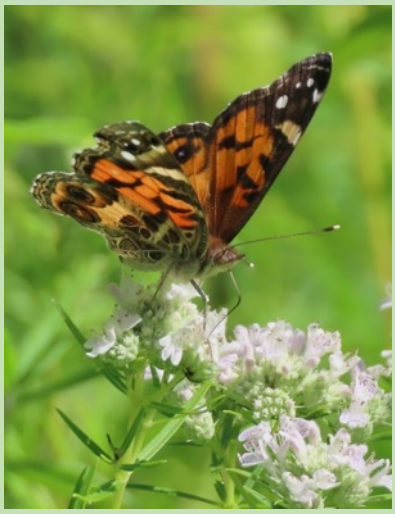
NATIVE PLANT GUIDE

SUSTAINABLE GARDENING FOR A NATURALLY BEAUTIFUL PEPPERELL



PREPARED BY:

TOWN OF PEPPERELL

INVASIVE & NATIVE PLANT ADVISORY COMMITTEE

REV 4, APRIL 2024

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To become naturalized is to live as if your children's future matters,
to take care of the land as if our lives and the lives of all our relatives depend on it.
Because they do.

Robin Wall Kimmerer, Braiding Sweetgrass:
Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants

PREFACE

The Town of Pepperell's Invasive & Native Plant Advisory Committee (INPAC) provides residents with educational information on the importance of using native plantings. To that end, we created the initial release of a Native Plant Guide in September 2021 as a single resource document to answer the questions many of us we have when we first begin working with native plants. Interest in native plants has increased dramatically in the past few years as landowners take a harder look at our impact and the impacts of climate change on our environment, and how we can turn to more sustainable gardening.

This fourth revision of the Guide includes several new topics, a new format, and further refinement of our recommended plants lists. The Recommended Plant List is now consolidated at Appendix G for easy printing as a standalone document. The corresponding photos are at Appendix H. We have added 29 New England native plants to provide a wider selection for your gardens, and removed 23 for various reasons. Details on these changes can be found at Appendix A.

Another addition to this revision is inclusion of "The Pollinator Pathway" initiative here in town. Pollinator Pathway is a non-profit organization that inspires, educates and supports communities working together to restore and connect pollinator habitat. By advising and encouraging the establishment of public and private pesticide-free corridors of native plants we can improve availability of good nutrition and habitat for pollinators.

Finally, and most noteworthy, we are thrilled to include a summary of recently-adopted changes to Pepperell's Design Standards and Guidelines, which are a part of the Town's Zoning Bylaw. The changes address significant new requirements and recommendations for all new residential and commercial developments in town. Among sustainable measures addressing lawns, water conservation and sustainable design, all new landscapes must now incorporate a minimum of 60% plants that are native to New England. This is a big win for the environment and future generations.

The Guide is not a comprehensive document on the topic of native plants, but more of a primer to provide some basic concepts and resources towards more sustainable yards. Our audience includes homeowners, seasoned gardeners interested in new garden trends, local contractors, landscapers and nursery owners. Our hope is that the Native Plant Guide will inspire readers to make well-informed and careful changes in their landscapes to sustain future generations. It is no longer enough to have conservation properties set aside in town—preserving our ecosystems begins in our own backyards.

Town of Pepperell, Invasive & Native Plant Advisory Committee, email: invcomm@town.pepperell.ma.us

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1. WHY GROW NATIVE PLANTS?

Definitions & Benefits

Native plants are most often defined as those that evolved with local wildlife and local environment in a region over thousands of years. Generally, these are the plants that grew in our ecosystems[1] before the European Colonists settled here. They are the ecological basis upon which life depends, including people.

Native plants are more sustainable than the more familiar exotic plants[2] found in most home landscapes. Many exotics were brought here because they were thought to be more beautiful, more useful, more prolific, more resistant to insect damage, or easier to maintain. Sometimes, things that seem to be too good to be true can have serious consequences. The result of importing alien species where they don't belong is that all plants now classified as "Invasive[3]" are exotics. They have no natural controls to limit their spread because they did not evolve in our area along with other plants and wildlife that keep a healthy balance in the ecosystem. Plants such as the much-loved Burning Bush have spread from backyards into our wild areas, overtaking space where the native plants once grew, eliminating the basic needs of wildlife. Insects, birds, and mammals depend on native plants for food, cover, and nesting sites, and we need to make room in our landscapes to better restore and support these delicate balances.

Ecosystems rely on native plants to:

- Stabilize soils
- Filter water
- Purify air
- Support wildlife

The benefits of establishing native plants in your yard are many. Check out our "bee boxes" for a few. If you are interested in learning more, a reading list of the best-of-the-best books is at Appendix B.

Native plants

- Require less water
- Don't need fertilizer
- Don't need mulch
- Don't need chemical controls
- Are more nutritious for wildlife
- Are beautiful

[1] **Ecosystem:** a community or group of living organisms that live in and interact with each other in a specific environment.

2 **Exotic/Non-native plants**: organisms that have been introduced into an area outside their normal distribution. These have been brought in from other continents, regions, or ecosystems and did not evolve here. Some exotics can cause extreme damage, choking out native plants and trees, reducing the variety of wildlife in an area, and depleting water supplies. Other terms often used for exotic plants are: non-native, alien species, exotic species, foreign species, non-indigenous .

[3] **Invasive plant**: Non-native (or alien) to the ecosystem; and whose introduction causes, or is likely to cause economic or environmental harm, or harm to human health.

2. NATIVE PLANT GARDENING

Making the switch from exotic to native plants in your yard can be a gradual transition, or you may be ready to roll up your sleeves and begin working right away. It may seem daunting to think about how you want the end product to look, what plants are best suited for your space, and how to design it.

Many gardeners design their yards based on what catches their eye at the garden center, selections offered by a landscaper, or what looks good in a neighbors' yards. What follows in this section is a structured approach to planning gardens, and some tools and resources to guide you through the process.

Whether you decide to start small or go big, first consider your available time, energy and budget. The easiest way to 'go native' is a phased approach, working to the goal of incorporating more native plants in your yard. You may decide to keep some of your favorite exotic plants. In all fairness, there are some exotic plants that are relatively well-behaved, and there is no harm in retaining some of them in your yards, but the invasives really should be removed.

An achievable goal to eventually strive for 70-80% native plantings. This will attract more wildlife and help maintain a healthier yard and ecosystem. Now, let's make a plan.

Why the 70% Natives Goal?

The goal came of having 70% of your landscape be comprised of native plants came from a study conducted by Entomologist Doug Tallamy.

He found that yards with more than 70% natives will provide enough caterpillars available for birds to feed their young.

More natives = higher success rates of the young surviving.

More recent studies are now advocating 70-100% native plants.

Garden Planning Steps

A. Site Cleanup
B. Assessment
C. Plant Selection
D. Attracting Pollinators
E. Before You Buy
F. Sustainable Garden Practices
G. Help Create Native Plant Corridors

Shortcuts to Tools & Resources

- Site Assessment - Appendix C
- Plant Selection - Appendix D
- Where to Buy - Appendix E
- Plant List - Appendix G
- Plant Photos - Appendix H

A. SITE CLEANUP

Tool: INPAC information page on invasive plants on the Town website: https://town.pepperell.ma.us/710/Invasive-Native-Plant-Advisory-Committee

Before you begin, consider addressing obvious problem areas. Removing existing invasive plants is a good beginning and will make it easier to envision where you need to restore disturbed areas to their original state. There are many plants that are listed as invasive to Massachusetts. To learn more about invasive plants, click on the QR code on the cover page, which will bring you to INPAC's presence on the town website.

Invasive Plants Common to Pepperell

Asian Bittersweet	Autumn Olive	Burning Bush
Glossy Buckthorn	Garlic Mustard	Japanese Barberry
Japanese Knotweed	Multiflora Rose	Purple Loosestrife
Tree of Heaven		

B. ASSESSMENT

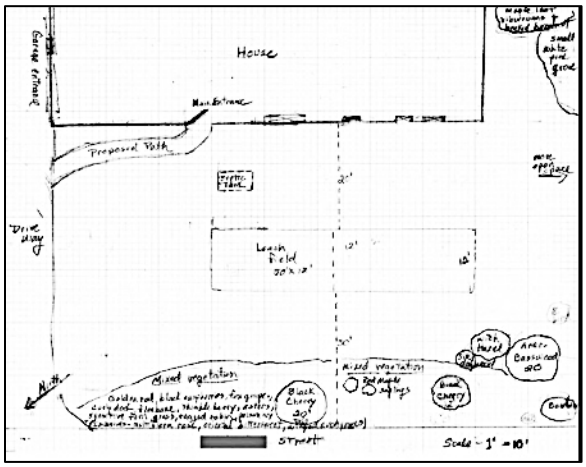
Tool: Questionnaire at Appendix C helps you decide what's important to your own preferences in designing your landscape, and to gather information about existing soil and light conditions. This information will help you make the best-informed decisions when selecting plants.

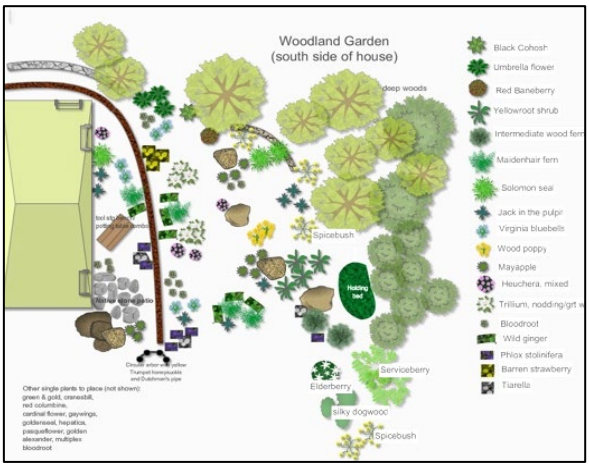
Small spaces If you are starting small, consider where you might add a small patch of good pollinator plants, also known as a "pocket garden." Pocket gardens can be located almost anywhere and shaped in attractive contours that take advantage of unused spaces in your yard or to break up a wide expanse of lawn. Pocket gardens can be small and still provide nectar, pollen, leaves, seeds and shelter for bees, butterflies, birds, as well as a variety of other types of insects and small mammals. You may also consider adding several pocket gardens around your yard. For some inspiration, drop by the demonstration pocket garden in the front lawn of the Lawrence Library, or click on the QR code on the sign below to learn about the plants in this garden.

The Lawrence Library Pollinator Garden
Graphics and illustration by Annette Cate.

Larger spaces

If you are designing a large or complex space on your own, begin by measuring your area and sketching it out from a birds-eye view. A large piece of graph paper works just fine for this but there are also some garden design apps available online. Examples of each are shown below. In your design, be sure to include existing buildings, trees, shrubs, fences, outbuildings, pathways, and views. Write down natural factors such as light conditions and soil or drainage problems. Sketch in where you want to place the garden areas and determine how much space you have. Now you have a template so you can begin to think about selecting the right plants for the conditions in the yard.





If you are working with a landscape designer, they should include you in developing a plan. They will measure, take photos, look at existing plantings, and discuss options with you. Considering the questions at Appendix C before you meet with them will help them to achieve your vision. Their professional training and talents will provide you with more ideas to realize your dream spaces. Be sure to tell them how important it is to you to use native plants in their design. There are plenty of nurseries that offer native plants now, and availability should not be an issue.

For those who are not interested in developing their own designs, or if you would like a shortcut to design or plant selection, some native plant sources sell Pollinator Plant Kits, with different plant options depending on site conditions. The kits will come in a large flat of landscape plugs, and some will even include a suggested design layout. Both sources below offer kits and our experience ordering from them has been very positive. Be sure to place orders for Pollinator kits as early as January or February for spring planting--these sell out quickly.

Native Plant Trust - https://www.nativeplanttrust.org/for-your-garden-2/buy-native-plants-new/
Bagley Pond Perennials - https://bagleypondperennials.com/collections/garden-kits-with-design-templates

C. PLANT SELECTION

Shortcuts to Tools & Resources

- Plant Selection - Appendix D
- Where to Buy - Appendix E
- Butterfly Host & Nectar Plants - Appendix F
- Plant List - Appendix G
- Plant Photos - Appendix H

The fundamental landscape concept "right plant, right place" means that the most successful plant selections are based on which plants are best adapted to the location in which they are placed. The amount of light, type of soil, and other conditions drive what will grow best in your garden. As much as you may love a particular species, it will not thrive if it's planted in the wrong conditions. The good news is, that there are many different species of native plants suitable to a variety of conditions.

Initially plant selection may be a bit intimidating, but it's actually the most fun and exciting part of your plan. Consider how your choices impact the environment and how you can combine beauty and ecological benefit. If you want to attract specific species of bees and butterflies, look up which plants they frequent (see Appendix F) for food and which plants they lay their eggs on). If you want to attract birds, then be sure to include trees or shrubs that bear berries for winter food sources and provide cover for nesting sites.

If you are a novice gardener, or just thinking more about adding native plants in your yard, there are some easy-to-use databases and websites to help with plant selection. Type in your soil and light conditions, and then apply additional filters such as your favorite color blossoms, winter interest, bird attractor, shrubs, trees, fall color, etc., and these tools will generate a suggested native plant list for you. You can easily go back and modify the filters. It's fun and easy to play around and explore the possibilities. Appendix D provides a short description of the best sources capabilities along with a link to the sites.

