Gentle Yards, Bold Gardens:
Growing a Healthier Watershed

Supplement

(Quick References and Useful Links)

Mystic River
WATERSHED ASSOCIATION

Produced by Jennifer Fraulo Strassfeld and Kenna Lauer
for the Mystic River Watershed Association and
the Mystic River's watershed communities.

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AN EARTH-FRIENDLY YARD CARE CALENDAR:

Late Winter (February - March) - ***Plants are still dormant.*** *Beneficial insects overwinter in dried, fallen leaves and in stems and flower heads from last year's perennials.*

❄️**Test** soil

❄️**Plan** new plantings and other garden enhancements

❄️**Do not apply** amendments

Early Spring (April) - *Roots begin active growth* *Overwintering insects begin to emerge from leaf piles; stems and flower heads from last year's perennials harbor beneficial insect eggs.*

☔**Rake** and stockpile or compost residual fall leaves (Ideally stockpile some leaves whole for insect overwintering. Some or all leaves may be composted or shredded for mulch)

☔**Aerate** soil (using a lawn core aerator tool, such as Yard Butler)

☔**Apply** compost (¼ - ½ inch), lime, or other amendments as indicated in soil test results

☔**Reseed** bare or thin patches, top-dress reseeded area lightly with compost

☔**Cut back** remaining dead flower stalks to varying heights (8-24") to provide habitat for beneficial insect reproduction

☔**Plant** new plants while air temperatures are still mild

Late Spring (May-June) - *Leavy growth resumes.* *Stems and flower heads from last year's perennials harbor young beneficial insects.*

🌷**Begin mowing**. Grass height should be kept at 3" or taller

🌷**Mulch** gardens (use chopped leaves and/or undyed shredded bark mulch) after watering deeply.

Summer - *Lawn growth slows in hot weather*

🌻**Mow**, keeping grass at or above 3" height. Mow infrequently; weekly mowing is seldom necessary.

🌻**Keep** clippings on lawn

🌻**Water** only when grass blades remain flat for several minutes after being walked upon (water no more than 1" per week, time watering for when morning sun is still low)

Fall - *Lawn growth resumes in cool weather.* *Beneficial insects hibernate in hollow stems.*

🍂**Aerate** soil

🍂**Rake** and stockpile or compost leaves (Ideally stockpile some leaves whole for insect overwintering, but may shred some or all leaves for mulch)

🍂**Mow** for the last time as temperatures chill and invite dormancy. For final mowing of the season, cut grass to 2" (rather than the 3" height kept for the growing season)

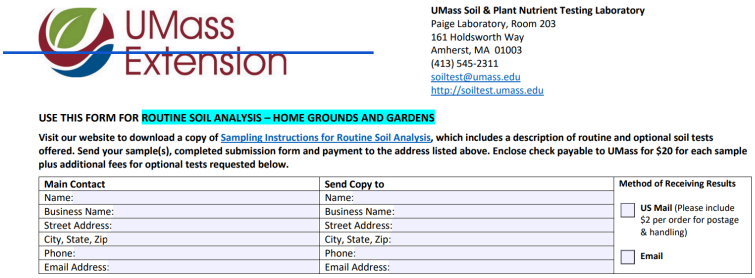
🍂**Reseed** bare or thin patches, top-dress reseeded area lightly with compost

🍂**Topdress** lawn with ¼" compost

🍂**Leave** dead flower stalks in-tact over the winter

Test your Soil, Use Advice from the Lab

For the University of Massachusetts Soil Laboratory:



UMass Extension

UMass Soil & Plant Nutrient Testing Laboratory
Paige Laboratory, Room 203
161 Holdsworth Way
Amherst, MA 01003
(413) 545-2311
soiltest@umass.edu
http://soiltest.umass.edu

USE THIS FORM FOR ROUTINE SOIL ANALYSIS – HOME GROUNDS AND GARDENS

Visit our website to download a copy of Sampling Instructions for Routine Soil Analysis, which includes a description of routine and optional soil tests offered. Send your sample(s), completed submission form and payment to the address listed above. Enclose check payable to UMass for $20 for each sample plus additional fees for optional tests requested below.

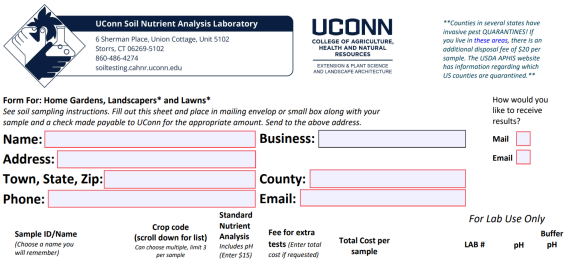
Main Contact	Send Copy to	Method of Receiving Results
Name:	Name:	☐ **US Mail** (Please include $2 per order for postage & handling)
Business Name:	Business Name:	
Street Address:	Street Address:	☐ **Email**
City, State, Zip	City, State, Zip:	
Phone:	Phone:	
Email Address:	Email Address:	

Get a Soil Test!

Download, print, and enclose the form: “Routine Soil Analysis - Home Grounds and Gardens” following links from this page: https://ag.umass.edu/services/soil-plant-nutrient-testing-laboratoryroutine_home_grounds_101019.pdf (umass.edu)

Refer to this separate page for sample preparation instructions: Microsoft Word - Soil Sampling Instructions (umass.edu)

OR for the University of Connecticut Soil Laboratory:



UConn Soil Nutrient Analysis Laboratory
6 Sherman Place, Unit 5102
Storrs, CT 06269-5102
860-486-4274
soiltesting.cahnr.uconn.edu

UCONN
COLLEGE OF AGRICULTURE, HEALTH AND NATURAL RESOURCES
EXTENSION & PLANT SCIENCE AND LANDSCAPE ARCHITECTURE

Counties in several states have invasive pest QUARANTINES if you live in these areas, there is an additional disposal fee of $20 per sample. The USDA APHIS website has information regarding which US counties are quarantined.

