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
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
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

- Developed: 21%
- Protected: 27%
- Undeveloped Unprotected: 52%
Patterns of Development
2012-17

www.massaudubon.org/losingground
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
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
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...

- **10 Days/Year with high above 90°F**
  - Up from 4 in 1960, and projected to increase to 19 by 2050.

- **2.9°F Rise in Temp**

- **55% Stronger Storms**
  - More rain and less snow in winter, and more frequent droughts.

- **11" Sea Level Rise Since 1922, as Measured in Boston Harbor**

- **11 Days Growing Season**
Climate change

- increased precipitation
  - stormwater & WQ issues
  - flooding & infrastructure damage

- increased temperature
  - heat-related illnesses
  - fish and aquatic life impacts

Impervious surfaces

Sprawling Development

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
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
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 <= 4m elevation (vulnerable to sea level rise)
Green Infrastructure Network (GIN)

2.9 million acres in the GIN

- Protected - 40%
- Unprotected - 60%
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
### GOAL 1: PROTECT NATURAL RESOURCES AND OPEN SPACE

<table>
<thead>
<tr>
<th>Factors</th>
<th>Conventional</th>
<th>Better</th>
<th>Best</th>
<th>Community’s Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils managed for revegetation</td>
<td>Not addressed</td>
<td>Limitations on removal from site, and/or requirements for stabilization and revegetation</td>
<td>Prohibit removal of topsoil from site. Require rototilling and other prep of soils compacted during construction</td>
<td>(Not applicable)</td>
</tr>
<tr>
<td>Limit clearing, lawn size, require retention or planting of native vegetation/naturalized areas</td>
<td>Not addressed or general qualitative statement not tied to other design standards</td>
<td>Encourage minimization of clearing/grubbing</td>
<td>Require minimization of clearing/grubbing with specific standards</td>
<td></td>
</tr>
<tr>
<td>Require native vegetation and trees</td>
<td>Require or recommend invasives</td>
<td>Not addressed, or mixture of required plantings of native and nonnative</td>
<td>Require at least 75% native plantings</td>
<td></td>
</tr>
</tbody>
</table>

### GOAL 2: PROMOTE EFFICIENT, COMPACT DEVELOPMENT PATTERNS AND INFILL

<table>
<thead>
<tr>
<th>Loc size</th>
<th>Conventional</th>
<th>Better</th>
<th>Best</th>
<th>Community’s Subdivision Rules &amp; Regulations</th>
<th>Community’s Site Plan Review</th>
<th>Community’s Stormwater/LID Bylaw/Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required minimum lot sizes</td>
<td>OSRD/NRPZ preferred. Special permit with incentives to utilize</td>
<td>Flexible with OSRD/NRPZ by right, preferred option</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

www.massaudubon.org/lidcost
www.massaudubon.org/losingground
“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

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