Once you decide which plants you want, you will need to find a reputable place that sells them. Appendix E lists many local, reliable nurseries along with reputable online sources. Try to find a source that has plants that are locally grown and acclimated to our region. Depending on your needs and budget, there are several different ways to purchase plants.

Seeds: This is the most economical way to go, but the waiting period for blooms may be longer - in some instances a year or two out. This is not to say that we don't recommend it, just that you need to be aware of when you can expect to see blooms. Try winter seed sowing. There are many videos online that walk you through the simple steps.

Landscaper Plugs: Landscaper plugs (small, well rooted plants in a flat), is the second fastest way to do your planting. Many will bloom in their first season because their root systems are already well-established. There are several great sources for plugs shown at Appendix E**.** You can purchase a mixed flat with a selection of flowers suitable for particular conditions (sun, shade) to provide color throughout the growing season, or, if you have a large area to plant with a single species, they have flats that are all the same species. Look for their pollinator kits on the websites. These kits come with a selection to provide color and blooms throughout the growing season. You can mix using plugs with winter seed sowing for a less costly approach.

Mature plants: The final option, which provides immediate satisfaction is to use mature plantings. This is the costliest way to go, but you could also consider using a mix of plugs, seeds and mature plants.

D. ATTRACTING POLLINATORS

Pollinator populations are declining and that's bad news for us and the ecosystem. Without pollinators, many of the foods, beverages, fibers, spices and medicines we use daily wouldn't be possible. We can help by planting for pollinators, and here are some tips to select plants to attract a variety. Diversity in pollinators is important as many pollinators are not generalists and will only lay their eggs in specific locations, or on specific plants.

Bees

Bees are essential to a thriving pollinator garden. There are over 400 species native to the United States. They are high energy and need lots of pollen and nectar from a variety of plants to feed themselves and their young. If you want bees in the garden, provide habitat essentials to meet their needs

- food - nectar and pollen
- water - if there is no natural source, provide a shallow dish of water
- shelter - nesting preferences vary from bare ground, to brush piles, to hollow stems or dead wood
- a safe place to raise their young - gardens where old plant stems are not cut back, and no chemicals are used

Compared to honeybees, which are not native to the U.S., native bees are much more efficient pollinators. They can fly longer distances and withstand the cold New England temperatures much longer into the Fall. Bumblebees also pollinate some food crops that honeybees cannot- such as potatoes, tomatoes, eggplant, peppers, pumpkins, zucchini, blueberries and cranberries.

Bees prefer flowers that

- are bright white, yellow, or blue
- have a fresh, mild scent
- have a shallow landing platform
- provide plentiful nectar
- may have nectar guides

Some favorite native plants to attract bees

- Bee balm
- Joe-Pye weed
- Asters
- Goldenrods
- Mountain Mint
- Milkweeds

Here's two wonderful resources to help you find some of the most favored pollinator plants for our region. Both are available for free download,

The Xerces Society, "Native Plants for Pollinators and beneficial Insects - Northeast
https://www.xerces.org/sites/default/files/publications/22-026_01_NPPBI—Northeast_web.pdf

Pollinator.org's regional guide - Selecting Plants for Pollinators -

https://pollinator.org/PDFs/EasternBroadleaf.Oceanic.rx18.pdf

Butterflies and Moths

Butterfly gardening has become increasingly popular in the last decade. In addition to adding grace and beauty to our yards, butterflies, moths, and their young, are an important part of the food chain and are excellent pollinators.

These pollinators collect pollen on their legs and bodies as they drink nectar from flowers. If you want the butterflies and moths to stay in your yard, they need two types of plants—host plants and nectar plants. Host plants are where butterflies lay their eggs, and are vital to the butterfly lifecycle. Many butterflies and moths are specialists and will only lay their eggs on specific plant species, for example, Monarch butterflies will only lay their eggs on milkweeds. Nectar plants are the flowers that adult butterflies feed on.

Hummingbird Moth on Bee Balm

When selecting plants, be sure to include a few flowers that will bloom throughout the spring and summer to provide nectar throughout the growing season.

Spicebush Swallowtail Caterpillar

The plant list at Appendix F is provided courtesy of the volunteers at the Lunenburg Community Pollinator Habitat, which is a 2 1/2-acre conservation property at 123 Hollis Road in Lunenburg, MA. Many species of native trees, shrubs and wildflowers are planted there to sustain local pollinators. You will note that their list also includes a few annual non-native plants that are proven host p (for Swallowtails and some moths), or that will provide safe, nutritious nectar. We have annotated the table to identify the non-natives.

The Habitat is a wonderful (and free) place to visit with your family. The property planting and maintenance is done by a group of dedicated volunteers. We appreciate permission to share their plant list in our Guide.

A word about Butterfly Bush (*Buddleia davidii)*

Butterfly Bush is imported from Asia, and has no natural predators in North America. It produces large amounts of nectar, beautiful flowers, and has a long bloom period and attracts butterflies. Unfortunately, it is completely lacking in nutritional value and is actually addictive, which discourages butterflies from feeding on healthy plants.

To further realize the negative impact of Butterfly Bush, it is **currently listed in at least 20 states as an invasive species**. This plant is not to be confused with the native Butterfly Weed (*Asclepias tuberosa*), which is great

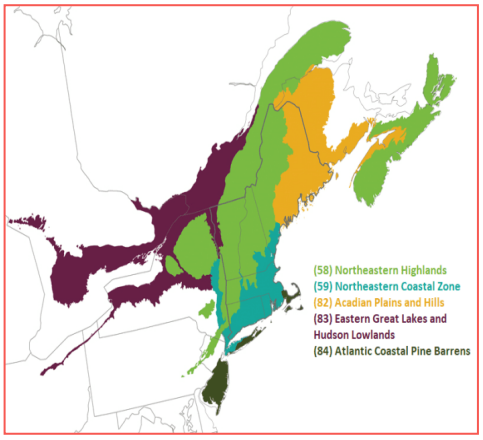
E. BEFORE YOU BUY, read this

- **Collecting wild plants.** Removing or cutting plants of any type is not allowed on public lands. In some cases, it is illegal and fines may apply. For private properties, you must have permission of the property owner. Wild collecting is discouraged as it may be detrimental to local populations, but salvage from sites undergoing development with owner permission can be considered.
- **Neonicotinoids/Neonics.** These are a class of pesticides commonly used in the nursery industry and home gardens. They are "systemic pesticides" meaning they affect all parts of the plant, including the nectar and pollen, and are therefore **toxic to bees**. Neonics remain in the soil and the plant affecting pollinators for a long time. Residues have been found in plants up to 6 years after application, and in waterways downstream from where they were applied.

Before buying any plants ask the seller if they are neonic-free.

If they don't know, find another source.

- **Select plants native to the New England ecoregion** (see map). Plants that evolved here along with the wildlife and are the most beneficial. They are able to withstand local weather and climate extremes while providing resources for local wildlife. Check to see if a plant is native to our ecoregion on the Native Plant Trust's GoBotany site, at https://gobotany.nativeplanttrust.org/. Type in the plant name and scroll to the map to see the plant's native range. Pepperell is in the Northeast Coastal Plain, ecoregion 59, which extends down from the inland area of the Gulf of Maine.

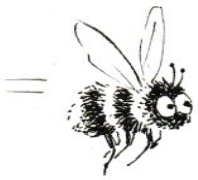


- **Buy 'Straight Species'**. Straight species are native plants that occur naturally in the wild and reproduce without intervention from people. There are many variations of straight species available now in the nursery trade--these are called 'cultivars' or 'nativars'. These plants have been genetically-modified to produce different bloom color or size, leaf color or a different height from the natural straight species. This is done to make the plants more attractive to us, but doing so may compromise the plant's ability to provide the same quality food for wildlife. Cultivars are sterile, and are clones, which will also decrease diversity in the plant gene pool. There is still a lot of ongoing controversy and scientific research about whether or not we should be planting cultivars. But with so many straight species now available, INPAC advocates planting wild-seed-grown, native species plants of local sources whenever possible.

How to identify if a Plant is a Cultivar

Look at the plant name tag.

If the tag has a name in quotes that follows the plant name (e.g., Black-eyed Susan/Rudbeckia "Goldsturm") or Penstemon "Husker Red" it means someone has modified the original species.



F. SUSTAINABLE GARDENING PRACTICES

Sustainable gardening is simply a way to work with nature instead of against it. It's a combination of gardening practices to minimize the environmental impact of your yard on the local ecosystem. As you are designing or maintaining your spaces, this is another element to consider.

One of the most impactful yet simple actions toward making our home landscape more sustainable and safer is to think critically about chemical use in our yards.

To see how the town views and manages sustainability, the Design Standards part of our Zoning Bylaws, provides more detail at: https://town.pepperell.ma.us/DocumentCenter/View/8194/Planning-Board-Rules-and-Regulations-Adopted-6-20-23 There are also many scholarly publications and websites on sustainable gardening, but we will touch on just a few practices here that are easy, but that can still have a big impact.

Conserve water and control runoff

- Water plants only when they need it. Lawns only need about 1"of rain a week
- Set up a rain gauge to record weekly rainfall
- Water early in the morning to reduce water evaporation
- Use low-angle spray sprinkler to reduce water evaporation
- Install a rain barrel
- Remove hard surfaces in landscapes so water can percolate into the soil and not run off in storm gutters.
- If you must have a sprinkler system, add water conservation equipment such as smart sprinkler controllers, rain shutoff devices, and flow sensors that are set to meet the types of outdoor water restrictions imposed by the town.

Recycle garden waste

- Start a compost pile
- Don't toss out lawn clipping. Instead, use a mulching lawn mower so clippings don't have to be collected. If collected, lawn clippings can be added to your compost pile.
- Leave the leaves!

  Caterpillars develop on the leaves of our plants. Most spend the winter as a pupa or wrapped up in a very tight cocoon in leaves on the ground. If we rake the leaves and burn or mulch them or put them in the trash, we're throwing away much of the life just created.

  Leaves are also the perfect mulch. Normal annual leaf fall is 2-3" deep and will not hinder growth of even the most delicate of plants. Leaf litter is the perfect protection for our soil community. If you feel that you must rake the leaves off your lawns, do it gently, and push them off to the edge of your yard, in a garden bed, or leave some behind to break down and naturally enrich your soil.

Nature Recycles

Leaves that stay on your property will return the nutrients that were taken up by the trees' roots back to the soil next spring.

The tree gets to use them again the following year!

Reduce chemical use

- One of the greatest gardening myths is that pesticides and herbicides will keep your garden healthy. It's important to know that chemicals such as herbicides, mosquito sprays, or other insecticides, do not kill selectively. Many commonly-used yard chemicals are poisonous and pose a danger to animals, pets, and people, especially children. They kill beneficial insects as well. You may add beautiful native plants to attract pollinators, only to find that you are poisoning them. You may have a mosquito-free yard, that will also

become bird-free, or you may not see any caterpillars become butterflies because they have lost their food supplies or succumbed to the poison in herbicides or insecticides.
As responsible citizens who care about the environment and delicate ecosystems, we must stop, think, and research the potential consequences. Fertilizers are also unnecessary. Creating soils that are rich in organic matter (compost) is entirely sufficient for healthy plants. If you can't bring yourself to totally eliminate chemical use in your yard, consider reducing usage.

- Another myth - many people believe that a natural alternative to using herbicides is vinegar, or vinegar combined with dish soap and/or salt. Actually, white vinegar is about 5% acetic acid (stronger than Roundup) and burns the tops of plants, but not the roots. A weed may look bad right after spraying with vinegar, but it will come back from the roots. Further, vinegar is lethal to insects, so please don't use it in your gardens.

- Native plant gardens are created to be eaten. We have been taught that insects are garden enemies and marauders. In fact, they are a vital part of the cycle of life. In a native plant garden, the leaves should have holes in them, and some plants may be stripped clean by ravenous caterpillars. Rather than looking at eaten leaves as a bad thing in your yard, pat yourself on the back and be proud that you are successfully supporting the circle of life and providing wonderful wildlife habitat.

More reading on pesticide and herbicide use

- Protecting Bees & Other Pollinators from Pesticides (https://www.epa.gov/pollinator-protection)
- Reduce the Need for Pesticides and Herbicides (https://cfpub.epa.gov/npstbx/files/reducewastepesticides.pdf)
- An Earth-wise Guide to Product Toxicity Ratings

  (http://www.ci.austin.tx.us/growgreen/downloads/products

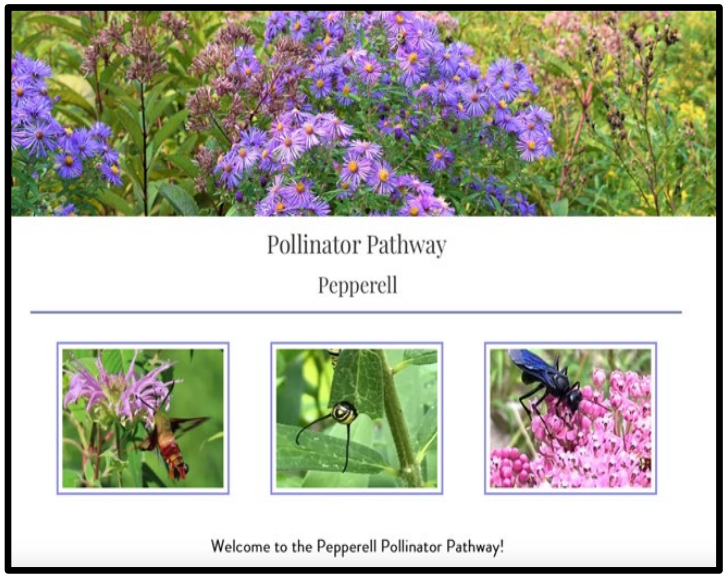
G. HELP CREATE CORRIDORS OF NATIVE PLANTS

throughout Pepperell and neighboring towns

JOIN THE POLLINATOR PATHWAY

The Pollinator Pathway is a non-profit organization created in 2017 in Wilton, CT. Since then, the group has documented local pathways in over 300 towns and 11 states.