Form For: Home Gardens, Landscapers* and Lawns*
See soil sampling instructions. Fill out this sheet and place in mailing envelop or small box along with your sample and a check made payable to UConn for the appropriate amount. Send to the above address.

How would you like to receive results?
Mail ☐
Email ☐

Name: **Business:**
Address:
Town, State, Zip: **County:**
Phone: **Email:**

For Lab Use Only

Sample ID/Name (Choose a name you will remember)	Crop code (scroll down for list) Can choose multiple, limit 3 per sample	Standard Nutrient Analysis Includes pH (Enter $15)	Fee for extra tests (Enter total cost if requested)	Total Cost per sample	LAB #	pH	Buffer pH

Download, print, and enclose the form: ”Home Gardens, Landscapers, and Lawns” (This form includes instructions for preparing samples.)

https://soiltesting.cahnr.uconn.edu/sampling/
https://soiltesting-cahnr.media.uconn.edu/wp-content/uploads/sites/3514/2023/11/Home_Landscapes_Lawns_Combined.pdf

Tips for Lawn and Yard Care

Seeding: Individual grass plants are fairly short-lived. Mowing prevents seed heads from forming and promoting new generations of grass plants. New grass seed should be sown into existing lawns **each year**, in early spring and late fall.

The maintenance demands of your lawn will be lower if you choose a **type of grass** that is suited for the amount of sun or traffic it will get in your yard. Planting a **seed blend** allows your site to select the seed that is best suited to its conditions. **Rye/fescue blends** provide more resilience and drought-tolerance than typical lawn grasses like Kentucky Bluegrass (native to North Africa!) Choose seed blends that are free of chemical additives.

Mowing: Mow, only as needed, to **3-4 inches, removing no more than ⅓ of the grass height.** Keep lawn mowing **blades sharp**. Mow grass only in **dry weather**; cutting a wet lawn can introduce or spread diseases. Allow **clippings** to remain and slowly replenish the soil.

Watering: Grass ideally requires **one inch of water per week**, including natural precipitation. Use the **"walk test"** to determine whether your grass is thirsty. Blades should rebound within a few minutes; if they continue to lie flat where your feet fell, soil moisture requires replenishment. Water when the **morning sun is still low**, to encourage soil infiltration rather than evaporation and to let grass dry completely before the night chill can encourage fungal growth.

Fertilizing: Fertilizer cannot be absorbed and used by dormant plants. Apply compost or fertilizer during the **active growing season** only. A **soil test** from UMASS or UCONN will tell you exactly what your lawn needs. It's very important to fertilize according to soil test **results and instructions**, since excess fertilizer travels to and contaminates water bodies.

A safe alternative is applying ¼ inch of **compost** in spring and fall as the growing season begins and ends. Compost spread thinly on level ground will release its nutrients slowly and safely into the soil and into growing plants.

Weeds: If you dislike **crabgrass**, you can take steps to safely prevent its emergence. Experts recommend applying a form of processed corn that inhibits crabgrass germination in the spring. Apply "**corn gluten**" early in the spring, just before forsythia

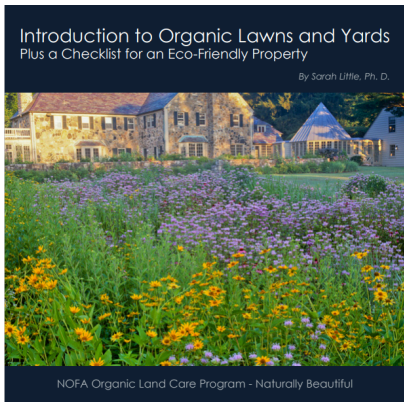
blooms, well before aerating or reseeding the lawn, to avoid inhibiting the seeds you sow intentionally. Keep in mind also that crabgrass doesn't survive in winter. It returns to the lawn by only sprouting from the previous year's seed.

You might find other plants that you didn't intend growing amid your lawn grasses. **Hand-pulling** is recommended for removing them. But resist labeling them "weeds" right away.

White clover is increasingly valued as a **companion** for healthy lawn grasses. Clover enhances soil fertility to encourage grass health. Clover flowers also feed pollinators, White clover seed is increasingly sold alongside grass seed, and may be sown into an existing lawn to add plant diversity and natural fertility to the lawn. If white clover already grows naturally in your lawn, you need not treat it as an unwelcome weed.

Moss grows where conditions favor it: in moist, shady spots that are less suitable for grass. Places where grass grows poorly and with difficulty may be highly suitable for ferns and tender flowering native plants, like great blue lobelia and solomon's seal, and native shrubs, like summersweet clethra and spicebush. Consider transitioning mossy lawn areas toward woodland gardens.

A leader in sustainable lawn care is the Organic Land Care Program of the Connecticut Chapter of the Northeast Organic Farming Association (NOFA-CT). The official manual, available online, is an excellent resource:



2016iolyfinalsingle_page_opt.pdf



nofa_organic_land_care_standards_6thedition_2017_opt.pdf

Resources for Managing Invasive Plants:

Identifying and Managing Invasive Plants (Photos make these user-friendly!)

