

Losing Ground

Nature's Value in a Changing Climate

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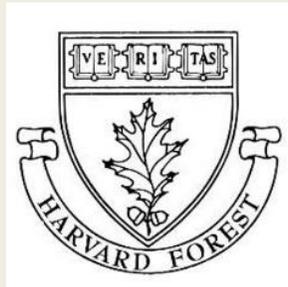
Massachusetts Land Trust Coalition
Webinar May 5, 2020



Valuing Ecosystem Services in the Narragansett Bay

Thank you Funders and Partners

LOOKOUT FOUNDATION



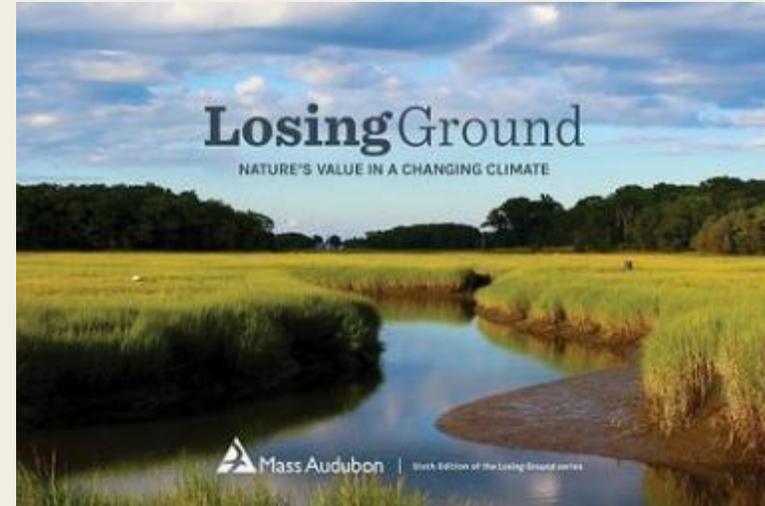


Shaping The Future of Your Community Program

Created in 2009 to implement *Losing Ground* recommendations

Assists the fastest-developing communities chart a more **sustainable future**

- ✓ Customized workshops
- ✓ Technical assistance
- ✓ Planning advice



Shaping
the Future
of Your
Community

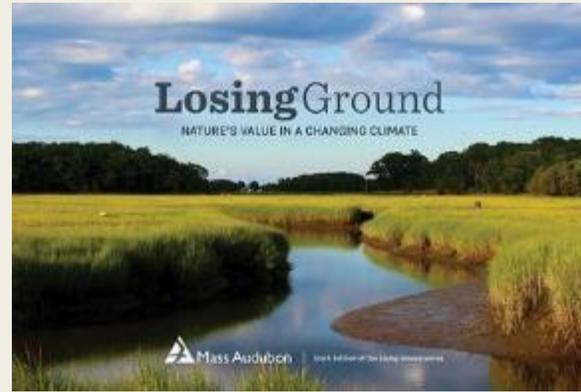
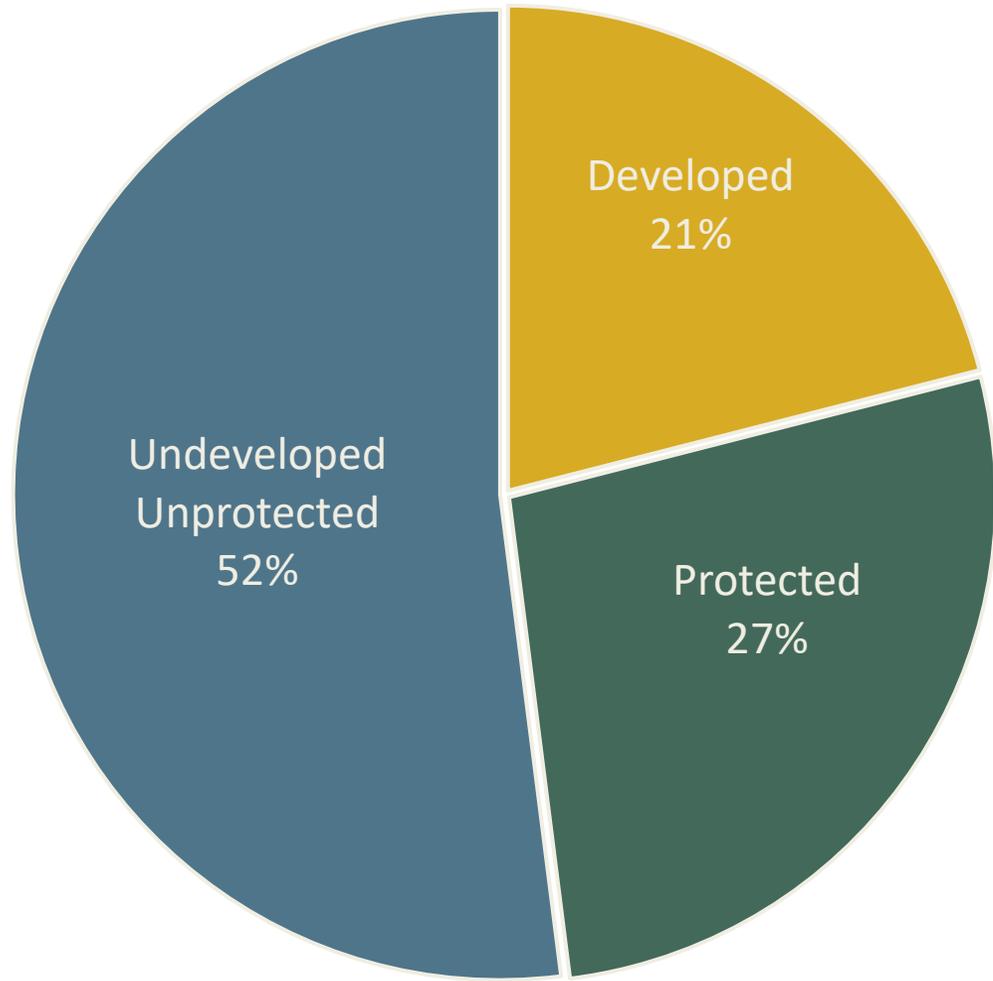
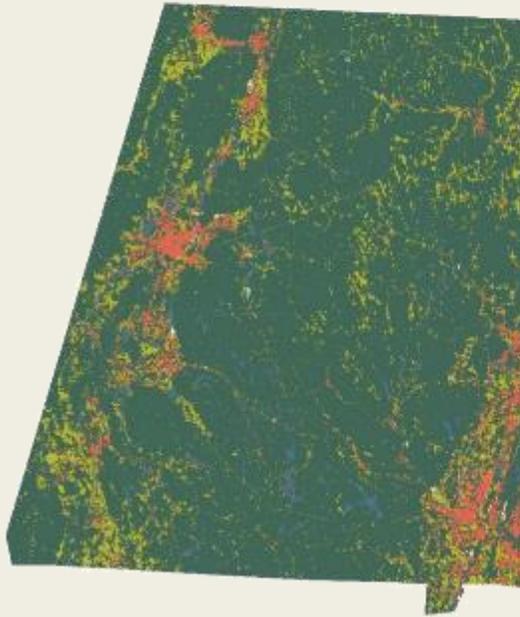
Losing Ground: Nature's Value in a Changing Climate

