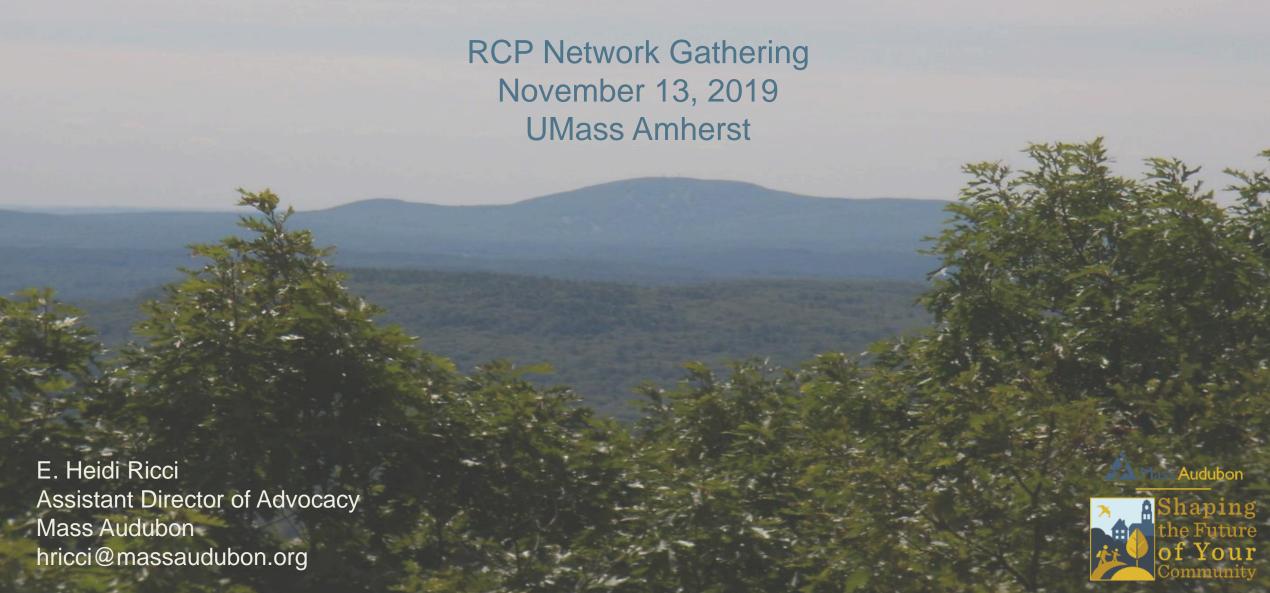
# **Forest Conservation Among Competing Uses**



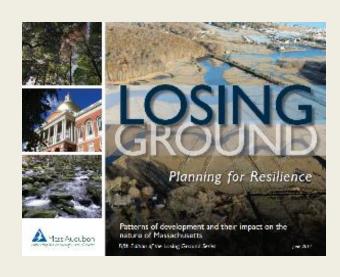
## Overview

- 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

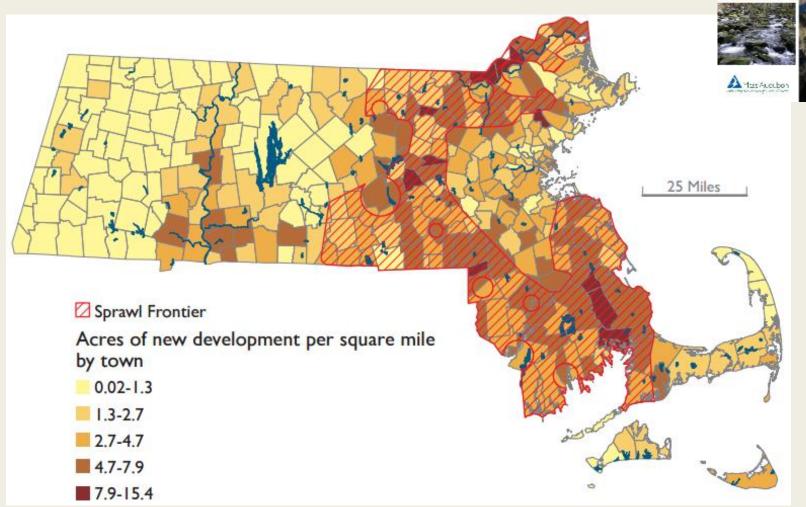
Assists the fastestdeveloping communities
chart a more sustainable
future through
customized community
workshops and direct
assistance