Mass Audubon: Invasive Plants in Massachusetts (massaudubon.org)

Pollinator Pathway: Invasive Threats | Pollinator Pathway (pollinator-pathway.org)

Official State Lists of Confirmed Invasives:

Mass.gov; UMASS: Plants voted as: INVASIVE (massnrc.org) (primary reference)

Mass.gov: Massachusetts Prohibited Plant List | Mass.gov (secondary reference)

Responsibly Disposing of invasive Plants

InvasivePlantDisposal_UConn2014.pdf (nativeplanttrust.org)

For help finding better replacements for invasive plants:

Jump ahead to *"Replacing Invasives"* in the next section!

Tiered Framework for Goals and Progress
Protector, Provider, Nurturer: Part 1

Tier 1: Protector... ....You Like Your Yard AS IS	Tier 2: Provider... ....You're Open to Adjustments	Tier 3:Nurturer... ....You're Ready to Go Wild!!
Rethink Chemical Applications: Reduce or eliminate **Test Your Soil:** Apply only the nutrients that you need, only at the start of the growing season.	ALL Tier 1 items...AND:	ALL Tier 2 items...AND:
Limit Outdoor Water Use: Mow High; Water Deep, when sun is low position; plant less thirsty grass species.	**Minimize the water needs of new plants:** choose hardy species (lawn too!) that you won't have to water after establishment.	Observe opportunities to **slow or retain stormwater**; consider installing a rain barrel or rain garden.
Prevent Seed Dispersal from **Invasive Plants**; Remove Some or All Invasive Plants.	**Prevent** Seed Dispersal from **Invasive Plants; Replace** most or all invasives with native plant substitutes.	**Plant Many Natives:** Make rare and thoughtful exceptions; match plants to site conditions for success.
Mulch garden beds with shredded bark mulch and/or (shredded) leaves. Mulch helps retain soil moisture between watering and also enhances habitat for soil and insect life.	Designate small areas to stay **untidied**, providing patches of shelter habitat. **Plant a new tree**, flower patch, or flowering shrub. **Plant "Soft Landing" plants** around tree trunks and/or stems of larger shrubs.	Convert some or all **lawn to gardens.** Plant many **pollinator-supporting** natives. **Learn** about wildlife habitat requirements; provide as many **habitat enhancements** as you can. Consider joining a **Volunteer Scientist** or biodiversity **advocacy** initiative.

PLANTS: CHOOSING AND BUYING NATIVE PLANTS

Native plants can be hard to find and limited in supply. If you want to be sure to have access to specific plants, it pays to be prepared to begin contacting suppliers with your plan and plant list by early April. January or February is not too early to order seeds! On the other hand, if you're prepared to be flexible, you can begin your garden using the native plants that your nursery has in stock at the time of your visit. Just remember "right plant, right place!"

Selected Local Sources of Native Plants:

- Garden in the Woods - Native Plant Trust (Framingham, MA)
- Plants | Blue Stem Natives (Norwell, MA)
- Butterfly Effect Farm – A Native Plant Nursery in Westport, MA
- CityNatives (Trustees in Mattapan)

Trustees Spring Plant Sales - The Trustees of Reservations

- Native Plant Sale | Grow Native Massachusetts (other good info too!)



Find Other Native plant vendors:

Nurseries and Seed Sources | Grow Native Massachusetts

Selected Local Sources of Native Seeds

Pollinator-Plants-by-Season.pdf (wildseedproject.net)

Shop Online | eco59 seed collective

Databases useful for matching plants to your needs:

Native Plant Trust (Garden Plant Finder)