1. Recent Land Use Trends
2. Key Issues
3. Recommendations
4. Q&A and Discussion



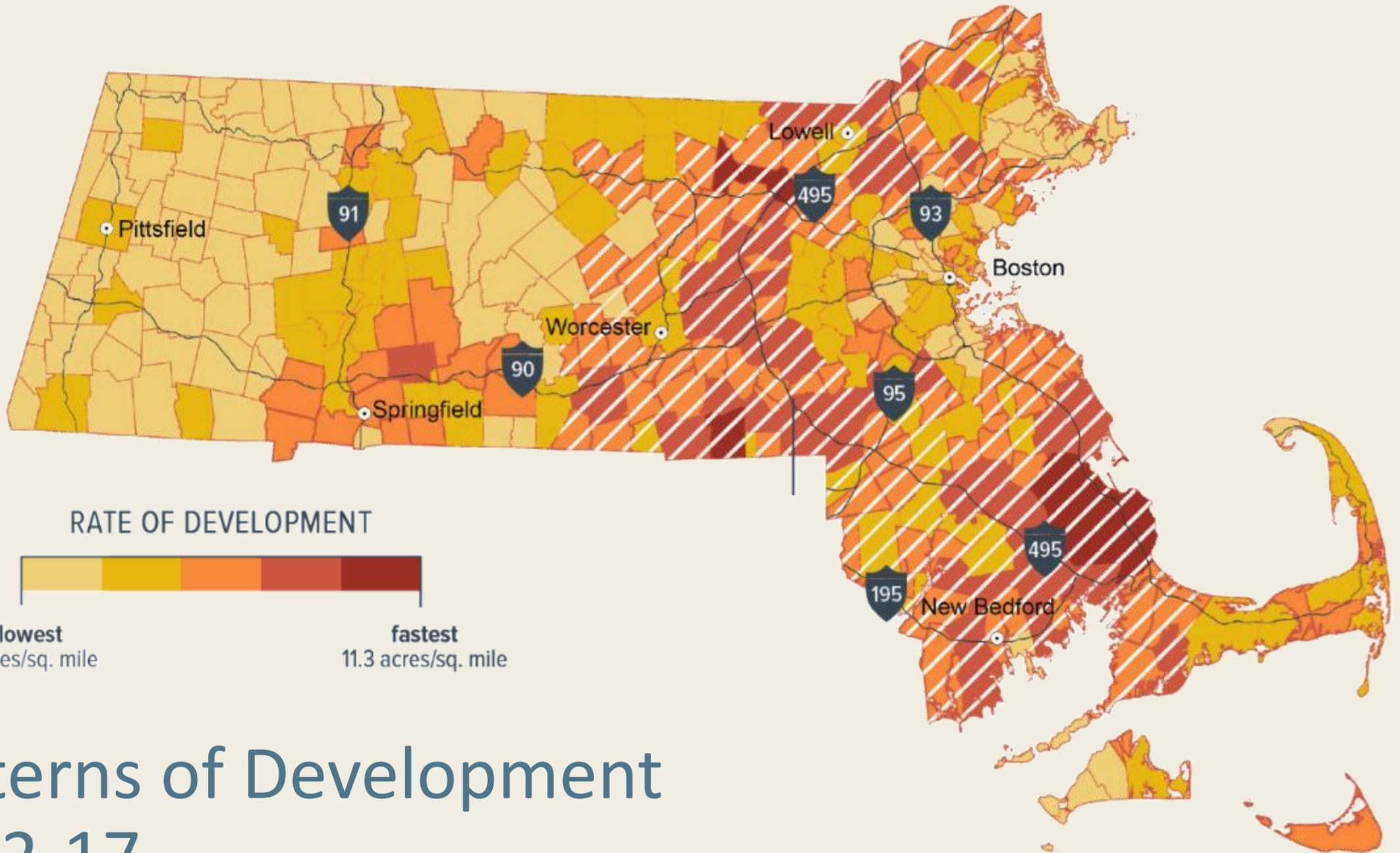
Losing Ground

Nature's Value in a Changing Climate



2017 Statewide Land Cover





Patterns of Development 2012-17



Key Findings (2012-2017)

- Pace of development = 13.5 acres per day
 - 24,700 acres developed
 - LG5 (2005-2013) = 13 acres/day
 - LG4 (1999-2005) = 20 acres/day
 - LG3 (1985-1999) = 40 acres/day