This organization encourages people and groups to work together to establish pollinator-friendly habitat and food sources for bees, butterflies, hummingbirds and other pollinating insects and wildlife along a series of contiguous corridors. Their website, https://www.pollinator-pathway.org offers many informative resources, "how to" documents, and provides a map of all registered native plant gardens. The site also links members to activities, gardens and accomplishments performed in other towns. You can find a page featuring native plant gardens on Pepperell's town properties and several restoration sites on conservation land, and you can register your own native plant garden to appear on the map! Anyone can join by filling out the online form at: https://www.pollinator-pathway.org/join-us



Pepperell's Public Properties on the Pollinator Pathway

-Town Hall Garden
-Nissitissit Middle School Outdoor Classroom
-Lawrence Library (multiple gardens)
-Seminatore Pollinator Meadow
-Keyes Parker Conservation Area

How to join

Everyone can join by adding native pollinator-friendl plants, subtracting a little lawn (cut high or reduce th size), and avoiding the use of pesticides and lawn chemicals.

Residents can add anywhere from one pollinator-friendly tree or planter, to a small pollinator garden, to a full meadow.

Pollinator-Pathway.org

H. RETHINK YOUR LAWN

In 18th century Europe, expansive lawns were considered a display of one's wealth. These lawns were adopted by visiting Americans who decided to bring the trend home.

Grass seed is imported from Europe and Africa, and because they are not native, lawns need to be maintained with extra water, fertilizers, herbicides, and pesticides to keep them alive. These human-dominated landscapes no longer support functioning ecosystems, and the remaining fragmented natural areas are not large enough to support our wildlife populations.

Four reasons to reduce your lawn size

- To help sustain a viable food web
- To sequester carbon in our soil much more effectively
- To support diverse pollinator communities
- To manage watersheds more effectively

Learn more at Healthyyards.org

The idea of having a beautiful lawn is something that most of us grew up with and embraced as we became homeowners. Companies who manufacture and sell lawn care products promote this belief and today the lawn care industry is booming. It takes a lot of work to grow, feed and water lawns, and mowing causes air pollution. Below are some staggering statistics about lawns.[4] Each year, US residents spend about 25 billion dollars on lawn care, including:

- *$700 million for 67 million pounds of pesticides;*
- *$5.25 million on fossil fuel-delivered fertilizers;*
- *9 billion gallons of water daily, about 1/3 of all residential water used.*

While money is usually a major consideration for most people, there are larger-scale costs for the environment:

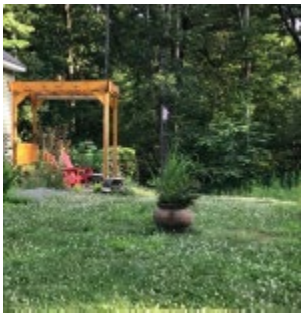
- *5.8 million gallons of gasoline are used for lawnmowers;*
- *a lawnmower pollutes as much in 1 hour as an automobile for 350 miles;*
- *annually, 60,000-70,000 severe accidents result from lawnmowers;*
- *power mowers contribute to noise pollution and hearing loss;*
- *for wildlife habitat, we have shrunk the continental United States to 1/20th of its original size, with a carpeted monoculture of lawn that comprises 40 million acres of the US.*

[4] EPA, U.S. Lawn Care Facts as Annual Totals & Percentages; Bringing Nature Home" by Doug Tallamy: and, Redesigning the American Lawn by F. Herbert Bormann, Diana Balmori, Gordon T. Geballe, Yale University Press, 1993

Many horticulturists, botanists, entomologists, scientists, and landscapers are encouraging homeowners to question if a large green expanse of a "weed-free" single species of plant (monoculture) is worth the cost to our ecosystems. We would like to challenge you to do some critical thinking about your lawn.

There are actions the conservation-minded citizen can take to improve this situation. You could begin simply by assessing how much lawn you actually use on a regular basis, and how you may be able to diminish the impact of this sterile monoculture on your own little ecosystem that is your yard. Here are some ideas that can be ecologically beneficial that most people could perform as DIY projects.

1. **Reduce lawn area:** If you have children or pets, you want space for them to run, play, and explore. If your lawn is a large expanse, could you consider letting some of it go wild and see what interesting plants make their way into your yard? We live in a diverse natural world, and it makes sense that our yards should be a reflection of this. Some native plants that might pop up could be a mix of violets, wild strawberry, and self-heal, and if you are extra lucky, bluets. Rather than thinking of these plants as weeds, or a blight on your lawn, consider the benefits of just letting them grow. These plants increase the habitat value without making a big change and provide color and textural interest in the yard.



Another way to reduce the size of your lawn is to break it up by planting several small beds or islands of native perennial pollinator plants, large native trees, understory trees or shrubs. You can design your beds to be formal or more natural—whichever fits your aesthetic.

A large expanse of lawn can be reduced to a size that still gives you some lawn to provide the "cared for aesthetic" so neighbors will realize that you are intentionally planting with conservation in mind. You could plant a meadow to fill in the rest of area and keep the edges trimmed.

2. **Go organic:** A yard free from chemicals is safer for children or pets. You can use organic material to provide nutrients, such as grass clippings, your own compost, shredded leaves, or pine needles. If you have landscapers doing your yard maintenance, be firm in your commitment to use no pesticides or herbicides.

3. **Provide water:** Another creative way to reduce your lawn size is to add a water feature. Water features are not just beautiful for us, but they also can provide a critical habitat element. Design your own or purchase one of the many pond or stream kits available. You will be amazed at the wide variety of birds, amphibians, and insects that a water feature can bring into your yard within a few days of installation.

4. **Plant some vegetables or herbs**: If you have a small yard, can you replace your lawn entirely, or partially, with edibles (vegetables, herbs, or flowers)? A recent gardening trend is to incorporate vegetables within flower beds. Turn your space into lovely showcase or edible feasts, and sell the lawn mower.

5. **Get rid of the lawn altogether**. There is another cutting-edge landscaping trend--replacing entire lawns. If you are inclined to go this route, here are a few ideas on where to begin:

- Native grass seed mixes are now available by mail order from reputable online retailers and are typically comprised of a mixture of perennial narrow fescues that require very little care once established. There is also a "no mow" grass seed if you want to reduce maintenance.
- Native sedges (a grass-like plant with triangular edges) use a lot less water than a turf lawn and can be mowed once or twice a year to keep a manicured look, or you can let them grow for a natural look. A popular species for shade or partial shade yards that is now widely available is Pennsylvania, or Oak sedge (Carex pennsylvanica).

- Another option is an edible lawn. Native wild strawberries (Fragaria virginiana) can withstand some foot traffic while providing both beauty and bounty. This plant spreads quickly by sending out runners to fill in bare spots. You can mow it, but it never gets very tall. It offers delicate white flowers in the spring, delicious sweet berries in early summer, and lovely red-maroon foliage in fall.
Wild strawberries are easily grown in a variety of soils and will tolerate some light shade. The bees love the flowers and plants are host plants to 75 species of butterfly and moth (Lepidoptera) caterpillars.

- Is your yard mostly shade with low-nutrient or acidic soil? Do you have low foot-traffic in that area? Consider working with the natural conditions and soils and try a moss garden. A small moss lawn absorbs carbon, and prevents erosion and runoff. You don't have to mow moss because it never grows more than an inch or two. All it requires is a little moisture and some shade. It rarely needs weeding.

- Finally, there is a wide variety of native groundcovers that you can blend to provide a continuous bloom throughout the growing season. These are some great lawn alternatives, or low-growing plants, that add color, diversity, and interest to your lawn. Most of these can be mowed at 3" high mower setting.

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Wild strawberry
Bearberry
Pennsylvania sedge

Native violets
Three-toothed cinquefoil
Bluets

Self-Heal/Heal All
Pussytoes

Strawberry & Violet lawn

Pussytoes lawn

Self-Heal lawn

For more reading on lawn reduction and alternatives go to
https://www.lesslawn.com

Gardening Know How: Sedge Lawn Substitute: Tips for Growing Native Sedge Lawns
https://www.gardeningknowhow.com/lawn-care/lawn-substitutes/sedge-lawn/sedge-lawn-substitute.htm

https://www.cbsnews.com/news/nature-up-close-getting-rid-of-the-lawn-mower-and-your-lawn-too-judith-lehmberg/?fbclid=IwAR3BnGW6jvK43JWIJHKJC17E1H61NHDlhlfTmE7ff6U9UauHAds6HTm0zAI&sfns=mo

3. FOR LANDSCAPERS & DEVELOPERS

A. KEEPING PACE WITH GREEN LIVING

The concepts and recommendations in this Guide are also here for the benefit of, and as a tool, for landscaping companies and developers. The plant lists (Appendix G) and photos (Appendix H) can help provide you and your customers or new homebuyers with a variety of choices in designing greener landscapes. There is also a section containing recommended street tree species.

We recognize that recommendations to reduce lawn size and chemical use, and to incorporate native plants in designs will affect the landscaping business, but this does not have to translate to customer loss. In fact, there is a large, growing market for landscapers who offer expertise and services aligned with "going green" and native plant gardening. Small nurseries offering 'straight species' native plants are popping up in our area and are a good source to purchase native plants. Landscapers who offer chemical-free services are now sought out by homeowners who want to reduce risk and provide safer play areas for their children, pets, as well as safe habitat for our local flora and fauna. As you will read in the next section on changes to landscape design standards for new developments, change is not just coming--it's already here.

To that end, we would like to offer some reputable and informative resources that you may find helpful.

1. "The Ecological Alliance" (ELA), at https://www.ecolandscaping.org. is comprised of Landscaping Professionals, Horticulturalists, Growers, Manufacturers, Conservationists, Restoration Ecologists, Wetland Scientists, Community Activists, and Home Gardeners, all sharing information on greener gardening practices. Members have access to a wide variety of training, blogs, and articles as well as an ever-expanding network of resources. They offer seasonal seminars and free listing in their membership directory, which is widely used by green-minded customers.

2. The Native Plant Trust (https://www.nativeplanttrust.org/education/), is the nation’s first plant conservation organization and the only one solely focused on New England’s native plants, and it is located right here in Massachusetts. They offer many classes both onsite and virtually that cover a wide variety of landscaping, horticultural and botanical subjects from experts from across the country.

3. Reducing lawn size and using some alternative plants to either replace or integrate with existing lawns is discussed previously in this Guide. Most homeowners will want to have some sort of a lawn on their property, and landscapers may want to expand their go-to selections for seed choices. There are seed blends available that consist of fine cool season fescue grasses that can produce a healthy thick green lawn with minimal care. These blends are drought tolerant because they have a more robust root system than common turf grasses, grow in all light conditions, are quick to germinate, and don't require frequent mowing. These grasses can be mowed for a trimmed look or left to grow to their natural height. The blends of fescues will vary from company to company, but a few that are popular are Eco-Grass, available from PrarieMoon.com, and Eco-Lawn, from Wildflowerfarm.com.

B. PEPPERELL'S NEW DESIGN STANDARDS & GUIDELINES

Developments requiring Site Plan or Special Permit approval administered by the Planning Board must follow the Design Standards and Guidelines under the Pepperell Zoning Bylaw, Section 9000, Administration and Procedures. These are in place to maintain and/or improve the quality of life for residents, the value of property, and the viability of commerce districts using context-based design and sustainable development practices.

In June 2023, Pepperell's Planning Board adopted many changes to the town Design Standards and Guidelines.

With a focus on encouraging and requiring more sustainable landscaping practices, INPAC recommended some changes synopsized below. These are all now 'standards' -- which are requirements. There are also additional 'Guidelines', related to landscaping which are recommendations but not required, and are too numerous to list here. The complete text of each can be found on the town website at the cited paragraphs. **Applicants should use the actual Bylaw when preparing project requests- this is just a synopsis and does not include all requirements and guidelines.**

The revised Bylaw is at: https://town.pepperell.ma.us/DocumentCenter/View/8194/Planning-Board-Rules-and-Regulations-Adopted-6-20-23

Residential Developments, Section 6.2.4

- Landscaping on the development site shall .... reinforce a sense of New England character by incorporating a diverse selection of New England native plants.
- At least 60% of plantings shall be native to the region. Refer to the Pepperell Native Plant Guide...
- Landscape in Cul-De-Sacs - Where applicable, the center of cul-de-sacs shall be landscaped with a combination of native trees and landscape beds, unless utilized for site drainage
- Stormwater retention areas shall be integrated within the site landscape and treated as a naturalized environment. These site features shall be sustainable from a New England native plant material.
- Water Conservation Measures - New lawns require a minimum of 6 inches topsoil
- Sustainable Design / Plant Trees - . At least 60% of all vegetation shall be native to the New England region. Refer to the Pepperell Native Plant Guide...