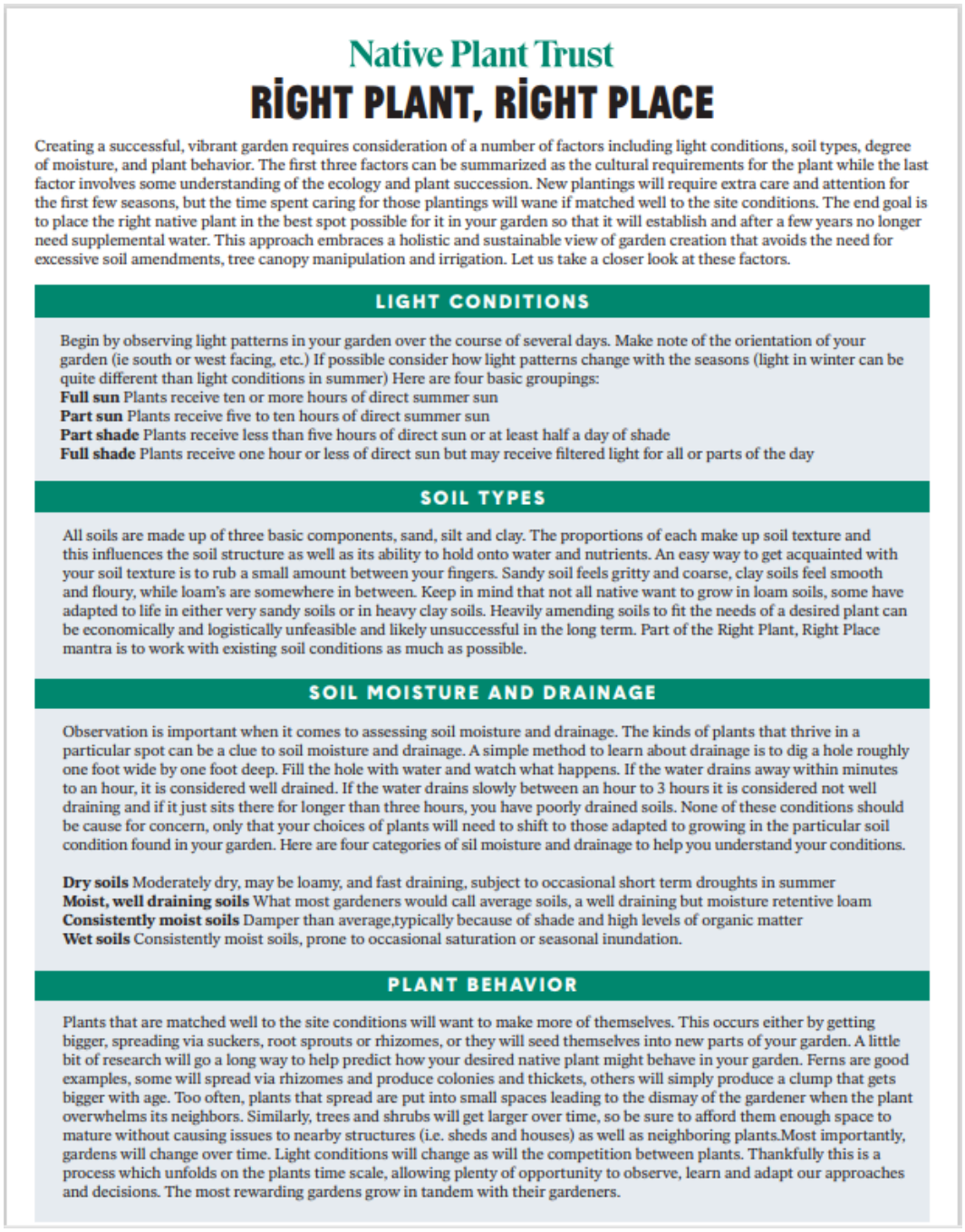
Find Your Roots Tool | Pollinator.org

Plant Database - Lady Bird Johnson Wildflower Center

PLANTS: Right Plant, Right Place

Most plants require special conditions to thrive. For a healthy, low-maintenance landscape, seek plants whose needs match the conditions your site offers.

The Native Plant Trust offers this one-page guide to identify plants that will thrive in spaces throughout your yard: [Right_Plant_Right_Place.pdf (nativeplanttrust.org)]



Native Plant Trust

RIGHT PLANT, RIGHT PLACE

Creating a successful, vibrant garden requires consideration of a number of factors including light conditions, soil types, degree of moisture, and plant behavior. The first three factors can be summarized as the cultural requirements for the plant while the last factor involves some understanding of the ecology and plant succession. New plantings will require extra care and attention for the first few seasons, but the time spent caring for those plantings will wane if matched well to the site conditions. The end goal is to place the right native plant in the best spot possible for it in your garden so that it will establish and after a few years no longer need supplemental water. This approach embraces a holistic and sustainable view of garden creation that avoids the need for excessive soil amendments, tree canopy manipulation and irrigation. Let us take a closer look at these factors.

LIGHT CONDITIONS

Begin by observing light patterns in your garden over the course of several days. Make note of the orientation of your garden (ie south or west facing, etc.) If possible consider how light patterns change with the seasons (light in winter can be quite different than light conditions in summer) Here are four basic groupings:
Full sun Plants receive ten or more hours of direct summer sun
Part sun Plants receive five to ten hours of direct summer sun
Part shade Plants receive less than five hours of direct sun or at least half a day of shade
Full shade Plants receive one hour or less of direct sun but may receive filtered light for all or parts of the day

SOIL TYPES

All soils are made up of three basic components, sand, silt and clay. The proportions of each make up soil texture and this influences the soil structure as well as its ability to hold onto water and nutrients. An easy way to get acquainted with your soil texture is to rub a small amount between your fingers. Sandy soil feels gritty and coarse, clay soils feel smooth and floury, while loam's are somewhere in between. Keep in mind that not all native want to grow in loam soils, some have adapted to life in either very sandy soils or in heavy clay soils. Heavily amending soils to fit the needs of a desired plant can be economically and logistically unfeasible and likely unsuccessful in the long term. Part of the Right Plant, Right Place mantra is to work with existing soil conditions as much as possible.

SOIL MOISTURE AND DRAINAGE

Observation is important when it comes to assessing soil moisture and drainage. The kinds of plants that thrive in a particular spot can be a clue to soil moisture and drainage. A simple method to learn about drainage is to dig a hole roughly one foot wide by one foot deep. Fill the hole with water and watch what happens. If the water drains away within minutes to an hour, it is considered well drained. If the water drains slowly between an hour to 3 hours it is considered not well draining and if it just sits there for longer than three hours, you have poorly drained soils. None of these conditions should be cause for concern, only that your choices of plants will need to shift to those adapted to growing in the particular soil condition found in your garden. Here are four categories of sil moisture and drainage to help you understand your conditions.

Dry soils Moderately dry, may be loamy, and fast draining, subject to occasional short term droughts in summer
Moist, well draining soils What most gardeners would call average soils, a well draining but moisture retentive loam
Consistently moist soils Damper than average,typically because of shade and high levels of organic matter
Wet soils Consistently moist soils, prone to occasional saturation or seasonal inundation.

PLANT BEHAVIOR

Plants that are matched well to the site conditions will want to make more of themselves. This occurs either by getting bigger, spreading via suckers, root sprouts or rhizomes, or they will seed themselves into new parts of your garden. A little bit of research will go a long way to help predict how your desired native plant might behave in your garden. Ferns are good examples, some will spread via rhizomes and produce colonies and thickets, others will simply produce a clump that gets bigger with age. Too often, plants that spread are put into small spaces leading to the dismay of the gardener when the plant overwhelms its neighbors. Similarly, trees and shrubs will get larger over time, so be sure to afford them enough space to mature without causing issues to nearby structures (i.e. sheds and houses) as well as neighboring plants.Most importantly, gardens will change over time. Light conditions will change as will the competition between plants. Thankfully this is a process which unfolds on the plants time scale, allowing plenty of opportunity to observe, learn and adapt our approaches and decisions. The most rewarding gardens grow in tandem with their gardeners.