Get Solar Off the Ground

- 1/4 of new development = ground-mounted solar

Recommendations

- State – Revise financial incentives
- Local - Update local land use rules



6,000 ACRES

CONVERTED TO SOLAR ARRAYS
on previously undeveloped land
since 2012

150,000 ACRES

OF LAND COULD BE LOST
if current trends continue

**47% OF
ELECTRICAL
DEMAND**

COULD BE SUPPORTED BY
solar capacity on existing rooftops

New DOER Solar Massachusetts Renewable Target (SMART) Regulations

- Eliminates incentives for new large private projects on Priority Habitat, Biomap2 Core Habitat or Critical Natural Landscapes
- Set asides for low income and small commercial projects
- Increases greenfield subtractor 2.5x
- Grandfathers projects in pipeline
- Allows Public Projects in Priority Habitat and BioMap2 lands
- Greenfield subtractor still insufficient disincentive – measures by panels not area impacted
- East and West areas combined

www.mass.gov/info-details/smart-emergency-rulemaking

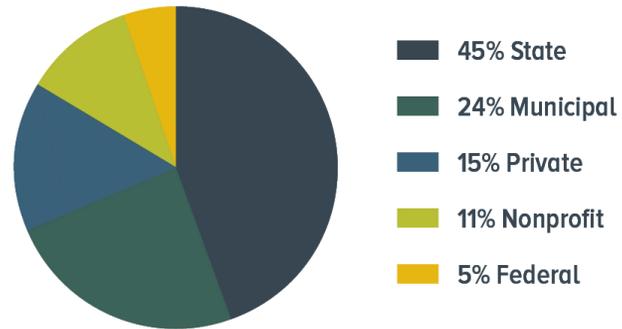
Key Findings (2012-2017)

Pace of conservation = 55 acres/day

- 100,000 acres conserved
- 37% increase in land protection rate

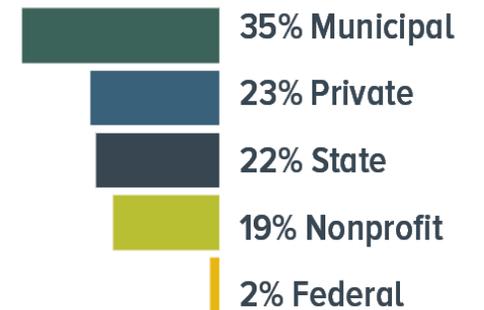
▼ **FIGURE 2.3**

Ownership of permanently conserved land in Massachusetts as of 2017.

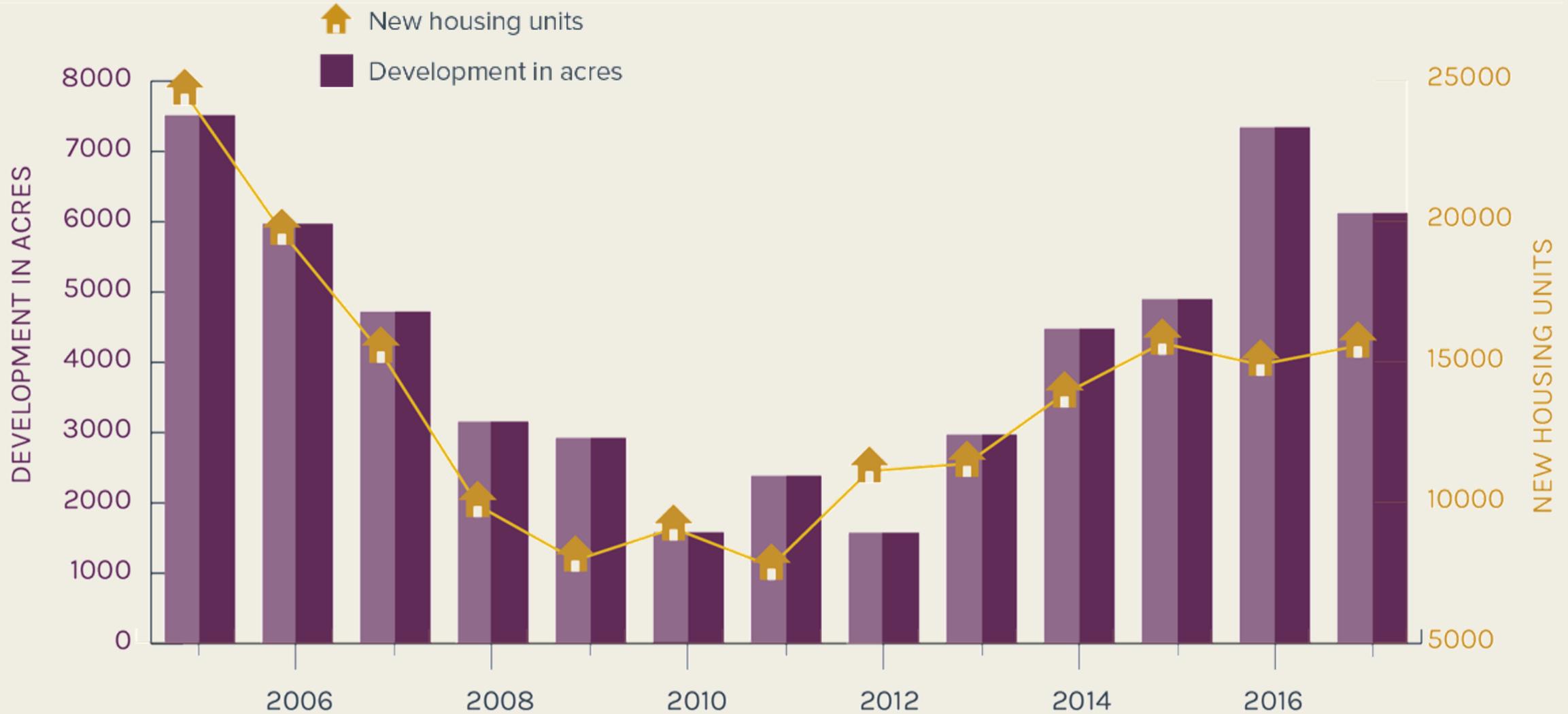


▼ **FIGURE 2.4**

Who is protecting land recently?