Commercial, Industrial, & Mixed-Use Development, Section 6.3.3

- General Design Standards.... . Disturbed areas intended for natural re-growth shall be, at a minimum, graded, loamed and seeded with a native New England wildflower and/or conservation seed mix.
- Landscape Hierarchy - .... At least 60% of all plantings shall be native to the New England region. Refer to the Pepperell Native Plant Guide...
- Sustainable Design, Plant New England Native Trees - Industrial developments shall provide canopy trees that are located to allow grow to their mature size and specify measures to ensure sufficient space for water penetration and root growth.

Outdoor Amenity Spaces

- Individual Standards are established for each of the following amenity spaces: Community Gardens, Courtyards, Plaza, Squares, Pocket Parks, and Neighborhood Parks, to include minimum SF, information on chemical use restrictions and requirements for native plantings.

APPENDICES

A. Plant List changes from previous guide

B. Recommended Reading

C. Define What's Important

D. Plant Selection Tools

E. Native Plant & Seed sources

F. Butterfly host & nectar plants

G. Recommended Plant List

H. Photos of Recommended plants list

APPENDIX A - PLANT LIST CHANGES IN THIS REVISION

The plant species listed in previous versions of this Guide has been revised. First, 29 plants have been added to reflect the improved availability and diverse selections of native species in the nursery trade.

Second, in 2023, INPAC requested that State botanists at Mass Wildlife's Natural Heritage & Endangered Species Program (NHESP) conduct a technical review of this Guide. Because some construction permits require State review, we want to be sure that our document aligns with town and state guidance so that the permitting process runs smoothly for all involved. As a result, we removed 23 plants from the Guide.

Ten of these are not native specifically to New England, but to surrounding states. In the interest of promoting only plants from our native ecotype, we have removed these. The remaining 13 plants are on the Massachusetts Endangered Species Act (MESA) list. These species are either at risk, or may become at risk of extinction in the wild. Although some of the plants removed from our list are readily available at nurseries, NHESP is concerned that the native genotype plants found growing in their native habitats will be corrupted by genetic material from nursery plants grown all over the United States. The fear is that we will lose our native genotypes if these plants continue to be introduced.

Plants Added to Rev 4

Trees	American Sycamore
	American Beech
	Black Cherry
	Scarlet Oak
	Shagbark Hickory
Sedges	Appalachian Sedge
	Pennsylvania Sedge
	Plantain leaved Sedge
Shrubs	Arrowwood Viburnum
	Pink Azeala
	Early Azaela
	Nannyberry
	White Meadowsweet
	Steeplebush, Rosy Meadowsweet
Perennials	Bluet, little
	Bowmans Root, Indian physic
	Bunchberry, Dwarf dogwood
	Early meadow-rue
	Groundsel, Golden
	Groundsel, Running
	Meadow-rue, tall
	Pussytoes, field
	Pussytoes, Plantain-leaved
	Sunflower, woodland
	Trillium, Nodding wakerobin
	Trillium, painted
	Trillium, Red or wakerobin
	Trillium, White or white wakerobin

Plants Removed in Rev 4

Trees	Northern White Cedar, Arborvitae	MESA - Endangered
	Sweetbay Magnolia	MESA - Endangered
	Sourwood Tree	Not native to MA; native to RI, NY and south
Shrubs	Rosebay rhododendron	MESA - Threatened
	Blackhaw viburnum	Not MA native; native to CT & South
Grasses	Northern Sea oats, River oats	Not NE native; native to PA south & west
Perennials	Strawberry, barren	MESA - Special Concern
	Iris, Dwarf crested	Not native to NE: native to NY and south
	Green & Gold	Not native to NE, native to NY and south
	Phlox, creeping	Not native to NE; native to all states bordering NE
	Anise hyssop	Non-native hybrid
	Eastern Bluestar	Not native to NE; native to the South and Southeast
	Purple Milkweed	MESA - Endangered
	Wild blue phlox	Not native to NE; native to NY, north, south and west
	Black Cohosh	MESA - Endangered
	New England Blazing Star	MESA - Special Concern
	Penstemon, Hairy	MESA - Endangered
	Lupinus perennis	MESA - Potential Special Concenr
	Wild Senna	MESA - Endangered
	Black cohosh	MESA - Endangered
	Culvers Root	MESA - Threatened
	Pink Turtlehead	Not native to NE; native to Southern states
	Great Blue Lobelia	MESA - Endangered

APPENDIX B - RECOMMENDED READING

Ecology/Environmental Issues

Bringing Nature Home; How you can sustain wildlife with native plants, Douglas W. Tallamy, 2009
Description: A compelling and essential guide for increasing biodiversity in your garden.

Nature's Best Hope: A New Approach to Conservation That Starts in Your Yard, Douglas W. Tallamy, 2020
Description: How to transform your own yard, talk to your neighbors, schools, and local government about connecting one biodiverse yard to another to build wildlife corridors.

Noah's Garden: Restoring the Ecology of Our Own Back Yards, Sarah Stein, 1993
Description: The ecological history of suburbia and the necessity of good stewardship of the land stolen from prairies and forests to make our back yards.

Classification of the Natural Communities of Massachusetts, Massachusetts Division of Fisheries and Wildlife, Westborough, MA. Swain, P. C. 2020.
Description: Downloadable publication for classification of the natural communities of Massachusetts provides a basis for discussing and conserving the diversity of our types of natural communities and the species they support.

Native Plant Horticulture and Garden Design

Native Plants for New England Gardens, Mark Richardson and Dan Jaffe, 2018
Description: An essential guide to growing NE native plants, with 100 native flowers, ground covers, shrubs, ferns, and grasses, along with practical growing information and beautiful color photography.

The Green Garden, Ellen Sousa, 2011
Description: A great book by a local author for novice native plant gardeners, providing instructions on planning habitat gardens and selecting plants for wildlife value. Includes an extensive annotated plant list for every type of garden.

The Living Landscape, Designing for Beauty and Biodiversity in the Home Garden, Rick Darke & Doug Tallamy, 2014
Description: A best seller and book for serious native plant gardeners, that closes the gap between conservation theory and homeowners' practical applications for designing a healthy landscape. Includes helpful list of the benefits of various plants.

Garden Revolution, Larry Weaner and Thomas Christopher, 2016
Description: A landscape designer and a horticulturist provide a revolutionary approach to gardening by partnering with nature to create beautiful gardens. Includes many beautiful photographs.

A New Garden Ethic, Cultivating Defiant Compassion for an Uncertain Future, Benjamin Vogt, 2017
Description: In a time of climate change and mass extinction, who we garden for matters more than ever and addresses why we need a new garden ethic, and why we urgently need wildness in our daily lives

The New England Wild Flower Society Guide to Growing and Propagating Wildflowers of the United States and Canada, William Cullina, 2000
Description: A classic. More than a thousand species of flowers are discussed in great depth and pictured, with thorough information on native habitat, cultural requirements, propagation, and design considerations. There are also lists of plants ideal for specific situations and with certain characteristics.

Native Trees, Shrubs, and Vines: A Guide to Using, Growing, and Propagating North American Woody Plants, William Cullina, 2002
Description: Over 1000 species are covered, information includes culture, uses, attraction to wildlife, and propagation methods. Color photographs complement the text. The final section explains propagation methods in general, then gives detailed information, by genus, on the best way to propagate each. Appendixes include plants for specific sites/uses, native alternatives to potentially invasive exotic species.

Pollinators

Attracting Native Pollinators, The Xerces Society & Dr. Marla Spivak, 2011
Description: This book covers a wide range of topics for anyone interested in pollinators and sound environmental land practice. Good for both beginners and experts.

Pollinators of Native Plants, Heather Holm, 2014
Description: A guide to pollinators with beautiful photographs of many beneficial pollinators along with easy charts showing bloom times, range, habitat, and characteristics of flowers that attract pollinators.

Native Plant Identification Guides

Wildflowers of New England, Ted Elliman and New England Wild Flower Society, 2016
Description: A guide with descriptions and photographs of thousands of the region’s most important wildflowers both native and naturalized.

Newcomb's Wildflower Guide, Lawrence Newcomb, 1977
Description: This illustrated field guide has been around for years and is still widely used by both amateur and expert field botanists. Has an easy-to-use key to identify plants.

APPENDIX C - DEFINE WHAT'S IMPORTANT TO YOU

Using native plants in your yard does not mean that you need to sacrifice good design. Thinking about your style preferences will help you make better choices in planning your space. This questionnaire walks you through the thought process for planning.

General Questions

1. What garden designs are you attracted to? (formal, natural, minimalist, etc.)
2. What kinds of places make you feel happy and comfortable and make you want to stay?
3. What features do you find interesting in a garden? (seating, pool, statuary, bird bath, butterfly and bee watering sites, nesting sites)
4. What colors do you want to see in your own garden?
5. What are the general light and soil conditions for your space? (exposure, full or partial sun or shade, wet or dry area, soil is dry and gravely or rich? Has the soil been amended?
6. Beyond maintenance and relaxing, what else will you do in the garden space (eat, entertain, photography, play, educate)?
7. How can you add visual interest beyond flowers? Consider opening up a view, plant textures, different height levels of plantings.
8. Is low maintenance an important factor?
9. What would you like to see for interest in the garden in the winter? (color, structures, grasses)
10. Will you include plantings valuable to wildlife in the growing season or all year-round?
11. What hardscaping features do you like? (Path layouts, arbors, benches, water features etc.)
12. Do you like to define borders with various edging materials (stones, bricks, ground covers?
13. Will your garden provide you opportunity for relaxing or wildlife observation?
14. Do you use herbicides or other chemical in this space?
15. Are you working within a budget? If the job is large, consider a phased approach, starting with structural elements and trees and shrubs to establish "the bones" of the garden, then add to it as your budget and time and energy allows.

For Existing Gardens

1. What do you like about your current garden?
2. What would you like to change?
3. Are there any "exotic" (non-native) plants that you want to keep?
4. Are there any particular plants or structural/hardscaping features that you plan to add?
5. What are the general conditions for your space?
   - light exposure—full or partial sun or shade;
   - soil—average moisture, wet or dry? Is it clay, sand, or rich loam? Get your soil tested by mailing in samples to https://ag.umass.edu/services/soil-plant-nutrient-testing-laboratory/ordering-information-forms
   - has the soil been amended or is native to the site?
6. Do you use herbicides or other chemicals in this space?

APPENDIX D - PLANT SELECTION TOOLS

Here's some easy-to-use databases and websites to help with plant selection. Type in your soil and light conditions, and then apply additional filters such as your favorite color blossoms, winter interest, bird attractor, shrubs, trees, fall color, etc., and these tools will generate a suggested native plant list. You can easily go back and modify the filters. It's fun and easy to play around and explore the possibilities.

Resources to Plan a Native Plant Garden		
Organization	**Type**	**Link**
Wild Seed Project	**Plant List**, sorted by plant type and growing conditions. Designed for Maine, but suitable for Mass and NH.	https://wildseedproject.net/comprehensive-plant-list/
Native Plant Trust	**Database** "Plant Finder." Simple, fun way to select plants suitable for your own particular growing conditions, color preferences, bloom time, etc.	https://plantfinder.nativeplanttrust.org/Plant-Search
Audubon Society	**Database.** Put in your zip code and see a list and photos of native plants to attract birds to your yard.	https://www.audubon.org/native-plants
National Wildlife Federation (NWF)	**Database:** search by zip code to find native plants that host the highest numbers of butterflies and moths to feed birds and other wildlife where you live. Based on the research of Dr. Doug Tallamy.	https://www.nwf.org/NativePlantFinder
Lady Bird Johnson Wildflower Center	**Plant List** and photos of native plants recommended for Massachusetts. You can sort by selecting criteria suitable for your garden type and light conditions.	https://www.nwf.org/NativePlantFinder
Massachusetts Division of Fish and Wildlife's Natural Heritage & Endangered Species Program	**Classification of natural plant communities** found in Massachusetts. If you want a truly natural garden, think about ecological appropriateness, and review the fact sheets that list plants typically are found together in the different types of communities.	https://www.mass.gov/service-details/classification-of-natural-communities

APPENDIX E - WHERE TO BUY NATIVE PLANT & SEEDS

Business	Location	Website / Facebook Group	Remarks
Earth Tones Native Plant Nursery	CT, Woodbury	http://www.earthtonesnatives.com	Large selection; does not ship.
Weston Nurseries	MA, Chelmsford	https://www.westonnurseries.com	Some native perennials, shrubs and trees.
Mahoney's Garden Center	MA, Chelmsford	https://mahoneysgarden.com	Small selection of native plants
Native Plant Trust	MA, Framingham	https://www.nativeplanttrust.org	Large selection; offers landscape plugs and pollinator garden packages.
Rob's Gardens	MA, Littleton	https://www.facebook.com/robs.gardens/	Small local business with great prices
Central Mass Gardens	MA, Lunenburg	https://centralmassgardens.com	Some native perennials; nice choices for native shrubs and trees.
Red Trillium Garden	MA, Lunenburg	Red Trillium Gardens Red Trillium Gardens on Facebook	New local business selling natives, straight species only.
Bigelow Nursery	MA, Northboro	https://bigelownurseries.com	Great selection of a wide variety. Current inventory is on their website.
Blue Stem Natives	MA, Norwell	https://bluestemnatives.com	Great selection, healthy stock, small business.
Babin Landscaping	MA, Pepperell	babinlandscaping.com	Some native perennials and shrubs.
Oakhaven Sanctuary	MA, Reading	https://www.facebook.com/people/Oakhaven-Sanctuary/100069720394436/	Very knowledgeable owner; plants you can't find anywhere else at reasonable prices.
Russells Garden Center	MA, Wayland	https://www.russellsgardencenter.com	Large selection; carries plants from Blue Stem Natives.
Lady Fern Farm	MA, Worcester	https://ladyfernfarm.com	Nice selection; plant list is on their website.
Izel Plants	mail order	https://www.izelplants.com	Huge selection; wholesaler works with responsible growers. Offers landscape plugs.

