Resources for Nature-Based Solutions

Prepared for municipalities at the launch of the Municipal Vulnerability Preparedness Program based on a survey on the needs of municipal practitioners and recommendations of a diverse team of engineers, planners and ecologists. For future updates to this list and a broader range of resources on climate change adaptation and resiliency, please see the Climate Change web site of the Executive Office on Energy and Environmental Affairs

Nature-Based Solutions incorporate natural systems and features, mimic natural processes, and/or work in tandem with gray infrastructure to mitigate damage from natural hazards like flooding, erosion, drought, and heat islands. Incorporating nature based solutions in local planning, and projects produces long-term solutions that can help communities reduce their exposure to these impacts, resulting in reduced costs, economic enhancement, and safer, more resilient communities and natural systems.

- Enhanced Safety by reducing risks from flooding and heat risks to vulnerable populations and community assets.
- Avoided infrastructure costs of unplanned repairs and improving safety due to flooding and failure from intense rain events.
- Securing the natural resource benefits of water quality, wildlife habitat and community resiliency.

Guidance/Case Studies

- **Naturally Resilient Communities** successful project case studies from across the country to help communities learn and identify nature-based solutions
- **EPA's Soak Up the Rain** stormwater outreach tools, how-to guides and resources
- **EPA's RAINE** database of vulnerability, resilience and adaptation reports, plans and webpages at the state, regional and community level.
- **Climate Action Tool** explore adaptation strategies and actions to help maintain healthy, resilient wildlife communities in the face of climate change.

Mapping/Planning

- **Mapping and Prioritizing Parcels for Resilience (MAPPR)** identify the priority parcels for protection and climate change resilience
- **Living Shorelines in New England: State of the Practice** and **Profile Pages for Solutions** are case studies, siting criteria, and regulatory challenges for coastal resilience in New England.
- **Low Impact Development Fact Sheets** cover valuing green infrastructure, conservation design, development techniques, regulations, urban waters, and cost calculations.

Cost-Benefit

- **EPA's Green Infrastructure cost/cost-benefit/tools** Database of tools for comparing costs between solutions
- **Massachusetts Division of Ecological Restoration's** economic benefits of aquatic restoration based on Massachusetts case studies

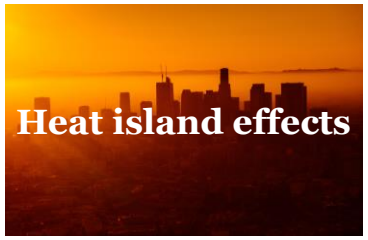
Bylaws and Ordinances

- **EEA's Smart Growth Toolkit** access to information on planning, zoning, subdivision, site design, and building construction techniques
- **Guide for Supporting LID in Local Land Use Regulations** provides a framework for communities to review their zoning, rules, and regulations for a number of factors.

The Nature Conservancy

Protecting nature. Preserving life.

Problems facing towns



Nature-based solutions

Open space preservation

Ecosystem restoration

Low Impact Development

Additional benefits

Infrastructure benefits

Nature-based solutions can save $5 on every $1 spent, increase property value by up to $20, and create local jobs and capital inflows.

Societal benefits

Natural areas can reduce the likelihood of obesity by 40%, improve air and water, and draw people together to strengthen community ties.

Environmental benefits

Most natural systems rely on linkages with others. By prioritizing natural solutions, communities can provide restored links that augment biodiversity.