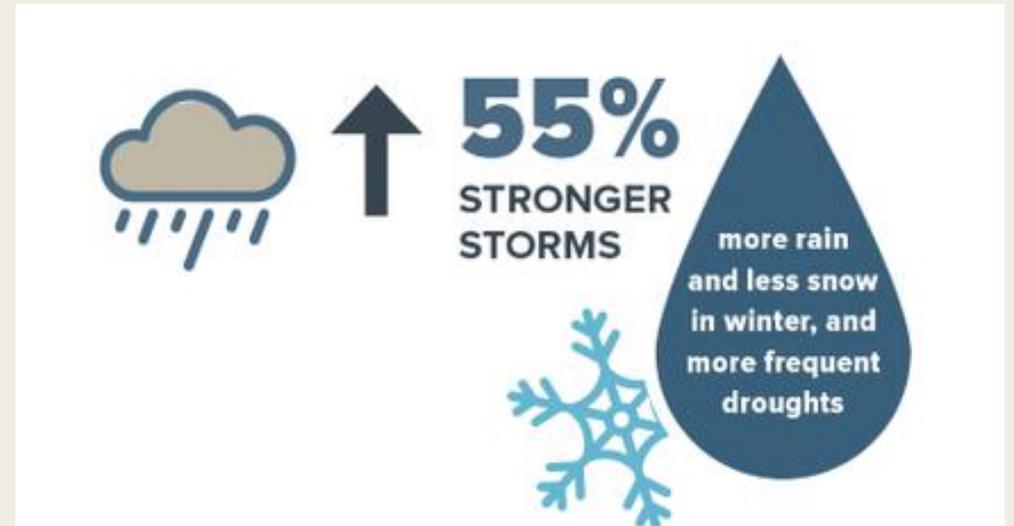
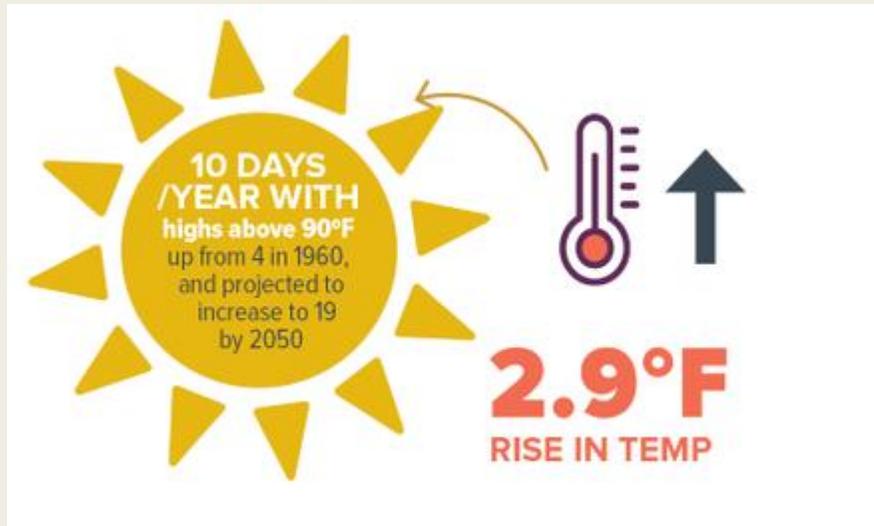
Annual Development & Housing Permits



Other Key Issues for Municipalities

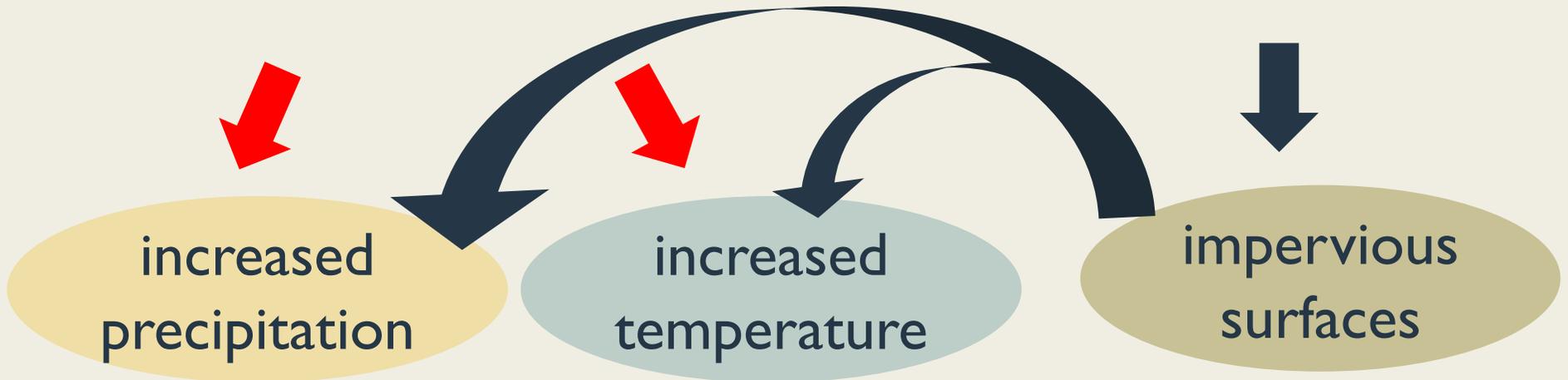
- Infrastructure Costs and Maintenance
- Water Resources
- Regulatory Costs, e.g. MS4 Stormwater Permit
- Climate Impacts and Resilience

For MA, Climate Change Looks Like...