PLANTS: REPLACING INVASIVES

Finding Replacements for Invasive Plants*:

When selecting a new plant to take the place of an invasive that you will be removing, don't forget to match plants to site conditions. Refer to NPT "right plant, right place" Right_Plant_Right_Place.pdf (nativeplanttrust.org)

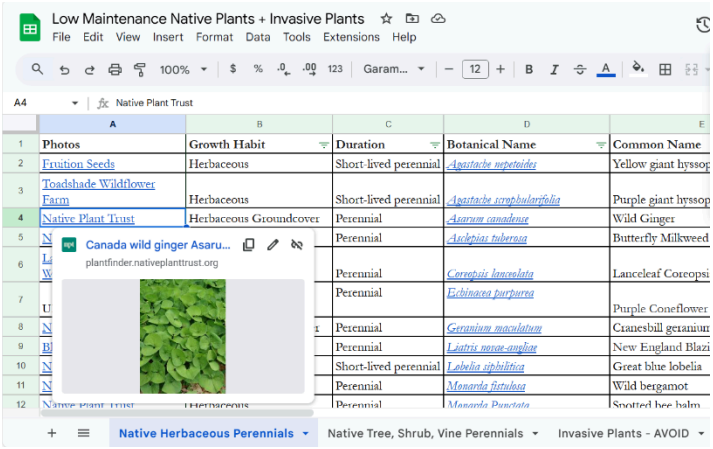
Recommended Alternatives to Familiar Invasive Plants:

Wild Seed Project: After removing disruptive introduced species, try planting these – Wild Seed Project

UNH: University of New Hampshire Cooperative Extension - Alternatives to Invasive Landscape Plants

MyRWA's Digest of Invasive Plants and Native Alternatives

In a separate spreadsheet, MyRWA provides a quick reference for native meadow flowers, groundcovers, shrubs, vines, and trees to plant. Included are their growing conditions, attracted pollinators, and other plant characteristics. In addition, you will find a short list of invasive plants to avoid (and remove).



PLANNING: Support for Successful Small Projects

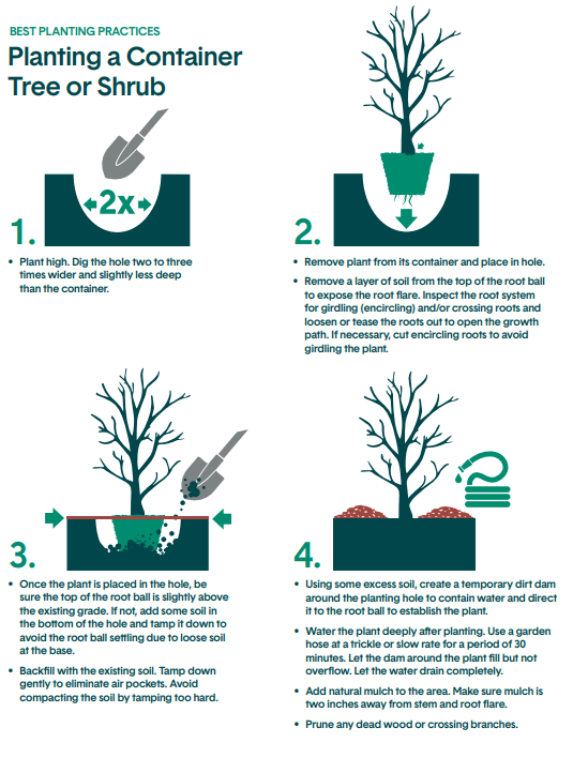
Two local organizations, GrowNative Massachusetts and Greenscapes, give basic advice for designing small landscape improvements:

*[Getting Started — For Beginners | Grow Native Massachusetts](); Grow Native massachusetts

*[Planting Beds – Greenscapes](); GREENSCAPES NORTH SHORE COALITION

The Native Plant Trust, formerly called the New England Wildflower Society, offers excellent and thorough guidance in the online publication, "Gardening for Pollinators: Planning, Creating, and Maintaining a Pollinator Garden: A Five-step Guide." *Pages 20-24 provide detailed instructions for proper planting of new trees, shrubs, and non-woody plants.* Native Plant Trust Conserving and promoting New England's native plants





PLANNING: Small DIY Planting Projects

Why Start Small?

Small improvements can bring big benefits to you and the wildlife around you. Starting small can help you learn which plants work well in your yard before making big investments. Even if you decide to redesign your yard in later years, most plants can be easily moved around.

Add a Tree or Shrub

Add a **single** new woody plant – it can be a future canopy tree or an ornamental native shrub. Add multiple woody plants to create an **island** or a **hedgerow**. Plan to include low plants for **"soft landings"** under trees or large shrubs. Good choices might include wild ginger, cranesbill geranium, and solomon's seal.

Add a Wildflower Patch

Add a pollinator garden as an **island**, or as a **strip** along a lawn edge or walkway. You can encourage wildflowers to expand into surrounding areas over time. You can even grow pollinator-supporting wildflowers in a **container**!

Select a collection of three to five plants. (Additional plants can be added sparingly as accents). Choose native plants that will provide **continuous bloom** and **visual interest in dormancy**. Pollinators and seed-eating birds will also benefit greatly from continuous bloom and standing seed heads. Seek perennials whose stalks and seed heads provide **winter interest** when left intact.

