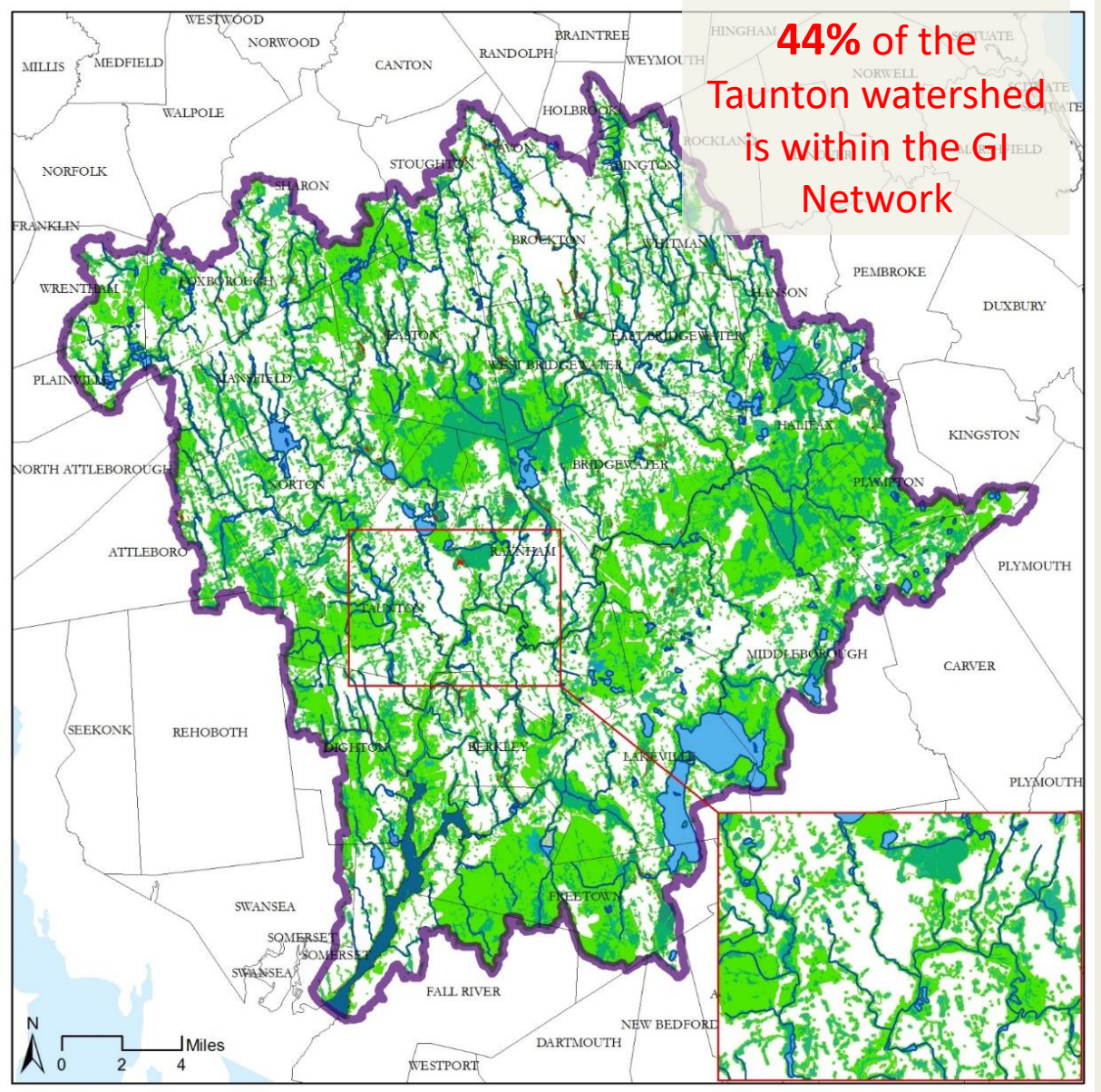
50 YEARS

The Nature Conservancy

Green Infrastructure for Resiliency Planning

- Flood control
- Nonpoint source pollution control
- Groundwater recharge
- Protection
- Reduced infrastructure costs
- Ecological resiliency
- Public access and recreation



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Soaring Solutions. Grounded Science.