# What's the problem?

Development is sprawling



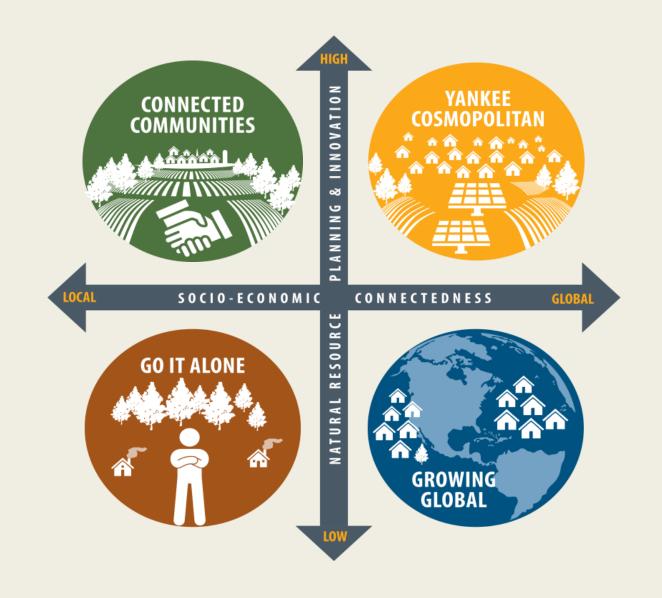


# New England Landscape Futures

newenglandlandscapes.org

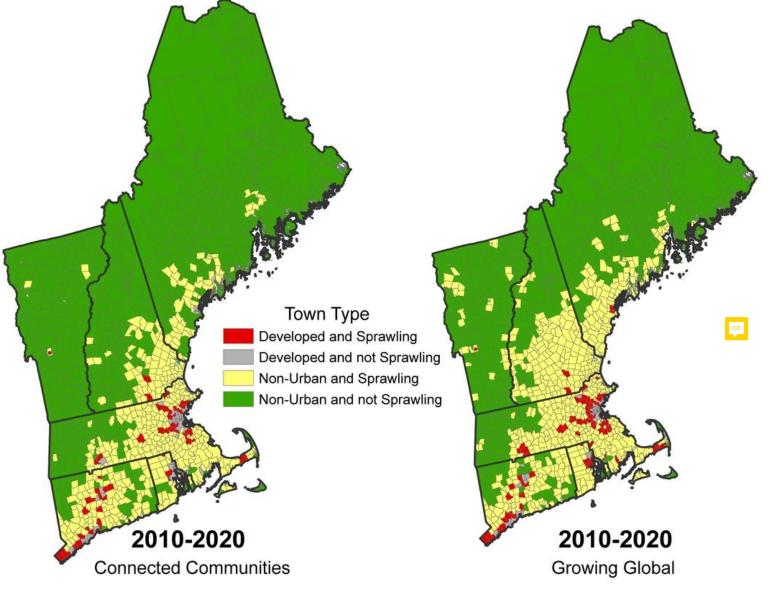






## Two Future Scenarios

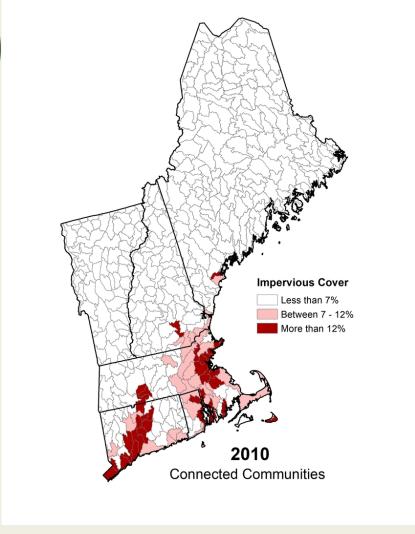


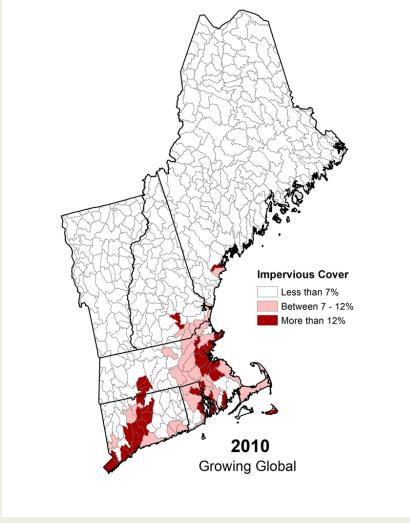




# Impervious Surfaces









# New Challenges in Land Use

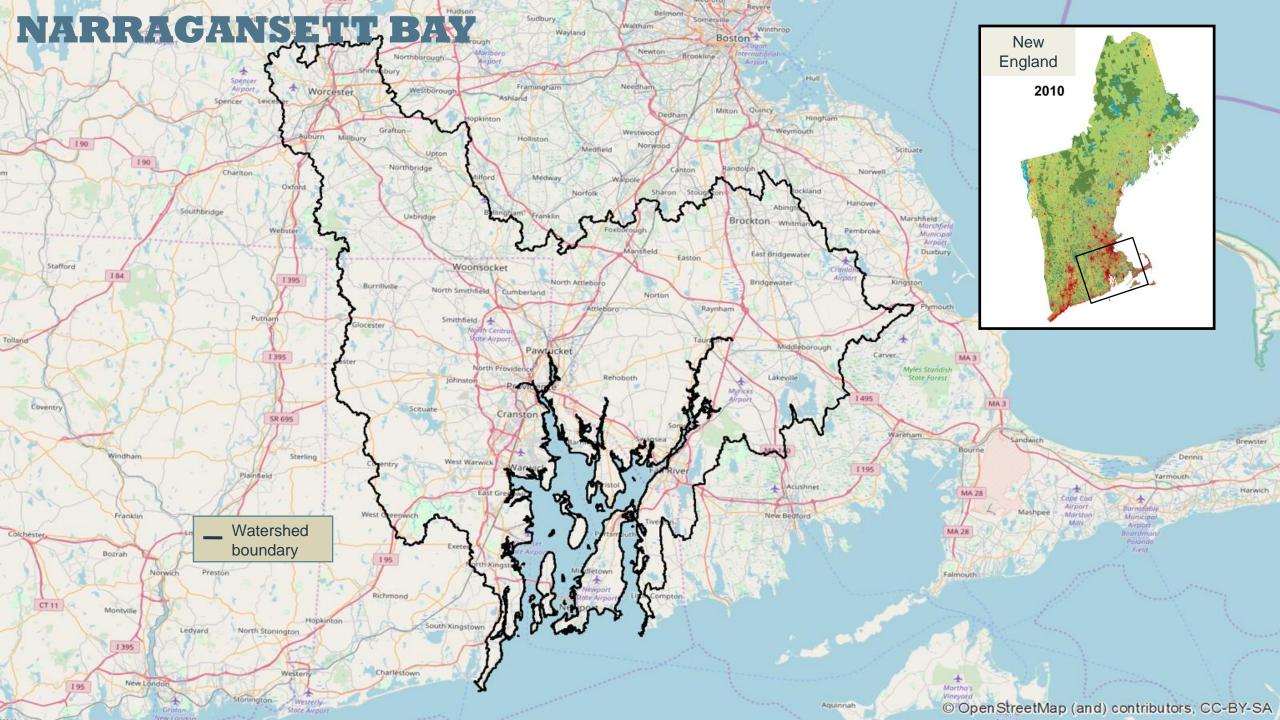
Get
Solar
Off the
Ground!







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 TOPOGRAPHY HIGHEST ELEVATION [ ~ 1,387 FEET ] WATER BODIES AND SEA LEVEL BLACKSTONE

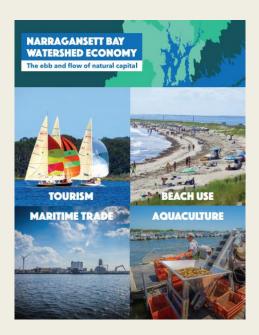
# The Narragansett Bay Watershed

- 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



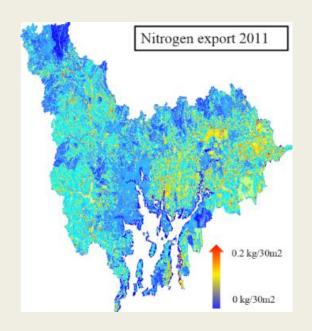