Business	Location	Website	Remarks
Toadshade Wildflower Farm	mail order	https://toadshade.com	Plant list on website.
Wild Seed Project	mail order	https://wildseedproject.net	Excellent resource for plants, seeds and programs.
Prairie Moon Nursery	mail order	https://www.prairiemoon.com	Large selection. Be sure you check if the plants you are ordering are native to New England. Offers landscape plugs.
Fedco Seeds	mail order	https://www.fedcoseeds.com	Some native plant selections.
Mason Hollow Nursery	NH, Mason	https://www.masonhollow.com	Some native perennials, shrubs and trees and very reasonable prices.
Foundwell Farm	NH, Pembroke	https://foundwellfarm.com	No plant list on website
Bagley Pond Perennials	NH, Raymond	https://bagleypondperennials.com	Nice selection; plant list is on their website. Offers pollinator garden plug packages.

Woodland garden with Red Columbine, Christmas Fern, Ostrich Fern and Redbud tree.

APPENDIX F - BUTTERFLY HOST & NECTAR PLANTS

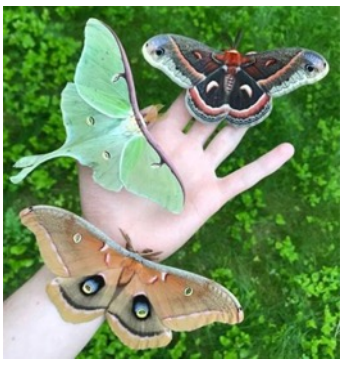
This table provides examples of butterflies and moths local to our area, along with their host and nectar plants. Plant names followed by an * are non-native annual plants that are either proven host plants, or plants that will provide safe, nutritious nectar. Some butterflies and moths also will draw nutrition and minerals from rotting fruit and damp soils.

Brush-Footed Butterflies		
Pollinator Species Name	**Host Plants**	**Nectar Plants**
Great Spangled Fritillary	Native Violets	Milkweed, Black-eyed Susan, Tall Verbena, Native Thistle, Blazing Star, Spotted Joe-Pye Weed, Wild Bergamot, Spreading Dogbane
Common Buckeye (low vegetation or bare ground)	Snapdragon*, Tall Verbena, Blue Vervain, Toadflax, Wild Petunia	New England Aster, Coreopsis, Swamp Milkweed
Viceroy (Monarch mimic)	Willow, Poplar, Aspen	Native Asters, Common Milkweed, Goldenrod
Monarch (E)	Milkweeds (all Native)	Blazing Star, Milkweed, Goldenrod, Joe-Pye Weed, Thistle, Native Asters, Aster, Spreading Dogbane
Little Wood Satyr	Grasses	Tree sap and Common Milkweed
Common Wood Nymph	Grasses	Tree sap and Butterfly weed
Red-Spotted Purple (White Admiral)	Aspen, Willow, Poplars	Common Milkweed, Native Asters, Tree sap
Red Admiral	Nettles, Pennsylvania Pellitory	Common Milkweed, Native Aster, Tree sap,
Baltimore Checkerspot	White Turtlehead, English Plantain*	Common Milkweed
Pearl Crescent	Native Asters	Native Asters, Zinnia*, Swamp Milkweed, Tall Verbena
Painted Lady	Shasta Daisy*, Sunflower, Pearly Everlasting, Sweet Everlasting	Native Asters, Blazing Star, Milkweed, Tall Verbena, Zinnia*
Northern Pearl-eye	Switch panic grass	Tree sap
American Lady	Pussy-toes, Pearly Everlasting, Sweet Everlasting, Sunflower	Native Asters, Milkweed, Joe-Pye Weed, Tall Verbena, Goldenrod, Purple Coneflower
Mourning Cloak	Elm, Aspen, Hackberry, Paper Birch, Willow	Tree sap, Zinnia*, Milkweed
Harris's Checkerspot	Flat-topped White Aster	Vetches* Spreading Dogbane

Gossamer-Winged Butterflies		
Pollinator Species Name	**Host Plants**	**Nectar Plants**
Spring Azure	Dogwood, Cherry, Viburnum, Staghorn Sumac	New Jersey Tea, Common Milkweed
Banded Hairstreak	Oak, Walnut, Hickory	Staghorn Sumac, Milkweed, Spreading Dogbane, Mountain Mint,
Eastern Tailed Blue	Vetches, Clover*, Legumes	Native Asters, Milkweed, Zinnia*, Spreading Dogbane, Wild Strawberry
Frosted Elfin (S)	Yellow Wild Indigo, Rattlebox	Unspecified
Early Hairstreak (T)	American Beech, Beaked Hazelnut	Blackberry, Wild Strawberry, Black Cherry
American Copper	Common Sheep Sorrel, Curly Dock*	Yarrow, Zinnia*, Butterfly weed
Gray Hairstreak	Vetches*, Swamp Rose Mallow, White Clover*	Common Milkweed, Swamp Milkweed
Hessel's Hairstreak (SC)	Atlantic White Cedar	Buttonbush, Dogbane, Highbush Blueberry, Sweet Pepperbush
Skippers		
Silver-spotted Skipper	Beggars' Ticks, Legumes, False Indigo, Groundnut,	Blue Vervain, Blazing Star, Buttonbush, Common Milkweed, many others
Peck's Skipper	Grasses	New Jersey Tea, Milkweed, Spreading Dogbane, Blue Vervain
Dreamy Duskywing	Willow, Birch, Poplar	New Jersey Tea, Cherry, Wild, Strawberry, Spreading Dogbane
Dion Skipper (T)	Wool grass, Hairy Sedge, Lakeside (Shoreline) Sedge	Northern Blue Flag Iris, Buttonbush, Pickerelweed
Persius Duskywing (E)	Yellow Wild Indigo	Unspecified
Least Skipper	Grasses	White clover*, Swamp Verbena
Tawny-edge Skipper	Grasses	Red Clover*, Thistle
Swallowtails		
Pollinator Species Name	**Host Plants**	**Nectar Plants**
Eastern Tiger Swallowtail	Tulip Tree, Willow, Aspen, Wafer Ash, Cherry, Birch	Cherry, Joe-Pye Weed, Mexican Sunflower*, Dianthus*, Purple Coneflower
Black Swallowtail	Parsley*, Fennel*, Dill*, Rue*, Golden Alexander	Milkweed, Thistle, Clovers*, Hairy Beardtongue, Golden Alexander
Spicebush Swallowtail	Spicebush, Sassafras, Prickly Ash	Milkweed, Sunflower, Salvia*
Giant Swallowtail	Common Hop tree, Rue*, Common Prickly Ash	Milkweed, Zinnia*, Wild Bergamot, Thistle, Dianthus*, Hairy Beardtongue

Whites and Sulphurs		
Mustard White (T)	Tower Mustard, Alyssum, Rockcress	Spreading Dogbane, Blueberry, Thistle, Cuckoo-flower*, Water cress
Clouded Sulfur	White Clover*	Vetches*, Shasta Daisy*
Orange Sulfur	Vetches*, White Clover*	Common Milkweed, Native Aster, Goldenrod
Anglewings		
Eastern Comma	Hops, False Nettle, Nettle	
Question Mark	Common Hackberry, Nettle	Native Asters, Common Milkweed
Moths		
Pink Sallow Moth (S)	Low bush Blueberries, Roses, Scrub Oak	Unspecified
Twilight Moth (E)	Poplar, Willow, Birch, Elm, Hazelnut, Chokeberry	Unspecified
Phyllira Tiger Moth (E)	Herbs*	Unspecified
Columbine Borer Moth	Red Columbine	Unspecified
IO Moth	Maple, American Hornbeam, Hop Hornbeam, Hackberry, Sweetgum, Tulip Tree, Eastern Redbud, Sweet Bay Magnolia, Apple *, Poplar, Black Cherry, Chokeberry, Oak, Blackberry, Willow, Ironweed, Arrowwood	Adults do not feed
Giant Silk Moths		
Polyphemus (E)	Maple, Serviceberry, Gray Dogwood, Red Osier Dogwood, Birch, Oak and Willow	Adults do not feed
Luna (E)	Birch, Hickory, Persimmon, Black Walnut, Sweetgum, Tulip Tree, Cherry, Oak and Sumac	Adults do not feed
Cecropia (E)	Ash, Birch, Box Elder, Alder, Elm, Maple, Poplar, Cherry, Willow, apple, and lilac*.	Adults do not feed
Promethea (E)	Spicebush, Sassafras, Tulip tree, White ash	Adults do not feed

(T) - Threatened
(E) - Endangered
(S) - Special Concern



Top to Bottom: Promethea, Luna and Cecropia Silk Moths

APPENDIX G - RECOMMENDED NATIVE PLANT LIST

Town of Pepperell Recommended New England Native Plant List

This list contains NE nativeplants most commonly found in the nursery trade. It is not all inclusive. Nativity of plants not found on this list can be verified at on the Native Plant Trust's GoBotany web site, at https://gobotany.nativeplanttrust.org/.

Plant Name	Plant Type	Light	Soil Moisture	Bloom Color	Flowering Season	Height
Creeping juniper (Juniperus communis)	Shrub	Sun	Dry/avg	NA	NA	1'
Inkberry (Ilex glabra)	Shrub	Sun/part shade	Avg/wet	white	Summer	5-8'
Mountain laurel (Kalmia latifolia)	Shrub	Sun/shade	Dry/moist	pinkish white	Summer	5-15'
Beach plum (Prunus maritima)	Shrub	Sun	Dry	white	Spring	5'
Carolina rose (Rosa carolina)	Shrub	Sun	Avg/wet	pink	Spring	3-6'
Sweetfern (Comptonia peregrina)	Shrub	Sun	Dry/Avg	white	Spring	3-4'
Trumpet honeysuckle vine (Lonicera sempervirens)	Shrub	Sun	Avg	Red, yellow	Spring-Fall	Vine
White meadowsweet, (Spirea alba)	Shrub	Sun	Avg/wet	white	Summer	3-6'
Virginia rose (Rosa virginiana)	Shrub	Sun	Avg	pink	Summer	4-6'
Azaela, clammy (Rhododendron viscosum)	Shrub	Sun/part shade	Avg/wet	white, pink	Spring	5'
Blueberry, highbush (Vaccinium corymbosum)	Shrub	Sun/part shade	Avg/wet	white, pinkish	Spring	8-10'
Blueberry, lowbush (Vaccinium angustifolium)	Shrub	Sun/shade	Dry/avg	white, pinkish	Spring	1-2'
Buttonbush (Cephalanthus occidentalis)	Shrub	Sun/part shade	Moist/wet	white	Summer	5-12'
Chokeberry, black (Aronia melancarpa)	Shrub	Sun/part shade	Avg/wet	white	Spring	8-15'
Chokeberry, red (Aronia arbutifolia)	Shrub	Sun/part shade	Avg/wet	white	Spring	6-8'
Dogwood, gray (Cornus racemosa)	Shrub	Sun/shade	Avg/wet	white	Spring	10-15'
Dogwood, Red twig (Cornus sericea)	Shrub	Sun/part shade	Avg/wet	white	Spring	8-10'
Dogwood, silky (Cornus amomum)	Shrub	Sun/part shade	Avg/wet	yellowish white	Spring	6-8'
Azeala, early, or rose (Rhododendron prinophyllum)	Shrub	Sun/part shade	Avg/wet	pink	Spring	6-12'
Azeala, pink shell, or pinxterbloom (Rhododendron periclymenoides)	Shrub	Sun/part shade	Avg/wet	pink	Spring	3-8'
Elderberry, black (Sambucus canadensis)	Shrub	Sun/part shade	Moist/wet	white	Summer	8-12'
Elderberry, red (Sambucus racemosa)	Shrub	Sun/part shade	Moist/wet	white	Summer	8-12'
Flowering raspberry (Rubus odoratus)	Shrub	Sun/part shade	Avg	pink	Spring-Summer	3-6'
Fragrant sumac (Rhus aromatica)	Shrub	Sun/part shade	Dry/avg	greenish yellow	Spring	2-6'
Nannyberry, (Viburnum lentago)	Shrub	Sun/part shade	Avg	white	Spring	10-30'
New Jersey tea (Ceanothus americanus)	Shrub	Sun/part shade	Dry/avg	white	Spring-Summer	3-4'
Ninebark (Physocarpus opulifolius)	Shrub	Sun/part shade	Dry/moist	white	Summer	5-8'
Northern bush honeysuckle (Diervilla lonicera)	Shrub	Sun/part shade	Avg	yellow	Summer	3-5'
Pussy willow (Salix discolor)	Shrub	Sun/part shade	Avg/wet	yellowish white	Spring	6-15'
Spicebush (Lindera benzoin)	Shrub	Sun/shade	Avg/wet	greenish yellow	Spring	12'
Steeplebush, rosy meadowsweet (Spiraea tomentosa)	Shrub	Sun/part shade	Avg/wet	pink	Summer	2-5'
Sweet pepperbush (Clethra alnifolia)	Shrub	Sun/shade	Avg/wet	white, pink	Summer	3-8'
Viburnum, arrowwood(Viburnum dentatum)	Shrub	Sun/part shade	Avg/wet	white	Spring	10'
Viburnum, cranberry (Viburnum opulus var. americanum)	Shrub	Sun/part shade	Avg/wet	white	Summer	12'
Viburnum, mapleleaf, Viburnum acerifolium)	Shrub	Part shade/shade	Avg/moist	white	Spring	6'
Witch hazel (Hamamelis virginiana)	Shrub	Sun/shade	Avg/wet	yellow	Fall	12'
Winterberry (Ilex verticillata)	Shrub	Sun/part shade	Avg/wet	white	Summer	3-12'
Witherod, or Possumhaw (Viburnum nudum)	Shrub	Sun/part shade	Moist/wet	white	Summer	6-20'
Cedar, eastern red (Juniperus virginiana)	Tree	Sun	Dry/avg			30'
Hemlock (Tsuga canadensis)	Tree	Sun/Shade	Dry/Avg			40-70'
Holly, American (Ilex opaca)	Tree	Sun/part shade	Dry/avg	white	Summer	30'
Pine, white (Pinus strobus)	Tree	Sun/part shade	Dry/avg			50-80'
Spruce, white (Picea glauca)	Tree	Sun	Avg/moist			40-60'
Tamarack/larch (Larix laricina)	Tree	Sun	Moist			30-50'
Beach plum (Prunus maritima)	Tree	Sun	Dry/avg	white	Spring	8'
Chokeberry, black (Aronia melanocarpa)	Tree	Sun/part shade	Avg/moist	white	Summer	8'
Redbud, eastern (Cercis canadensis)	Tree	Sun/part shade	Avg/moist	lavender	Spring	18-25'
Serviceberry, Allegheny (Amelanchier laevis)	Tree	Sun/part shade	Dry/avg	white	Spring	18-25'
Choke cherry (Prunus virginiana)	Tree	Sun/part shade	Avg	white	Summer	20'
Dogwood, alternate leaf/pagoda (Cornus alternifolia)	Tree	Sun/part shade	Avg	white	Summer	25'
Dogwood, flowering (Cornus florida)	Tree	Part shade/sun	Avg/moist	white	Spring	15-40'
Hornbeam, American (Carpinus caroliniana ssp. virginiana)	Tree	Sun/shade	Avg/wet	green, red green	Spring	15-30'