50 YEARS

Review bylaws and regulations to encourage nature-based solutions

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Factors	Conventional	Better	Best	Community's Zoning	Community's Subdivision Rules & Regulations	Community's Site Plan Review	Community's Stormwater/LID Bylaw/Regulations
GOAL 1: PROTECT NATURAL RESOURCES AND OPEN SPACE							
Soils managed for revegetation	Not addressed	Limitations on removal from site, and/or requirements for stabilization and revegetation	Prohibit removal of topsoil from site. Require rototilling and other prep of soils compacted during construction	*(Not applicable)*			
Limit clearing, lawn size, require retention or planting of native vegetation/naturalized areas	Not addressed or general qualitative statement not tied to other design standards	Encourage minimization of clearing/ grubbing	Require minimization of clearing/grubbing with specific standards				
Require native vegetation and trees	Require or recommend invasives	Not addressed, or mixture of required plantings of native and nonnative	Require at least 75% native plantings				
GOAL 2: PROMOTE EFFICIENT, COMPACT DEVELOPMENT PATTERNS AND INFILL							
Lot size	Required minimum lot sizes	OSRD/NRPZ preferred. Special permit with incentives to utilize	Flexible with OSRD/NRPZ by right, preferred option				

www.massaudubon.org/lidcost

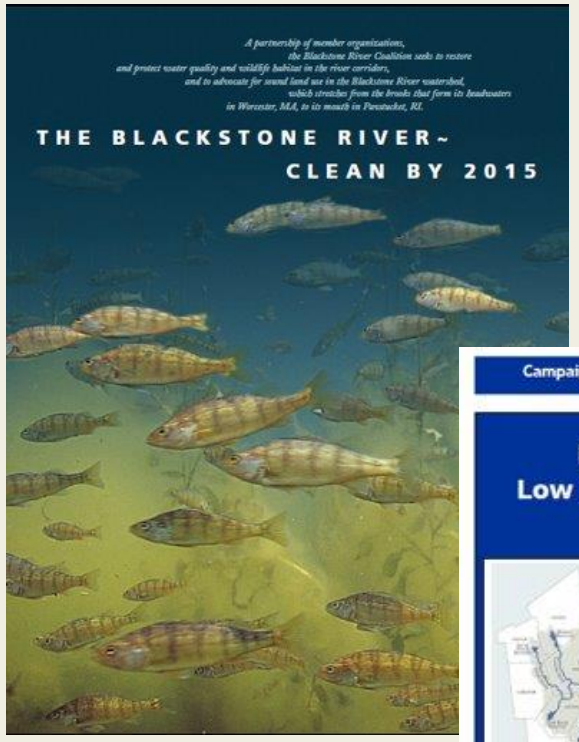
Open Space Design as the preferred by–right option

