Nashua River Communities

Lawn and Landscape

Additional Resources

General Maintenance

Trees, forests, turf grass, and other landscaped areas have potential to sequester carbon and lower greenhouse gas emissions.

- The Potential of Turfgrass to Sequester Carbon and Offset Greenhouse Gas Emissions | Turfgrass Science (umn.edu).
- Turfgrass Soil Carbon Change Through Time: Raw Data and Code | Ag Data Commons (usda.gov).
- Assessing Net Carbon Sequestration on Urban and Community Forests of Northern New England, USA | Urban Forestry and Urban Greening (usda.gov).
- Harvard Forest website: information about Harvard Forest's research, education, events, data, and more (harvard.edu).

Switching from a gas-powered to electric mower can make a big difference in reducing greenhouse gas emissions, and is better for our health.

- National Emissions from Lawn and Garden Equipment | US Environmental Protection Agency, Region 1 (EPA.gov).
- Take Steps to Limit Air Emissions When Using Garden Equipment | New Hampshire Department of Environmental Services (des.nh.gov)

For more resources on ecology-based landscape design, including workshops, educational guides, and more, check out:

- New Directions in the American Landscape (NDAL)
- Landscape Restoration Handbook by Donald Harker
- The University of Massachusetts Extension Turf Program's manual of Best Management Practices includes economically feasible methods to conserve water and natural resources, while protecting environmental quality and contributing to sustainability.

Nutrient Management

Soil testing can help identify the best nutrient management approaches.

- The University of Massachusetts Soil and Plant Nutrient Testing Laboratory offers a variety of tests including the Routine Soil Analysis for Turf, Ornamentals, and Landscaping that can guide nutrient management. Recommendations are provided with the results.

For more resources on soil testing and nutrient management, check out:

- The Introduction to Organic Lawns and Yards from the Northeast Organic Farming Association Organic Land Care Program contains basic and practical information on how to manage your plants and soil without the use of synthetic fertilizers.

- The Sustainable Lawn & Landscape Practices for Communities: Lawn to Lake Guidebook for Illinois & Indiana provides guidance for landowners on natural land care practices.
  - Page 10 outlines a typical field test where the homeowner digs a 6x12" hole and follows steps to saturate the soil and then evaluate how long the filled hole takes to drain.
  - Page 11 contains an infographic on how to determine if your soils are clay, sandy, silty, etc.
  - Page 15 & 25 contain information on over-fertilization. Over-fertilizing with nitrogen promotes blade growth over root growth, which can leave the grass vulnerable to disease, and less resilient to drought conditions.

- The Massachusetts Department of Agricultural Resources provides standards for Plant Nutrient Management on agricultural land and lawns for farmers, landscape professionals, and homeowners.

- The Deerfield Healthy Soils Report outlines the benefits of healthy soils and how to manage different types of landscapes (wetlands, agricultural lands, forests, etc.) for soil health. Pages 24 - 26 provide guidelines for managing existing turf and lawns.

Pest Control

- The Introduction to Organic Lawns and Yards from the Northeast Organic Farming Association Organic Land Care Program contains basic and practical information on how to manage your plants and soil without the use of synthetic pesticides.

Promote Functional Plant Communities

- The Neponset River Watershed Association's Purple Loosestrife Biological Control Project provides an example of using a host-specific predator to control invasive plant growth.

- The Massachusetts Invasive Plant Advisory Group (MIPAG) represents numerous public and private interests, and has been working together since 1999 to develop an effective response to the problem of invasive plant species. Their Strategic Recommendations for Managing Invasive Plants in Massachusetts provides recommendations to prevent, control and, where possible, eradicate invasive plant species in Massachusetts.

Managing Water

Getting the right water management systems is the most important aspect of managing lawns that need regular watering.

- The USGBC LEED and SITES programs outline standards for efficient and water-smart irrigation systems and technologies. Look for companies that provide informational materials on how their irrigation systems align with LEED or SITES standards.

- The US EPA has developed the WaterSense label for products and technologies that meet water efficiency standards. Learn more about water-saving approaches, technologies, and certified professionals at the EPA's WaterSense website.

For more information on managing water and water use, check out:

- The Introduction to Organic Lawns and Yards from the Northeast Organic Farming Association Organic Land Care Program provides guidance on managing water and minimizing water use on pages 12 - 15.

Land Use

For land use and development practices that support soil health, check out:

- Soil-Smart Practices for Construction Sites by Regenerative Design Group provides a short overview of construction practices that protect and rebuild soil health and a step-by-step guide for soil smart construction.

- The Deerfield Healthy Soils Report outlines the benefits of healthy soils and how to manage several different types of landscapes (wetlands, agricultural lands, forests, etc.) for soil health. Page 26 provides guidelines for soil-smart construction and development patterns & practices.

Low Impact Development (LID) uses design techniques that infiltrate, filter, store, and detain stormwater runoff close to its source. There is a wide variety of LID techniques, so designs can be customized to local regulatory requirements and site constraints.

- The Massachusetts Low Impact Development Toolkit by MAPC provides guidance on LID principles and techniques, as well as a Stormwater Bylaws Toolkit and an LID Codes Checklist.

- The Low-Impact Development Manual for Michigan developed by SEMCOG provides guidance on how to apply LID to new and existing sites, with information on best management practices for integrating LID from the community to site levels. Pages 69 - 82 provide guidance on minimizing soil compaction and total disturbed area during construction.