Plant Name	Plant Type	Light	Soil Moisture	Bloom Color	Flowering Season	Height
Serviceberry, Canadian (Amelanchier canadensis)	Tree	Sun/part shade	Dry/moist	white	Spring	25'
Aspen, quaking (Populus tremuloides)	Tree	Sun	Avg			40'
Basswood (Tilia americana)	Tree	Sun/part shade	Avg	yellow	Spring	60'
Beech, American (Fagus grandifolia)	Tree	Sun	Avg/moist			50-70'
Birch, gray (Betula populifolia)	Tree	Sun/part shade	Avg/dry	NA	Spring	20-40'
Birch, paper (Betula papyrifera)	Tree	Sun	Avg/moist	brown, green	Spring	50-70'
Birch, river (Betula nigra)	Tree	Sun	Avg/moist			50-70'
Birch, sweet (Betula lenta) aka black birch	Tree	Sun/part shade	Avg			50'
Black gum (Nyssa sylvatica)	Tree	Sun/part shade	Avg/wet	greenish-white	Spring, Summer	30-50'
Cherry, black (Prunus serotina)	Tree	Sun	Avg/moist	white		60-80'
Hickory, shagbark (Carya ovata)	Tree	Sun/part shade	Avg	NA	Summer	70-90'
Maple, red (Acer rubrum)	Tree	Sun/part shade	Avg/wet	red	Spring	40-60'
Maple, sugar (Acer saccharum)	Tree	Sun/part shade	Dry/avg	red, green	Spring	60-75'
Oak, black (Quercis velutina)	Tree	Sun/part shade	Dry			50-80'
Oak, pin (Quercis palustris)	Tree	Sun	Avg/moist/Dry			60-70'
Oak, white (Quercus alba)	Tree	Sun/part shade	Avg/moist			50-80'
Oak, red (Quercus rubra)	Tree	Sun/part shade	Avg/moist			60-75'
Oak, scarlet (Quercus coccinea)	Tree	Sun	Dry/moist			60-80'
Sassafras (Sassafras albidum)	Tree	Sun/part shade	Avg/wet	NA	Spring	20'
Street Trees - see Native Plant Guide for Street Tree List & Info	Street tree	Sun/part shade	Avg/moist/Dry			75-100'
Sycamore, American (Platanus occidentalis)	Tree	Sun/part shade	Med/moist	yellow/ green	Spring	150'
Tulip Tree, yellow poplar (Liriodendron tulipifera)	Tree	Sun/part shade	Wet			50'
Willow, black (Salix nigra)	Tree	Sun	Dry/avg	gold	Summer	7'
Grass, big bluestem (Andropogon geradrii)	Grass	Sun-Shade	Avg/wet	green-bronze	Summer	6'
Grass, Indian (Sorghastrum nutans)	Grass	Sun/part shade	Dry/avg	copper/red	Summer	2-3'
Grass, little bluestem(Schizachyruim scoparium)	Grass	Sun/part shade	Dry/avg	gold	Fall	2'
Grass, prairie dropseed (Sporobolus herterolepis)	Grass	Sun/part shade	Dry/avg	reddish purple	Summer	1-2'
Grass, purple love (Eragrostis spectabilis)	Grass	Sun/part shade	Dry/avg	pinkish	Summer, Fall, Winter	4'
Grass, switch (Panicum virgatum)	Grass	Sun/part shade	Avg/dry	NA	NA	8-10"
Sedge, Appalachian, (Carex appalachica)	Sedge	Sun/shade	Dry	green	Spring, Summer	16"
Sedge, Pennsylvania (Carex pensylvanica)	Sedge	Part shade/shade	Avg/wet	NA	NA	6-10"
Sedge, plaintain, or seersucker, (Carex plantaginea)	Sedge	Shade	Moist	NA	NA	1-3'
Broad beech fern (Phegopteris hexagonoptera)	Fern	Part Sun/shade	Dry/avg	NA	NA	1-3'
Hayscented fern (Dennstaedtia punctilobula)	Fern	Part Shade/shade	Avg/moist	NA	NA	2-3'
Lady fern (Athyrium filix-femina)	Fern	Part Shade/shade	Avg/moist	NA	NA	1-2'
Long beech fern (Phegopteris connectilis)	Fern	Part Sun/shade	Avg/moist	NA	NA	1-2'
Maidenhair fern (Adiantum pedatum)	Fern	Part Sun/shade	Avg/moist	NA	NA	2-3'
Ostrich fern (Matteuccia struthiopteris)	Fern	Sun	Dry/avg	white	Spring	6"
Bearberry/Kinnikinnick (Arctostaphylos uva-ursi)	Groundcover	Sun	Dry/avg	NA	NA	1'
Common juniper (Juniperus communis)	Groundcover	Sun	Avg/dry	white, pink, purple	Spring	6"
Phlox, moss or rock (Phlox subulata)	Groundcover	Sun	Dry/avg	white	Late Spring	<1'
Pussytoes, field (Antennaria neglecta)	Groundcover	Sun	Dry/avg	white-pink	Spring, Summer	<1'
Pussytoes, plantain-leaved or women's tobacco,(Antennaria plantaginifolia)	Groundcover	Sun	Avg/dry	white	Summer	10"
Three-toothed cinquefoil (Sibbaldiopsis tridentata)	Groundcover	Sun/shade	Dry/moist	white with pink tinge	Summer	6"
American wintergreen (Gaultheria procumbens)	Groundcover	Sun/shade	Moist	white/blue	Late Spring	<1'
Bluet, little, (Houstonia caerulea)	Groundcover	Shade	Moist	white	Late Spring	<1'
Bunchberry, dwarf dogwood, Chamaepericlymenum canadense	Groundcover	Part shade/shade	Avg/moist	white	Summer	12"
Canada anemone (Anemone canadensis)	Groundcover	Part shade/shade	Avg/moist	white	Spring	8"
Canada mayflower (Maianthemum canadense)	Groundcover	Sun/part shade	Avg/wet	white, pinkish	Spring	6"
Cranberry, American (Vaccinium macrocarpon)	Groundcover	Part shade/shade	Avg	white, pink	Spring, Summer	8"
Foam flower (Tiarella cordifolia)	Groundcover	Shade	Avg/moist	purple/borwn	Spring	8"
Ginger, Canadian (Asarum canadense)	Groundcover	Sun/part shade	Avg/moist	yellow	spring	12-24"
Groundsel, running (Packera obovata)	Groundcover	Sun/part shade	Avg/moist	yellow	spring	10-30"
Groundsel, golden (Packera aurea)	Groundcover	Part shade/shade	Avg	white	Spring	12"
Mayapple (Podophyllum pellatum)	Groundcover	Sun/shade	Dry	green	Spring, Summer	16"
Pennsylvania sedge (Carex pensylvanica)	Groundcover	Sun/part shade	Avg	purple	Summer	6"
Self heal/Heal all (Prunella vulgaris)	Groundcover	Sun/part shade	Dry/avg	white	Spring	6"
Strawberry, wild (Fragaria virginiana)	Groundcover	Sun/shade	Dry/moist	purple	Spring, Summer	6"
Violet (Viola sororia)	Groundcover	Pt Shade-shade	Avg/moist	White	Fall	2-6'