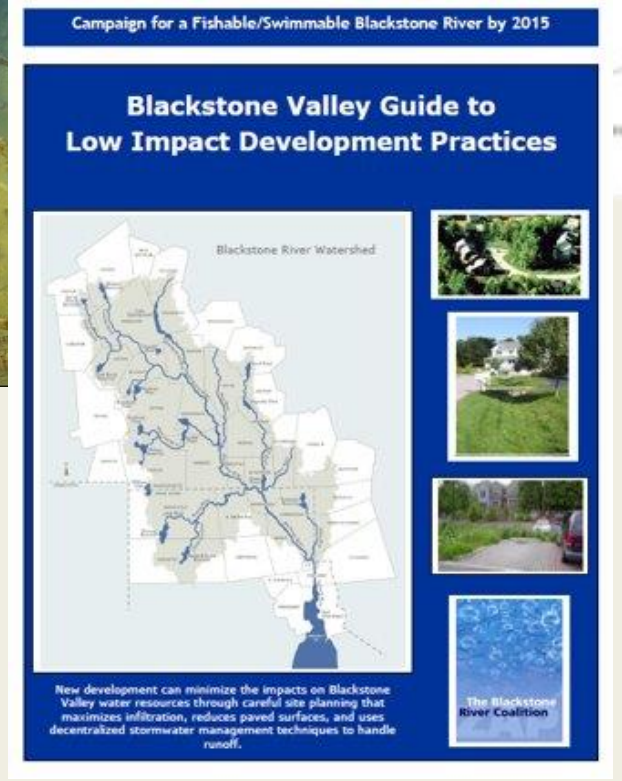
<u>Benefits</u>

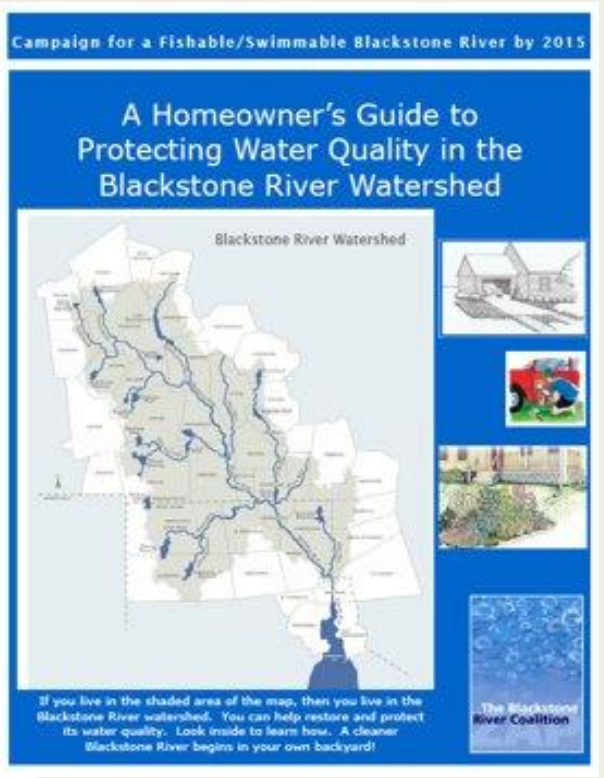
- 1,700 Acres of land Protected
- Preserved local habitat and water resources
- Created 13 miles of hiking trails & public recreation
- Town saved millions of dollars

Rail Trail in Westford, MA

The Blackstone River Coalition







Blackstone River Watershed Needs Assessment

- Community engagement through series of workshops
- Watershed-wide collaboration
- Identify and prioritize local project needs
- Produce a comprehensive needs assessment

NARRAGANSETT BAY ESTUARY PROGRAM

NEIWPCC
New England Interstate Water Pollution Control Commission

SNEP
Southeast New England Program

Common Themes and Approaches

- Work with local and regional partners
- Address the needs of the communities
- Prioritize land for protection and other projects based on local values and priorities
- Role of local planning and zoning/regulation
- Share success stories

Resources

- New England Landscape Futures Explorer newenglandlandscapes.org/
- Narragansett Bay Watershed Economy nbweconomy.org/ and NB Estuary Program nbep.org
- Mapping and Land Conservation Prioritization
- manomet.org/publication/taking-green-infrastructure-statewide-in-massachusetts/
- Municipal Vulnerability Preparedness Program and TNC's Community Resilience Building Guidebook

mass.gov/municipal-vulnerability-preparedness-mvp-program
communityresiliencebuilding.com/

- Bylaw review tool www.massaudubon.org/lidcost
- Resilient Taunton Watershed Network www.srpedd.org/rtwn
- New edition of *Losing Ground* – available December 2019 massaudubon.org/losingground

Thank you!

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www.massaudubon.org/shapingthefuture

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Discussion Questions

- What challenges are you facing in conserving forestland in your community/region?
- How do you approach the role of forests in addressing climate change and moving towards a more sustainable future? Do you feel capable of articulating this to different audiences?
- What types of conservation strategies have worked best in your region? What kind of collaboration has helped make them happen?
- What has inspired partnerships to move from vision and assessment to acting on conservation in a significant way?