# Valuing Ecosystem Services in the Narragansett Bay Watershed



Valuation of economic sectors nbweconomy.org





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



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Project organization, stakeholder outreach, materials, literature review



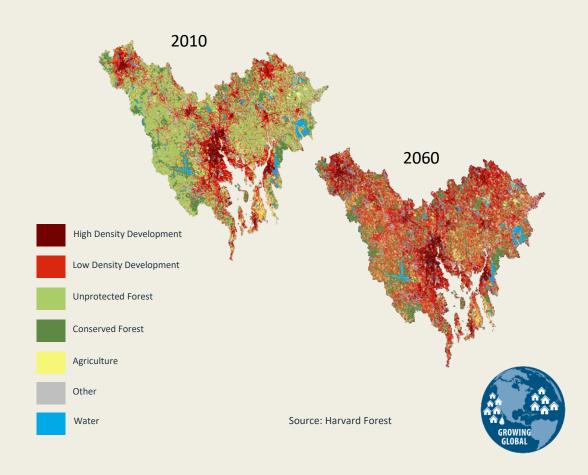
# Land Use and Water Quality Modeling



- 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



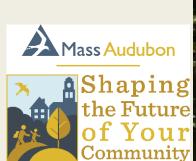


## **Ecosystem Services**

#### **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





## **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





20 state, local, non-profit and federal partners. Promote ecological, economic, and social resiliency <a href="https://www.srpedd.org/rtwn">www.srpedd.org/rtwn</a>