Plant Name	Plant Type	Light	Soil Moisture	Bloom Color	Flowering Season	Height
American spikenard (Aralia racemosa)	Perennial	Pt Shade-shade	Avg/dry	Blue, Purple	Fall	3'
Aster, heart-leaved, or blue wood (Symphotrichum cordifolium)	Perennial	Sun - Pt shade	Moist/wet	Pink, purple	Fall	5'
Aster, New England (Symphyotrichum novae-angliae)	Perennial	Sun - Pt shade	Avg/moist	Purple	Fall	3-4'
Aster, New York, (Symphyotrichum novi-belgii)	Perennial	Sun - Pt shade	Dry/avg	Purple	Fall	18-24"
Aster, smooth (Aster laevis)	Perennial	Sun	Avg/wet	White	Summer	5'
Aster, tall white (Doellingeria umbellata)	Perennial	Pt Shade-shade	Avg/Moist	White	Spring	8"
Bloodroot (Sanguinaria canadensis)	Perennial	Sun - Pt shade	Avg/dry	white	Summer	2-3'
Bowmans Root, Indian physic (Gillenia trifoliata)	Perennial	Sun - Pt shade	Dry/avg	Pink white,	Summer	4'
Beardtongue, foxglove (Penstemon digitalis) *	Perennial	Sun - Pt shade	Moist/wet	Red	Summer	3-4'
Bee balm, red (Monarda didyma)	Perennial	Sun - Pt shade	Avg/dry	Pink/white	Summer/Fall	1-3'
Bee balm, spotted (Monarda punctata)	Perennial	Sun - Pt shade	Avg/dry	Purple	Summer	3-5'
Bee balm, wild bergamot (Monarda fistulosa)	Perennial	Sun	Avg/dry	Yellow	Summer	1-3'
Black-eyed Susan (Rudbeckia hirta)	Perennial	Sun - Pt shade	Wet/avg	Purple	Summer	5'
Blue vervain (Verbena hastata)	Perennial	Pt Shade-shade	Moist/wet	Red	Summer	3-4'
Cardinal flower (Lobelia cardinalis)	Perennial	Pt Shade-shade	Dry	Red, yellow, pink	Spring	1-2'
Columbine, red (Aquilegia canadensis)	Perennial	Sun - Pt shade	Avg/moist	Yellow	Spring/Summer	2'
Coreopsis, lance-leaf (Coreopsis lanceolata)	Perennial	Pt Shade-shade	Avg	White	Spring	10"
Dutchmans breeches (Dicentra cucullaria) *	Perennial	Sun	Avg/dry	White	Summer	2'
Everlasting, pearly (Anaphalis margaritacea)	Perennial	Sun	Avg/dry	White	Summer	2'
Everlasting, sweet (Pseudognaphalium obtusifolium)	Perennial	Pt Shade-shade	Dry	Brown/purple	Spring	5"
Ginger, Canada (Asarum canadense)	Perennial	Sun - Pt shade	Avg	Yellow	Spring	3'
Golden Alexander (Zizia aurea)	Perennial	Sun - Pt shade	Avg/dry	Yellow	Fall	5'
Goldenrod, showy (Solidago speciosa)	Perennial	Sun - Pt shade	Dry/wet	Yellow	Summer	2-3'
Goldenrod, wrinkle-leaved(Solidago rugosa)	Perennial	Pt Shade-shade	Avg	Yellow	Fall	3'
Goldenrod, blue-stemmed (Solidago caesia)	Perennial	Pt Shade-shade	Moist/avg	Yellow	Fall	3'
Goldenrod, zig-zag (Solidago flexicaulis)	Perennial	Sun - Pt shade	Avg/moist	Purple	Summer	2-3'
Iris, northern blue flag (Iris versicolor)	Perennial	Sun - Pt shade	Moist/wet	Purple	Summer	6'
Ironweed, New York (Vernonia noveboracensis)	Perennial	Sun	Avg/moist	Yellow	Summer	6-10'
Jerusalem artichoke (Helianthus tuberosus)	Perennial	Pt Shade-shade	Avg/wet	Lavender/pink	Summer	5'
Joe Pye weed, spotted (Eutrochium maculatum)	Perennial	Pt Shade-shade	Moist/wet	Purple	Summer	6'
Joe Pye weed, sweet (Eutrochium purpureum)	Perennial	Pt Shade-shade	Avg/moist	Purple/green	Spring	1-2'
Jack in the pulpit (Arisaema triphyllum)	Perennial	Sun - Pt shade	Avg/moist	orange	Summer	4-5'
Lily, Turk's cap (Lilium superbum)	Perennial	Sun - Pt shade	Wet/avg	white/pink	Summer	5'
Mallow, rose (Hibiscus moscheutos)	Perennial	Sun - Pt shade	Wet	Yellow	Spring	1-2'
Marsh marigold (Caltha palustris)	Perennial	Sun - Pt shade	Moist	yellow	Spring	2-3'
Meadow-rue, early (Thalictrum dioicum)	Perennial	Pt Shade-shade	Moist	white	Summer	3-8'
Meadow-rue, tall (Thalictrum pubescens)	Perennial	Pt Shade-shade	Avg/moist	Pink white,	Summer	3-6'
Milkweed, poke (Asclepias exalta)	Perennial	Sun	Dry	Red, purple	Spring, Summer	2-3'
Milkweed purple (Asclepias purpurascens)	Perennial	Sun	Avg/dry	Orange	Summer	2'
Milkweed, butterfly (Asclepias tuberosa)	Perennial	Sun	Avg/wet	Pink	Summer	3-4'
Milkweed, common (Asclepias syriaca)	Perennial	Sun - Pt shade	Avg/wet	Pink	Summer	2-4'
Milkweed, rose (Asclepias incarnata)	Perennial	Sun - Pt shade	Avg/dry	White	Summer	2-4'
Mountain mint, clustered (Pycnanthemum muticum)	Perennial	Sun - Pt shade	Avg/dry	White	Summer	2-4'
Mountain mint, hairy (Pycnanthemum verticillatum)	Perennial	Sun - Pt shade	Avg/dry	White	Summer	1-3'
Mountain mint, slender-leaf (Pycnanthemum tenuifolium)	Perennial	Sun	Avg/dry	White	Summer	3'
Mountain mint, Virginia (Pycnanthemum virginianum)	Perennial	Sun - Pt shade	Moist/Avg	Pink/white	Summer	4'
Obedient plant (Physostegia virginiana) *	Perennial	Sun - Pt shade	Avg/moist	Pink, white, blue	Summer	2-3'
Phlox, fall or garden phlox, (Phlox paniculata) *	Perennial	Sun	Avg/dry	Yellow	Spring/Summer	1-2'
Primrose/sundrops (Oenothera fruticosa)	Perennial	Pt Shade-shade	Avg/dry	White	Spring	6"
Rue anemone (Thalictrum thalictroides)	Perennial	Sun - Pt shade	Avg	Yellow	Summer	5'
Sneezeweed (Helenium autumnale)	Perennial	Pt Shade-shade	Avg/dry	White	Summer	1-2'
Solomon seal, false (Maianthemum racemosum)	Perennial	Pt Shade-shade	Avg/moist	White	Spring	2-4'
Solomon seal, king (Polygonatum biflorum)	Perennial	Sun - Pt shade	Avg/dry	Purple	Summer	2'
Spiderwort (Tradescantia ohiensis) *	Perennial	Sun - Pt shade	Dry	Yellow	Summer/Fall	3-6'
Sunflower, oxeye (Heliopsis helianthoides) *	Perennial	Sun - Pt shade	Avg/dry	yellow	Summer	2-4'
Sunflower, woodland, Helianthus divaricatus	Perennial	Pt Shade-shade	Moist/avg	White/pink/red	Spring	1'
Trillium, nodding wakerobin (Trillium cernuum)	Perennial	Pt Shade-shade	Moist/avg	Red	Spring	1'
Trillium, red or wakerobin (Trillium erectum)	Perennial	Pt Shade-shade	Moist/avg	White	Spring	1'
Trillium, white or white wakerobin (Trillium grandiflorum)	Perennial	Pt Shade-shade	Moist/avg	White, pink	Spring	1'
Trillium, painted, or painted wakerobin (Trillium undulatum)	Perennial	Pt Shade-shade	Avg/moist	Yellow	Spring	6"
Trout lily (Erythronium americanum)	Perennial	Pt Shade-shade	Avg/moist	White	Summer/Fall	2-3'
Turtlehead, white (Chelone glabra)	Perennial	Sun - pt shade	Moist	pink/purple	Summer	2'
Virginia meadow-beauty (Rhexia virginica)	Perennial	Pt Shade-shade	Avg	Purple	Summer	1'
Wild geranium (Geranium maculatum)	Perennial	Sun	Dry	Yellow	Summer	2'
Wild indigo, yellow (Baptisia tinctoria)	Perennial	Sun-Pt shade	Dry/moist	Purple	Spring, Summer	6"
Violet (Viola sororia)	Perennial	Sun	Avg/dry	Blue/purple	Spring, Summer	4"-6"
Violet, Birdfoot (Viola pedata)	Perennial					

Street Trees
Planting trees along roadways or near sidewalks requires additional considerations: safety for pedestrians, overhead utilities, snow removal, and potential damage to pavement. Trees should be planted at least 10' away from light poles, driveways or fire hydrants, and at least 10-20' away from intersections. Trees that produce large, fleshy fruit should be avoided as they are messy and slippery for pedestrians.

Further, roots can damage utilities or pavement. Trees with lateral roots, which grow outwards and nearer to the surface, will eventually lift sidewalks and are more susceptible to wind damage. Sidewalks covering lateral roots make it difficult for trees to get nutrients, water and oxygen, and the roots can be damaged from compression or from road salt. All trees recommended here have deep tap roots, or, roots that grow straight down.

The following native tree species are recommended for planting along roadsides as they exhibit some tolerance to pollution, drought conditions, compacted soils and are generally easy to maintain. This plant list selection is excerpted in part, with permission, from the Town of Southborough Street Tree Guidelines, June 2019.

Street Trees

Tree Species	Mature Height	Mature Spread	Minimum planting space	Notes
Broad shade trees - recommended for unconfined spaces such as lawns, parks, yards, and wide landscape buffers. Ideal growth area is 30'x30'x3'D.				
Red Maple, Acer rubrum	40'-60'	40'	8' from sidewalk or concrete	Oval shape, fast-growing (12'-18"/year), prefers full or partial sun, red leaves in autumn. Lives 80-100 yrs.
Red Oak, Quercus rubra	60'-70'	40'-60'	8' from sidewalk or concrete	Rounded shape, moderate growth rate, needs full sun and well-drained soil, red-scarlet autumn color. Lives 400 yrs.
Pin Oak, Quercus palustris	60'-70'	25'-40'	8' from sidewalk or concrete	Pyramidal shape, fast-growing (1'-2'/yr.), full sun and average-moist, well-drained soil, russet-bronze-red autumn color. Lives about 120 yrs.
White Oak, Quercus alba	80'-100'	50'-80'	8' from sidewalk or concrete	Rounded shape, sun or shade, well-drained soil, grows 1'-2'/yr., yellow autumn color. Lives up to 600 yrs.
Scarlet Oak, Quercus coccinea	60'-80'	40'-50'	8' from sidewalk or concrete	Pyramidal to round shape, sun, dry-medium well-drained soil, scarlet autumn color. Lives 80-100 yrs.
American Elm, Ulmus americana	60-100'	40-70'	8' from sidewalk or concrete	Vase shape, fast-growing (3'-5'/yr.), full-part sun, well-drained rich soil, yellow-gold autumn color. Lives about 200 yrs.
Small Trees - recommended for use under or near overhead wires, in confined spaces, or for ornamental accent. Trees that grow under 50 feet make excellent terrace trees since they have little root zones and won't obstruct overhead power lines. Ideal growth area averages 7'x7'x3'D.				
Serviceberry, Amelanchier spp	6'-25'	15'-25'	3'-4' from sidewalk or concrete	Can be multi- or single-stemmed, grows 1'-2'/yr., partial sun-partial shade, rich, moist, well-drained soil, white flowers in spring, purple berries, orange-red autumn color. Lives about 50 yrs.
Eastern Redbud, Cercis canadensis	20'-30'	25'-35'	3-4' from sidewalks or concrete	Can be multi- or single-stemmed, grows 1'-2'/yr., full sun-part shade, well-drained soil, purple flowers in spring, yellow autumn color. Lives about 20 yrs.
Specimen trees - recommended for use in lawn and park areas set well back from sidewalks and roadsides along the outside of the public right of way.				
Sugar maple, Acer saccharum	40'-80'	30'-60'	8' from sidewalk or concrete	Oval shape, grows 1'-2'/yr., full sun-part shade, rich, well-drained soil, yellow-red autumn color. Lives up to 400 yrs.
Serviceberry, Amelanchier canadensis	6'-25'	15'-25'	3'-4' from sidewalk or concrete	Can be multi- or single-stemmed, grows 1'-2'/yr., partial sun-partial shade, rich, moist, well-drained soil, white flowers in spring, purple berries, orange-red autumn color. Lives about 50 yrs.
River Birch, Betula Nigra	60'-80'	40'	8' from sidewalk or concrete	Pyramidal to upright oval shape, grows 1'-2'/yr., full-partial sun, moist, well-drained soil, attractive peeling two-toned bark, yellow autumn color. Lives 50-75 yrs.
Flowering Dogwood, Cornus Florida	15'-30'	15'-30'	3-4' from sidewalk or concrete	Broad pyramidal growth form, grows 1'-2'/yr., shade, well-drained soil, white flowers, red fruit, orange-red autumn color. Lives 120 yrs.
Basswood, Tilia americana	60'-80'	30'-60'	8' from sidewalk or concrete	Pyramidal-rounded growth form, grows 1'-2'/yr., full sun to dense shade, moist well drained soil, fragrant white flowers in spring, yellow autumn color. Lives 200 yrs.

APPENDIX H - RECOMMENDED NATIVE PLANT PHOTOS

The following section has been updated with additional plant species since the last version of this Guide. We have also removed some plants previously listed, as explained in the Preface.

Here you will find lists of plants that are native to New England, divided by major types (trees, shrubs, flowers, etc.). There are many native plants to choose from; our lists are not all-inclusive. We have selected the more popular native species found in our local native plant nurseries, those that have been proven to thrive in home landscapes, and those that are host plants or otherwise valuable food sources for our native pollinators. If you are uncertain about whether a plant is native to our area, and it's not on our list, you can look it up on the Native Plant Trust's easy-to-use database at: https://gobotany.nativeplanttrust.org.

Look around your yard or neighborhood and see what native plants are already happily growing there. This is a good indication that more of the same plants will thrive in your yard also.

Are the plants that are attractive to you truly suitable to the area you want to plant it? For instance, if you are planting below power lines, you do not want to pick a tree that will grow into them; instead consider a shrub or an understory tree. If you want privacy and are thinking white pines might be nice, you may lose that privacy advantage as they grow and drop their lower branches as they mature. Some plants are aggressive spreaders, and while that may be exactly what you want to cover large disturbed areas quickly, you may not want to include them in a formal flower bed.

Take your time planning; have fun making plant selections, and know that gardening with native plants not only gives you joy, but also is a great way to support wildlife and our ecosystem.

What do the recommended "light exposures" mean?

Full Sun – Plants need at least 6 hours of direct sun daily.

Part Sun – Plants thrive with 3-6 hours of direct sun daily.

Part shade – Plants require between 3-6 hours of sun daily but need protection from intense mid-day sun.

Full shade – Plants require less than 3 hours of direct sun per day.

SHRUBS & VINES

Creeping Juniper (Juniperus communis)
Light: Sun
Soil moisture: Dry/avg
Bloom color: NA
Bloom season: NA
Height: 1'
Remarks: Evergreen. Versatile, sprawling ground cover. Rock gardens, wall edges. Mass on slopes for erosion control.

Inkberry (Ilex glabra)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Summer
Height: 5-8'
Remarks: Evergreen. Glossy dark green leaves with dark blue berries; Excellent for shrub borders, foundation plantings or as a low hedge.

Mountain laurel (Kalmia latifolia)
Light: Sun/shade
Soil moisture: Dry/moist
Bloom color: White/pink
Bloom season: Summer
Height: 5-15'
Remarks: Evergreen with superior flowers; grow as borders, hedges, or alone. Best in part-shade, moist soil.

Beach plum (Prunus maritima)
Light: Sun
Soil moisture: Dry
Bloom color: White
Bloom season: Spring
Height: 5'
Remarks: Plant at least two for cross pollination; profuse white flowers in May; tart, edible fruits in Sept.

Carolina Rose (Rosa carolina)
Light: Sun
Soil moisture: Avg/wet
Bloom color: Pink
Bloom season: Spring
Height: 3-6'
Remarks: AKA "pasture rose"; More resistant to diseases than most hybrid roses. Mass in borders or in meadows.