Climate change

Sprawling Development



stormwater & WQ issues

flooding & infrastructure damage

heat-related illnesses

fish and aquatic life impacts



Natural Lands for Resiliency and Values

- Carbon Sequestration
- Clean Water
- Flood prevention
- Habitat
- Tourism
- Recreation
- Health
- Property Values
- Quality of Life



\$3B
GROSS OUTPUT
OF MA FOREST
PRODUCTS/YR²⁴



**3 million acres
(60% of state)**

ARE FORESTED, STORING 85 TONS OF CARBON IN
THE AVERAGE ACRE²⁵



12-14%

OF THE U.S.'S
GREENHOUSE GAS
EMISSIONS ARE OFFSET
BY ITS FORESTS⁵⁴

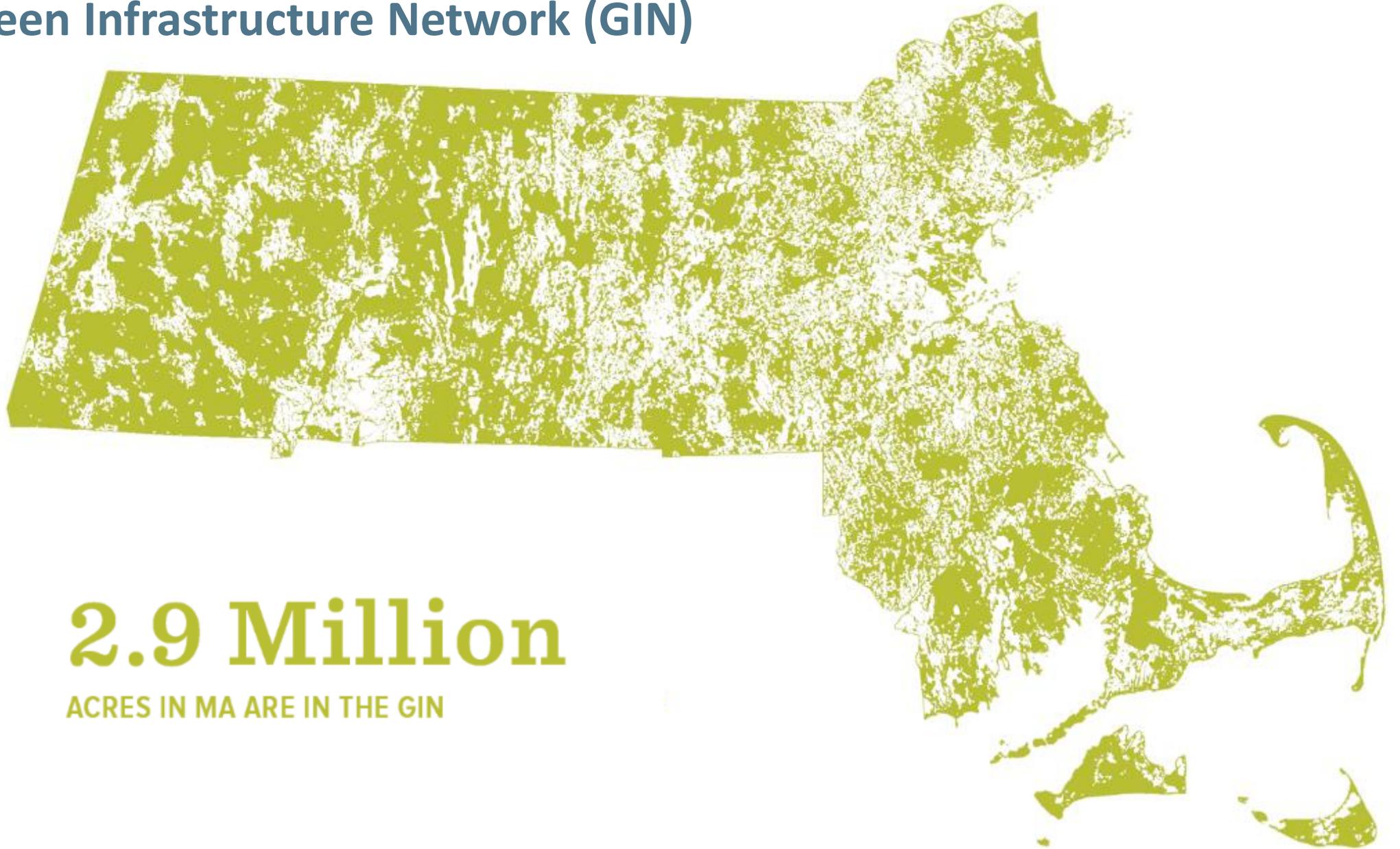


Nature's Value in a Changing Climate

Fact Sheets

- Forests
- Grasslands and Farmlands
- Wetlands and Waterways
- Coastal
- Urban Green Spaces

Green Infrastructure Network (GIN)



2.9 Million

ACRES IN MA ARE IN THE GIN

11

Green Infrastructure Network Components...