If you are concerned about balancing "wild" elements with a neat appearance, frame "wilder" plantings with a **well-maintained edge**. A mowed lawn, a low wall, or a stone path can provide a crisp frame and a cared-for, intentional appearance. Alternatively, place **shorter plants in the foreground** for a more formal look. Mature plants may be clipped by half in mid-season to maintain a more compact shape. Or you can embrace a wild look and **add a sign** that identifies your goal, e.g. "Pollinator Habitat."

More DIY Ideas for Water Quality and Wildlife: Enhance Habitat

Consider what wildlife is likely to frequent your yard, and which wildlife you would like to encourage. You likely will be providing a “stepping stone” habitat for winged creatures, like birds, butterflies, bees, and other insects, as well as a place for them to establish their young.

Insects and birds need **food**. Select varied species of flowers with staggered bloom time to continue producing **pollen and nectar** throughout the season for adult insects. Insect larval forms will munch on the leaves of particular host plants that you might research and provide.

Berry and fruit yielding plants begin blooming early in the springtime, with pollen and nectar for pollinators. Summer or fall fruit follows. The fruit feeds birds in the colder months when insects become scarce or absent as a food source.

Insects and birds also need **water**. Still water allows mosquito eggs to hatch, so change still water daily, or make your water source a **fountain** or **bubbler**.

How to Build Your Own Bubble Rock for Backyard Birds to Enjoy - Mother Earth Living

Attract more birds with water that moves - Welcome Wildlife

How-To Build a Bird Bubblier — Bee Better Naturally with Helen Yoest

How To Make A Bird Bath Bubbler At Home: Easy Guide (2024) (taleofbirds.com)

To provide **shelter**, designate a spot to retain **fallen leaves** for insects to overwinter in, and leave **dry stalks** standing for the same reason. Where you can, maintain a **lower story** of vegetation under trees for insect larvae to transition to their next life stage.

A **rotting log** placed artfully, or allowed to linger where it has fallen, provides yet more shelter for small life forms. A **small log pile** layered with soil and woodchips provides moist shelter for amphibians. Some bee species will nest in **soil, exposed and unmulched** among plant stems in a sunny garden location. Others require a **muddy area**.

KEYSTONE SPECIES support the most life:



NATIONAL WILDLIFE FEDERATION

Keystone Native Plants

Eastern Temperate Forests – Ecoregion 8

Native plants have tight relationships with wildlife, formed over many thousands of years, providing natural sources of food, cover and places to raise young. Without healthy native plant communities, wildlife cannot survive. Every ecoregion has different native plant communities.

Keystone plants are native plants critical to the food web and necessary for many wildlife species to complete their life cycle. Without keystone plants in the landscape, butterflies, native bees, and birds will not thrive. 96% of our terrestrial birds rely on insects supported by keystone plants.

There are two types of keystone plants:

Host plants that feed the young caterpillars of approximately 90% of butterflies and moths (Lepidoptera).

Plants that feed specialist bees who only eat pollen from specific plants. Keystone plants for native bees feed both specialist and generalist bees.

Entomologist Dr. Doug Tallamy, and his University of Delaware research team have identified the keystone plants that support butterfly and moth species. Native host plants of pollen specialist bees were researched by pollinator conservationist Jarrod Fowler.

Top Keystone Plant Genera in Eastern Temperate Forests - Ecoregion 8

A genus is a taxonomic category of plants that contains one or more species of plants with similar characteristics. Species within each genus have adapted to local conditions and are the appropriate native species or varieties suited to a specific ecoregion. To find species by zip code, check out the Native Plant Finder.

Top 30 Keystone Plant Genera for Butterfly and Moth Caterpillars

Genus	Common plant name	# of caterpillar species that use this as a host plant
Quercus	Oak	436
Prunus	Almond, apricot, cherry, peach, plum	340
Salix	Willow	289
Betula	Birch	284
Populus	Aspen, cottonwood, poplar	249
Acer	Maple	238
Malus	Apple	237
Vaccinium	Blueberry, cranberry, deerberry	217
Carya	Hickory	213
Pinus	Pine	200
Alnus	Alder	173
Ulmus	Elm	164
Picea	Spruce	132
Tilia	Basswood	132
Rubus	Blackberry, raspberry	127
Juglans	Walnut	125
Fraxinus	Ash	121
Fagus	Beech	116
Castanea	Chestnut	115
Abies	Fir	112
Larix	Larch	110
Corylus	Hazel	108
Solidago	Goldenrod	104
Myrica	Bayberry	103
Rosa	Rose	102
Symphyotrichun	Aster	100
Cornus	Dogwood	98
Tsuga	Hemlock	92
Amelanchier	Serviceberry	92

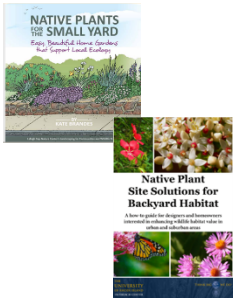
Top 30 Native Host Plants for Pollen Specialist Bees