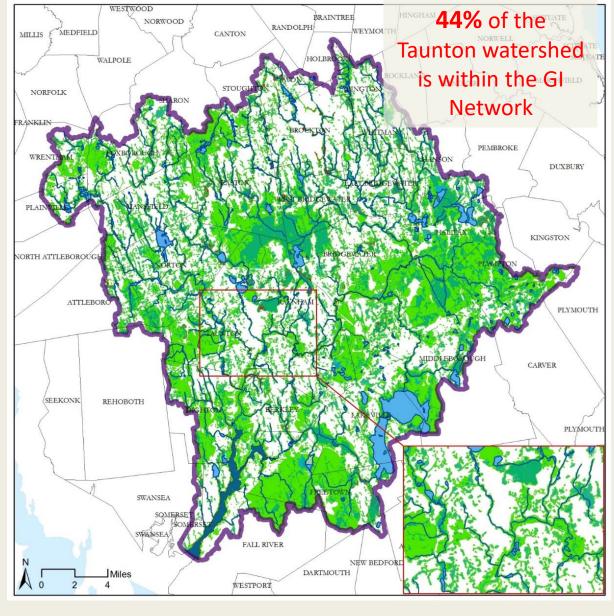






# Green Infrastructure for Resiliency Planning

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







# Review bylaws and regulations to encourage nature-based solutions

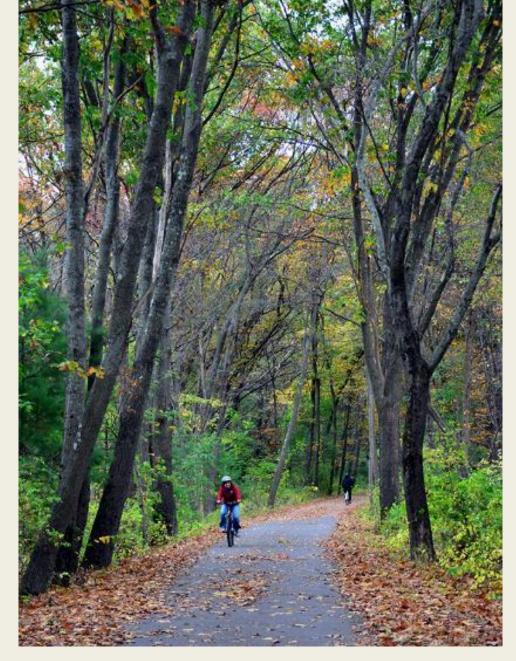


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Factors	Conventional	Better	Best	Community's Zoning	Community's Subdivision Rules & Regulations	Community's Site Plan Review	Community's Stormwater/LID Bylaw/Regulations	
GOAL I: PROT	ECT NATURAL RI	ESOURCES AND OPEN SI	PACE					
Soils managed for revegetation	Not addressed	Limitations on removal from site, and/or requirements for stabilization and revegetation	and other prep of soils	(Not applicable)				
Limit clearing, lawn size, require retention or planting of native vegetation/natura lized areas		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.i	massaudubon.org	g/lidcost					

# Open Space Design as the preferred by—right option

#### **Benefits**

- 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



A Homeowner's Guide to Protecting Water Quality in the Blackstone River Watershed



If you live in the shaded area of the map, then you live in the Blackstone River watershed. You can help restore and protect its water quelity. Look made to learn how. A cleaner Blackstone River begins in your own backyard!

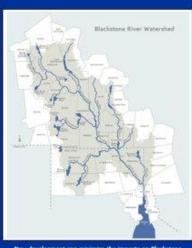
THE BLACKSTONE RIVER~

CLEAN BY 2015

The Blackstone
River Coalition

Campaign for a Fishable/Swimmable Blackstone River by 2015

#### **Blackstone Valley Guide to Low Impact Development Practices**





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# 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







# 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 <u>newenglandlandscapes.org/</u>
- Narragansett Bay Watershed Economy <a href="mailto:nbweconomy.org/">nbweconomy.org/</a> and NB Estuary Program <a href="mailto:nbep.org">nbep.org</a>
- 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 <u>www.massaudubon.org/lidcost</u>
- Resilient Taunton Watershed Network <u>www.srpedd.org/rtwn</u>
- New edition of Losing Ground available December 2019 massaudubon.org/losingground



E. Heidi Ricci

hricci@massaudubon.org

www.massaudubon.org/shapingthefuture





## 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?