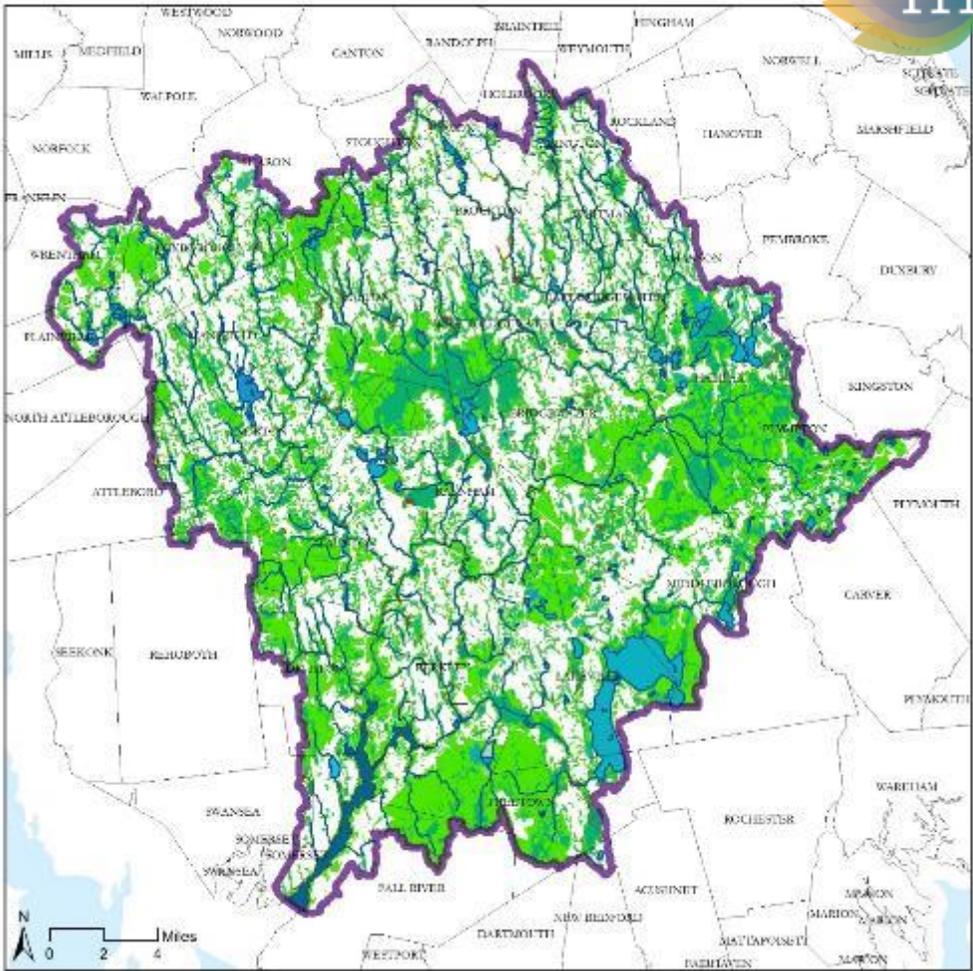
TNC Areas of Above Average Resilience



BioMap2 Core & Critical Natural Landscape



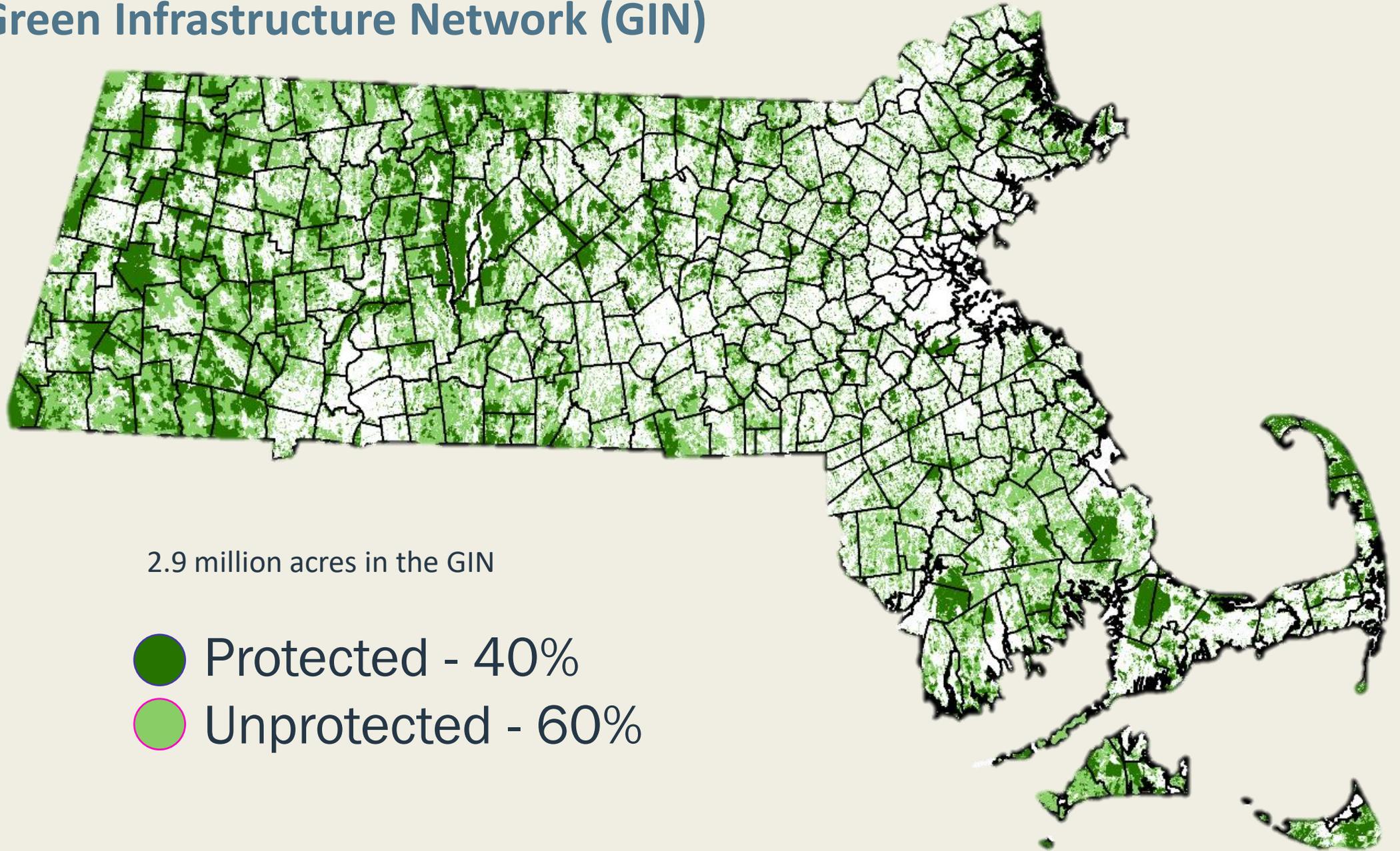
Areas within 100ft of Surface Waters, Wetlands, and Flood Zones; Areas \leq 4m elevation (vulnerable to sea level rise)