Genus	Common plant name	# of pollen specialist bee species that rely on this plant
Helianthus	Sunflower	50
Solidago	Goldenrod	42
Symphyotrichum	Aster	33
Grindelia	Gumweed	31
Rudbeckia	Black-eyed Susan	29
Heterotheca	Goldenaster	24
Coreopsis	Tickseed	22
Chrysopsis	Goldenaster	20
Verbesina	Wingstem	17
Bidens	Beggartick	15
Cirsium	Thistle	15
Salix	Willow	14
Vaccinium	Blueberry, cranberry, deerberry	14
Erigeron	Fleabane	12
Vernonia	Ironweed	12
Pityopsis	Silkgrass	11
Ratibida	Prairieconeflower	11
Silphium	Rosinweed	10
Baccharis	Baccharis	8
Euthamia	Goldentop	8
Dalea	Prairie clover	7
Oenothera	Evening primrose	7
Echinacea	Coneflower	6
Gaillardia	Blanketflower	6
Balduina	Honeycombhead	5
Helenium	Sneezeweed	5
Heliopsis	Heliopsis	5
Pectis	Chinchweed	5
Cornus	Dogwood	4
Lyonia	Staggerbush	4

National Wildlife Federation's Keystone Native Plants – Ecoregion 8

Helpful Resources for Larger Plans

Several excellent online resources provide detailed designs full of wildlife-friendly native plants for small-scale residential landscapes:



[Native Plants for the Small Yard | Lehigh Gap Nature Center (lgnc.org)]

[URI_Native_Plant_Site_Solutions.pdf (grownativemass.org)]

[Water-Smart Landscape Templates | Concord, MA (concordma.gov)]

[Boston - Native Garden Designs (wildones.org)]

[“Plant Virginia Natives” Home Landscape Planning Booklet] (It’s good for New England too!)

The best design will be a customized response to your space and your desired use of it. For large projects and/or quick execution, consider hiring a consultant. If you find that the scope of your desired improvements outgrowing your DIY capacities, experienced professionals can be found through these directories:

Finding a Like-Minded Consultant

[Organic Land Care Professionals | Organic Landcare Professionals]

[Member Directory - Ecological Landscape Alliance (ecolandscaping.org)]

[Sustainable Design and Development | asla.org]

A consultant can help you to identify the essential characteristics of your property, including what plants you already have and whether any are invasive. They can help you imagine new ways of using your space and devise a satisfying layout that will best meet all desired functions. They can help you to phase improvements to fit your time and budget.

Places to Visit for Inspiration

Get ideas on fun day-trips to local nature-inspired landscapes!

Garden in the Woods

(Framingham)



Mt. Auburn Cemetery

(Cambridge)



MassAudubon's Habitat

(Belmont)



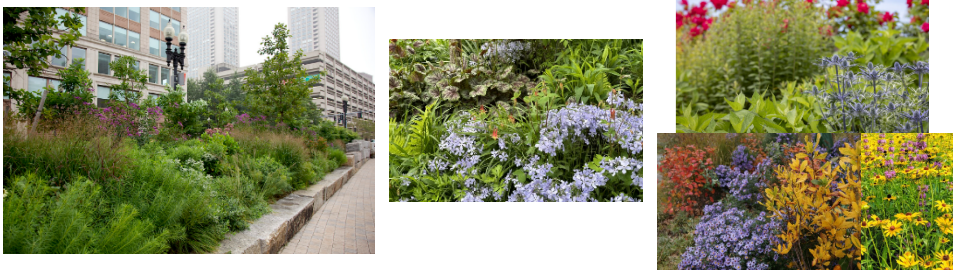
Harvard and Radcliffe Yards, Harvard University

(Cambridge)



Rose Kennedy Greenway

(Downtown Boston)



Exploring the Science of Wildlife Conservation

Enjoy learning about the life that your increasingly diverse and complex landscape can sustain. Explore resources below for advancing understanding of habitat requirements:

Birds:

- Landscaping for Birds (massaudubon.org)
- Native Plants | Audubon (database: which plant for which bird?)

General Pollinators (Butterflies and Bees):

- GardeningForPollinators_2023.pdf (newfs-society.s3.amazonaws.com)
- NWF GFW Plant List Ecoregion8.indd
- Native Plants for Pollinators & Beneficial Insects: Northeast (xerces.org)
- 19-038_01_HAG_Yard-Park-Garden_web.pdf (xerces.org)
- MO_SD_LeafLet23_Print_final_07_24_23_LoRes.pdf (nativeplanttrust.org)
  (Perfect Earth Project's Nature-Based Gardening)
- Plants for pollinators at risk - GEGEAR LAB AT UMASS DARTMOUTH (weebly.com)
- Step One – Identify Wildlife Needs | NC State Extension (ncsu.edu)

Butterflies: - Find a Butterfly (massaudubon.org)

Bees:

- Creating-a-Pollinator-Garden-for-Specialist-Bees_FINAL_071620_.pdf (cornell botanic gardens.org)
- 091520_NicksBeeFieldTips_tiny.pdf (tufts.edu)
- Conserving Bumble Bees | Xerces Society
- Nests for Native Bees | Xerces Society

Fireflies: - How You Can Help | Xerces Society (fireflies)

Amphibians and Reptiles:

- Helping amphibians | Amphibian and Reptile Conservation (arc-trust.org)
- Reptiles and Amphibians in Your Backyard | NC State Extension Publications (ncsu.edu)

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6 Ways to be a Volunteer Scientist

Contribute to environmental conservation progress and research by observing and documenting pollinators, plants, and other species in your own backyard and/or local outdoor spaces. Join the following communities and efforts:

- iNaturalist
- Homegrown National Park
- The Great Sunflower Project
- Budburst
- eBird/ Cornell Lab of Ornithology's Global Big Day
- eButterfly
- Xerces Society
- National Audubon Society Christmas Bird Count
- Community Science - Wild Ones: Native Plants, Natural Landscapes

More DIY Ideas for Water Quality and Wildlife: Harvest your Rainwater

Projects to Capture Rainwater

Rain barrels and rain gardens are two excellent ways to capture rainwater. Free of chemical disinfectant (chlorine), pure rainwater is the best water for plants, Rainwater is free of cost and requires no treatment. Rainwater used on-site percolates slowly through the watershed's soils and plants rather than surging through storm drains straight to waterways.