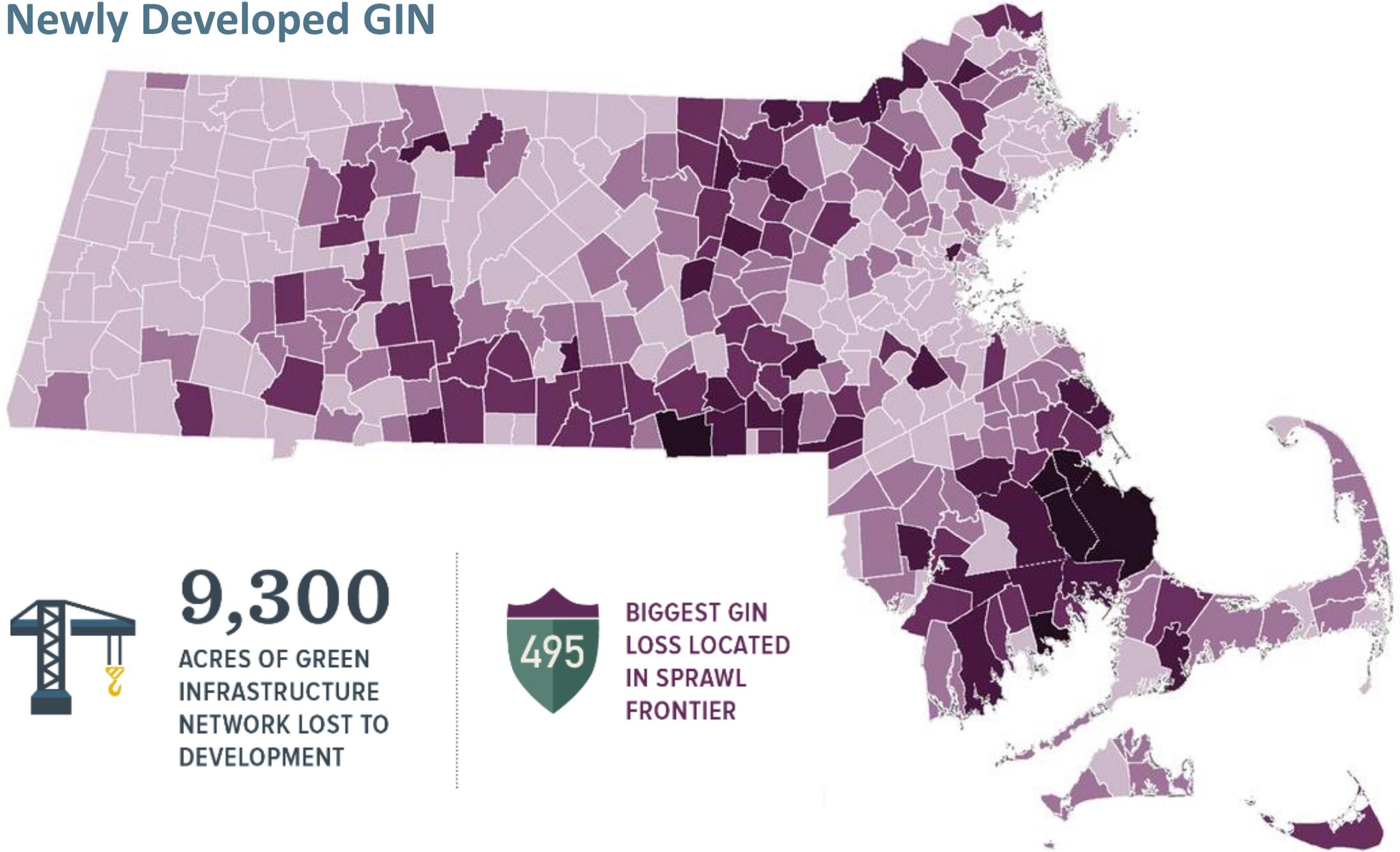
Legend

 Green Infrastructure Network	 Town Boundaries	Surface Waters & Wetlands	 Estuarine and Marine Deepwater
 100-yr and High Risk Coastal Flood Areas	 Taunton Watershed Boundary	 Freshwater Pond, Lake, or Stream	 Estuarine and Marine Wetland
	 Major Streams	 Freshwater Wetland	 Other

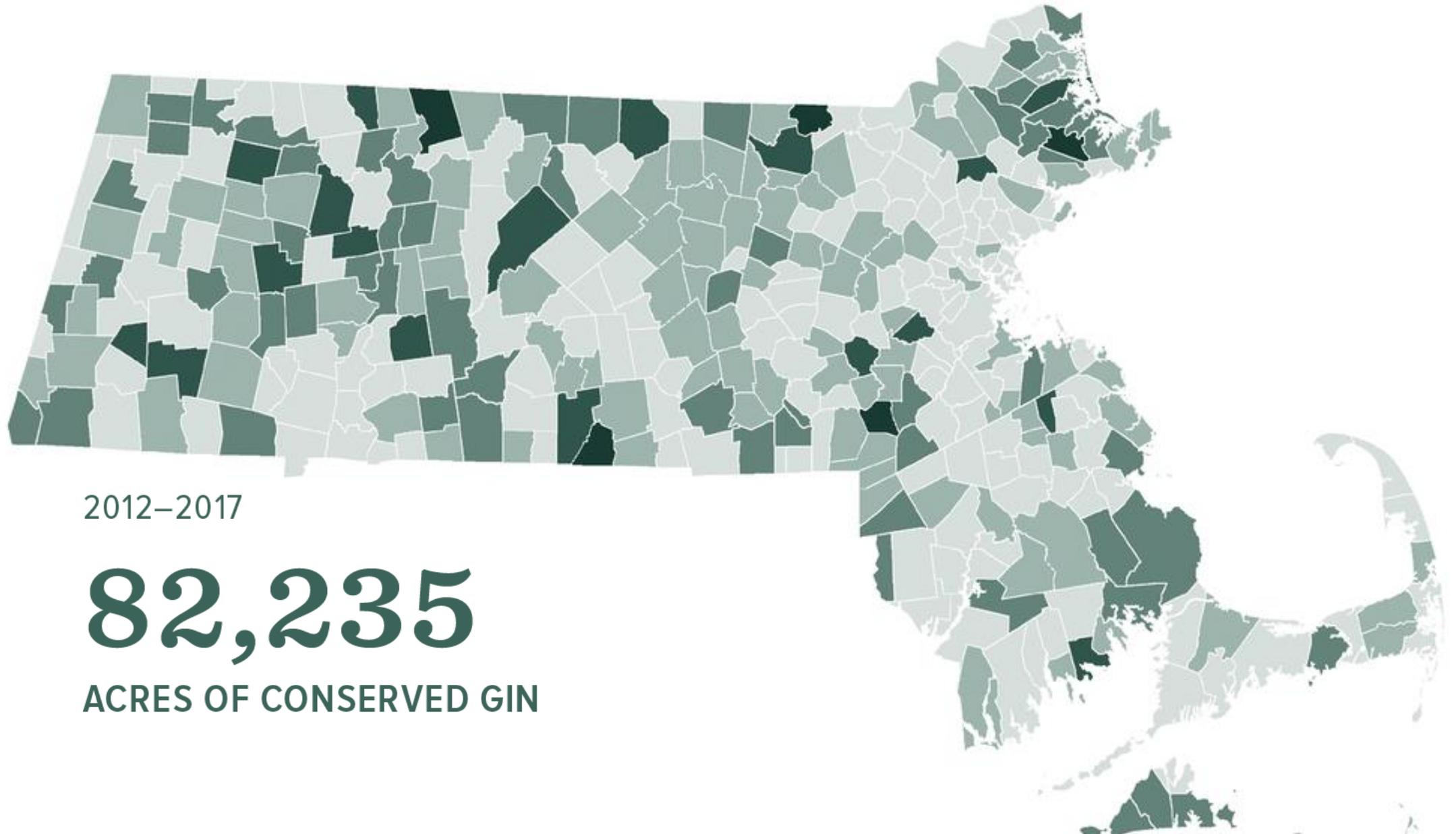
Green Infrastructure Network (GIN)



Newly Developed GIN



Newly Protected GIN



2012–2017

82,235

ACRES OF CONSERVED GIN

Recommendations

- “50 by ‘50” – Increase land protection to 100 acres per day to protect 50% of the state by 2050
- Prioritize protection of the Green Infrastructure Network
- Create innovative new funding mechanisms for land protection
- Update local land use rules
- “Get Solar off the Ground” – accelerate solar adoption and promote roof-mounted and canopy arrays



Factors	Conventional	Better	Best	Community's Zoning
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Community's Subdivision Rules & Regulations	Community's Site Plan Review	Community's Stormwater/LID Bylaw/Regulations
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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	

Conventional Subdivision



Conservation Subdivision



GOAL 2: PROMOTE EFFICIENT, COMPACT DEVELOPMENT PATTERNS AND INFILL

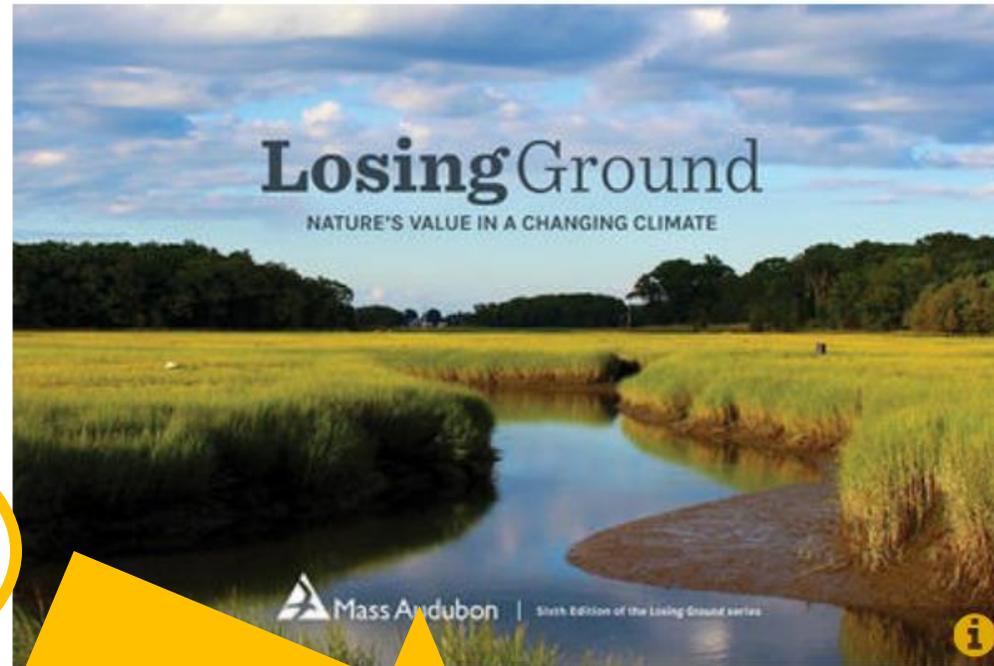
Lot size	Required minimum lot sizes	OSRD/NRPZ preferred. Special permit with incentives to utilize	Flexible with OSRD/NRPZ by right, preferred option	
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Losing Ground: Nature's Value in a Changing Climate

Sixth Edition | 2020

Explore the Report

- [Key Findings >](#)
Important findings and conclusions from the report.
- [At-a-Glance >](#)
An overview of the statistics about land use patterns in Massachusetts.
- [Statistics & Maps >](#)
Explore land protection statistics and interactive maps by Massachusetts town, county, watershed, or Regional Planning Agency (RPA).
- [Glossary >](#)
Information about key terms from the report.



Select Area Type ▼

- Select Area Type
- Town / City**
- County
- Watershed
- Regional Planning Area

Download the Full Report

 [Losing Ground 2020 Report 6.17 MB](#)

“There are many potential pathways for development and conservation across Massachusetts and the region. Decisions made today will influence the future in profound ways.”

Losing Ground – Nature’s Value in a Changing Climate, 2020

www.massaudubon.org/losingground