Install a Rain Barrel. A rain barrel captures roof runoff that would otherwise spill from the gutter to the ground. It dispenses the water through a spigot, allowing you to water thirsty plants during dry spells.

The design of the barrels can be utilitarian or more refined. Many municipalities arrange for rain barrels to be sold to residents at a reduced cost. Rain barrels can also be purchased from garden centers and online retailers. DCR's website includes information on purchasing rain barrels, and also instructions for installing rain barrels and even making your own: Rain Barrels and Other Water Conservation Tools | Mass.gov

Build a Rain Garden. The purpose of a rain garden is to let rainwater linger long enough to infiltrate well-draining soil over 24-48 hours. Garden plants benefit from the retained soil moisture, and suitable plants will respond with lush growth. A rain garden should be located at least ten feet away from any building.

Landscape: Rain Gardens: A Way to Improve Water Quality | Center for Agriculture, Food, and the Environment at UMass Amherst

RainGardenManualPrint-small.pdf (uwsp.edu)

A Rain Garden at Your Downspout – Wild Seed Project

Stormwater Solutions for Homeowners Fact Sheet: Vegetated Buffers | Mass.gov

TIERED FRAMEWORK TO CELEBRATE YOUR GOOD WORK!

Protector, Provider, Nurturer: Part 2

Tier 1: Protector... ....You Like Your Yard AS IS But you are willing to adjust your maintenance practices. It matters.	Tier 2: Provider... ....You're Open to Adjustments Your additions and subtractions help many creatures survive and thrive!	Tier 3: Nurturer... ....You're Ready to Go Wild!! You've created a symphony of life!
As a Protector, you show care for living things And for your neighbors' efforts to nurture them.	As a Provider, your flowers will provide food for nectar-sipping pollinators. Your living native plants and retained plant residues provide needed habitat. Your resident wildlife will find welcome refuge, overwinter safely, and reproduce successfully.	As a Nurturer, you are helping enlarge available habitat for multiple species. You sustain many wildlife species with continuous food sources through the growing season You help restore connections among plants and wildlife in the places around you to support healthier, more dynamic populations.

Protect your Garden from Ravenous Rabbits!

Rabbit predation can seriously hinder your gardening ambitions. Knowledge and proper fencing can help native gardens coexist with local wildlife, even in urban areas where rabbit populations surge.



Springtime is when non-woody plants are most vulnerable to rabbits. In general, rabbits will avoid a small number of plant species, devour many, many others, and browse opportunistically on less preferred, but still palatable, species. Rabbit tastes expand in early spring. Winter's harshness leaves scant food for hungry adults. Baby rabbits arrive unschooled and curious. Fresh spring growth is tender.

Guides from Tufts Pollinator Initiative and other authorities can help predict which plants rabbits will eat and which they will leave intact, but expect to conduct some trial and error on your own too. And err on the side of protecting your plants.

Physical barriers are the most effective way to protect plants from rabbits

A great protection for young plants is a cloche made of chicken wire. These ornamental, bell-shaped covers fully enclose small or young individual plants. Small protective cloches are sold by Hillside Ace Hardware in Belmont, and larger ones can be ordered online from Gardener's Supply in Vermont (*pictured on right*).



Cylindrical DIY-chicken wire cages are less expensive but also less attractive. The open tops of these fence-like tubes make them suitable for protecting larger plants, even young trees and shrubs. Chicken wire is sold in rolled bundles either two or three feet high, in gauges of either 1" or 2". Cages for larger plants should be three feet high and 1" gauge for strong walls and protective height. You'll need wire cutters. Each roll of chicken wire is fastened with a long, metal wire that you remove and can use to "sew" your cages closed.

Addendum: Rabbit Precautions

Fencing in a whole garden is a more expensive alternative to multiple chicken wire cages. A more affordable approach might be to mass vulnerable plants in a smaller fenced-in area. Just make sure fencing is at least three feet high and gaps are smaller than chain-link openings.

Natural chemical deterrents can be found in garden centers and hardware stores. Products like Liquid Fence and Rabbit Scram deter rabbits by signaling the presence of predators or presenting them with unpleasant tastes or smells. These products can be effective, as long as you remember to reapply after each rain. Needing to frequently reapply can make this approach expensive. If you have a dog, your pet's presence in your yard will also help!

Build your own list of "rabbit safe" plants that you can grow unprotected. Here's mine:



Wild ginger, wild bleeding heart, hay scented fern, meadow rue, mayapple, mountain mint (all shown above, in order listed), as well as leucothoe and mountain laurel, can grow entirely unprotected in my garden with no loss to rabbits. Some other native plants rebound well from winter and early spring rabbit browsing if unprotected: dwarf white pine, bee balm, golden/running groundsel, Canada anemone, broad-leaf sedge. I've also had mostly good luck with cranesbill geranium, nodding onion, goldenrods, penstemon, golden Alexander, black cohosh, Ostrich fern, and Christmas fern.

I've learned that unless grown under a cloche or in a chicken wire cage, woodland phlox, garden phlox, lowbush blueberry, coreopsis, smooth aster, cutleaf coneflower, Liatris, Clethra, Diervilla, Clematis, Viburnum, and Aronia will be utterly lost to the rabbits. I grow these only with protection.

Grow what you love! But prepare to protect vulnerable plants from the ravenous rabbits!

Addendum: Rabbit Precautions