Sweet Fern, (Comptonia peregrina)
Light: Sun
Soil moisture: Dry/avg
Bloom color: NA
Bloom season: Spring
Height: 3-4'
Remarks: Well-adapted to coarse, dry areas; form colonies and can be pruned to increase density. Fragrant leaves.

Trumpet honeysuckle vine
(Lonicera sempervirens)
Light: Sun
Soil moisture: Avg
Bloom color: Red/yellow
Bloom season: Spring-Fall
Height: Vine
Remarks: Fast-growing vine for trellises and arbors. Loved by hummingbirds and bees.

White Meadowsweet, (Spirea alba)
Light: Sun
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Summer
Height: 3-6'
Remarks: Small shrub with spires of tiny white flowers.Host plant for the Spring azure butterfly (Celastrina ladon).

Virginia rose (Rosa virginiana)
Light: Sun
Soil moisture: Avg
Bloom color: Pink
Bloom season: Summer
Height: 4-6'
Remarks: Best of the native roses to grow in the garden. Large pink flowers June-Aug.

Azaela, Clammy (Rhododendron viscosum)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White/pink
Bloom season: Spring
Height: 5'
Remarks: Use in borders or open woodland shade gardens. Effective near patios or decks.

Blueberry, Highbush
(Vaccinium corymbosum)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White/pinkish
Bloom season: Spring
Height: 8-10'
Remarks: Excellent hedge with the added benefits of fruit which can be harvested or left for the birds.

Blueberry, Lowbush
(Vaccinium angustifolium)
Light: Sun/shade
Soil moisture: Dry/avg
Bloom color: White/pinkish
Bloom season: Spring
Height: 1-2'
Remarks: Red/maroon fall foliage. Delicious fruits. Grow as a groundcover or under trees.

Buttonbush (Cephalanthus occidentalis)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Summer
Height: 5-12'
Remarks: Flowers have a spiky globular look; attractive to hummingbirds, bees, butterflies.

Chokeberry, black (Aronia melancarpa)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Spring
Height: 8-15
Remarks: Flowers followed by black fruits and brilliant red leaves in the fall rivaling burning bush.

Chokeberry, red (Aronia arbutifolia)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Spring
Height: 6-8'
Remarks: Flowers, red fruits and brilliant red leaves in the fall rivaling burning bush; Good border plant.

Dogwood, Gray (Cornus racemosa)
Light: Sun/shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Spring
Height: 10-15'
Remarks: Flowers followed by white berries; reddish stems. Effective borders or screen plant.

Dogwood, Red twig (Cornus sericea)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Spring
Height: 8-10'
Remarks: Showy flowers, blue fruits. Red stems provide brilliant winter contrast.

Dogwood, Silky (Cornus amomum)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Spring
Height: 6-8'
Remarks: Creamy white flowers in June, bluish berries, fast grower.
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Azeala, Early, or Rose
(Rhododendron prinophyllum)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: Pink
Bloom season: Spring
Height: 6-12'
Remarks: Deciduous, rounded top form-great for mass plantings. Beneficial to bees.

Azeala, Pink shell, or pinxterbloom
(Rhododendron periclymenoides)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: Pink
Bloom season: Spring
Height: 3-8'
Remarks: Densely branched. Flowers appear before leaves. Toxic- do not use to make honey.

Elderberry, Black (Sambucus canadensis)
Light: Sun/part shade
Soil moisture: Moist/wet
Bloom color: White
Bloom season: Summer
Height: 8-12'
Remarks: Flat top, white flower, followed by edible black berries. Plant in rain gardens, natural buffers/hedges or swales.

Elderberry, Red (Sambucus racemosa)
Light: Sun/part shade
Soil moisture: Moist/wet
Bloom color: White
Bloom season: Summer
Height: 8-12'
Remarks: White flower followed by sour red berries (best cooked). Best in natural settings as it suckers freely.

Flowering raspberry (Rubus odoratus)
Light: Sun/part shade
Soil moisture: Avg
Bloom color: Pink
Bloom season: Spring-Summer
Height:3-6'
Remarks: Rose-like large flowers for long summer bloom period; suckers freely; good shrub border.

Fragrant sumac (Rhus aromatica)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Green/yellow
Bloom season: Spring
Height: 2-8'
Remarks: Stabilize embankments or areas with poorer soils; Informal hedges. Beautiful red fall color.

Nannyberry, (Viburnum lentago)
Light: Sun/part shade
Soil moisture: Avg
Bloom color: White
Bloom season: Spring
Height: 10-30'
Remarks: A suckering shrub with flat-topped clusters small, white flowers followed by blue-black berries. Host plant for the Spring azure butterfly (Celastrina ladon).

New Jersey Tea (Ceanothus americanus)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: White
Bloom season: Spring-Summer
Height: 3-4'
Remarks: Yellow twigs for winter interest; effective shrubby ground cover for hard-to-grow areas

Ninebark (Physocarpus opulifolius)
Light: Sun/part shade
Soil moisture: Dry/moist
Bloom color: White
Bloom season: Summer
Height: 5-8'
Remarks: Exfoliated bark provides winter interest. Effective as hedge, screen or for erosion control on banks.

Northern Bush honeysuckle (Diervilla lonicera)
Light: Sun/part shade
Soil moisture: Avg
Bloom color: Yellow
Bloom season: Summer
Height: 3-5'
Remarks: Tubular flowers; loved by pollinators. Small hedge/border for woodland gardens or on slopes.

Pussy willow (Salix discolor)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White/yellow
Bloom season: Spring
Height: 6-15'
Remarks: Valuable early food source for pollinators. Purchase a male plant which for the showy late winter catkins.

Spicebush (Lindera benzoin)
Light: Sun/shade
Soil moisture: Avg/wet
Bloom color: Yellow
Bloom season: Spring
Height: 12'
Remarks: Native equivalent to forsythia; red berries on female plants; valuable wildlife food; salt tolerant.

Steeplebush, rosy meadowsweet (Spiraea tomentosa)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: Pink
Bloom season: Summer
Height: 2-5'
Remarks: A pollinator powerhouse that is also deer and rabbit resistant, with narrow, upright bright pink flowers in midsummer.

Sweet fern (Comptonia peregrina)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Yellow/green
Bloom season: Spring
Height: 4'
Remarks: Aromatic leaves; tolerates poor soil; Rapid spreader; good to stabilize slopes or embankments. Not recommended for a formal garden.

Sweet pepperbush (Clethra alnifolia)
Light: Sun/shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Summer
Height: 3-8'
Remarks: Fragrant flowers attractive to pollinators. Blooms in late summer when few other shrubs are in bloom.

Viburnum, Arrowwood (Viburnum dentatum)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Spring
Height: 10'
Remarks: Flowers give way to blue-black berries attractive to birds and wildlife. Fall color yellow-red.

Viburnum, Cranberry (Viburnum opulus var. americanum)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Summer
Height: 12'
Remarks: Flowers followed by red berries; purplish fall leaf color. Use in borders, hedges or as screen.

Viburnum, Mapleleaf
Light: Part shade/shade
Soil moisture: Avg/moist
Bloom color: White
Bloom season: Spring
Height: 6'
Remarks: White flowers in spring, followed by pink to blue berries; valuable to wildlife.
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Witch hazel (Hamamelis virginiana)
Light: Sun/shade
Soil moisture: Avg/wet
Bloom color: Yellow
Bloom season: Fall
Height: 12'
Remarks: Yellow, spidery flowers late fall, providing late season nectar for pollinators; salt tolerant.

Winterberry (Ilex verticillata)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Summer
Height: 3-12'
Remarks: Flowers are small. This shrub is grown for its red berries in winter. Grow as hedge or border. Need male and female plants to produce berries.

Witherod, or Possumhaw (Viburnum nudum)
Light: Sun/part shade
Soil moisture: Moist/wet
Bloom color: White
Bloom season: Summer
Height: 6-20'
Remarks: Dense shrub with flat-topped clusters of white flowers, followed by bright blue to red to black summer fruit. Attracts birds.

TREES

Conifers & Evergreens

Cedar, eastern red (Juniperus virginiana)
Light: Sun
Soil moisture: Dry/avg
Height: 30'
Remarks: Columnar growth habit is suitable for windbreak plantings; drought and salt resistant.

Hemlock (Tsuga canadensis)
Light: Sun/shade
Soil moisture: Dry/avg
Height: 40-70'
Remarks: Ideal for screening hedges/ foundation plantings. Doesn't tolerate drought, wind or heavy soil. Subject to attack by the invasive Hemlock wooly adelgid.

Holly, American (Ilex opaca)
Light: Sun/shade
Soil moisture: Dry/avg
Bloom color: White
Height: 30'
Remarks: Evergeen, with red berries. Need to plant male (white flowers) nearby to ensure fruit sets on female tree.

Pine, white (Pinus strobus)
Light: Sun/part shade
Soil moisture: Dry/avg
Height: 50-80'
Remarks: Fast growing, pyramidal shape; sensitive to soil compaction and salt. Lower branches drop off as the tree matures.

Spruce, white (Picea glauca)
Light: Sun
Soil moisture: Avg/moist
Height: 40-60'
Remarks: Very hardy; works well as a windbreak; pyramidal shape; provides shelter and nest sites.

Tamarack/larch (Larix laricina)
Light: Sun
Soil moisture: Moist
Height: 30-50'
Remarks: Deciduous soft blue-green needles turning gold in autumn. Pyramidal shape.

Small Trees - up to 25' Tall

Beach Plum (Prunus maritima)
Light: Sun
Soil moisture: Dry/avg
Bloom color: White
Bloom season: Spring
Height: 8'
Remarks: Good for hedges or along a driveway; white flowers, with purple edible fruits; plant at least 2 for cross pollination.

Chokeberry, black (Aronia melanocarpa)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: White
Bloom season: Summer
Height: 8'
Remarks: Also grown as a shrub. Showy white flowers followed by fruits that are a valuable wildlife food source. Autumn color.

Redbud, eastern (Cercis canadensis)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Lavender
Bloom season: Spring
Height: 18-25'
Remarks: Showy lavendar spring flowers, large heart-shaped leaves, yellow foliage in autumn.

Serviceberry, Allegheny
(Amelanchier laevis)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: White
Bloom season: Spring
Height: 18-25'
Remarks: Early, fragrant white flowers, edible berries, fall color; salt tolerant.

Medium-sized Trees - up to 40' tall

Choke cherry (Prunus virginiana)
Light: Sun/part shade
Soil moisture: Avg
Bloom color: White
Bloom season: Summer
Height: 20'
Remarks: Fragrant white flower, followed by edible fruits; attracts birds.

Dogwood, Alternate leaf/Pagoda (Cornus alternifolia)
Light: Sun/part shade
Soil moisture: Avg
Bloom color: White
Bloom season: Summer
Height: 25'
Remarks: White flowers in spring, blue berries, red fall foliage.

Dogwood, flowering (Cornus florida)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: white
Bloom season: Spring
Height: 15-40'
Remarks: White flowers in spring, red berries, red fall foliage.

Hornbeam, American (Carpinus caroliniana ssp. virginiana)
Light: Sun/shade
Soil moisture: Avg/wet
Bloom color: Greenish red
Bloom season: Spring
Height: 15-30'
Remarks: Slow grower, seeds valuable to wildlife.

Serviceberry, Canadian (Amelanchier canadensis)
Light: Sun/part shade
Soil moisture: Dry/moist
Bloom color: White
Bloom season: Spring
Height: 25'
Remarks: Early, fragrant white flowers, edible berries, fall color; salt tolerant. Birds love the berries.

Large Trees - over 25' tall

Aspen, Quaking (Populus tremuloides)
Light: Sun
Soil moisture: Avg
Height: 40'
Remarks: Keystone plant supports >300 moths and butterflies; leaves "quake" in the breeze. Not appropriate for a lawn or garden as new trees sprout readily from the roots.

Basswood (Tilia americana)
Light: Sun/part shade
Soil moisture: Avg
Bloom color: Yellow
Bloom season: Spring
Height: 60'
Remarks: Sometimes known as the 'bee tree'. Wildlife magnet with fragrant flowers in June; not salt tolerant.

Beech, American (Fagus grandifolia)
Light: Sun
Soil moisture: Avg/moist
Height: 50-70'
Remarks: Smooth gray bark and beautiful bronze color in the fall. Beechnuts are sought by wildlife.

Birch, gray (Betula populifolia)
Light: Sun/part shade
Soil moisture: Avg/moist
Height: 20-40'
Remarks: Fast growing, but short-lived. Resistant to heat and humidity. Attracts birds, mammals and butterflies.

Birch, paper (Betula papyrifera)
Light: Sun
Soil moisture: Avg/moist
Height: 50-70'
Remarks: White bark, brilliant yellow fall foliage and winter interest.

Birch, river (Betula nigra)
Light: Sun
Soil moisture: Avg/moist
Height: 50-70'
Remarks: Unique peeling cinnamon-colored bark; fall and winter interest.

Birch, sweet (Betula lenta) aka black birch
Light: Sun/part shade
Soil moisture: Avg
Height: 50'
Remarks: Fast grower; salt tolerant; lovely form; supports more than 400 species of moths and butterflies.

Black gum (Nyssa sylvatica)
Light: Sun/part shade
Soil moisture: Avg
Height: 30'50'
Remarks: Leaves turning many shades of yellow, orange, bright red, purple or scarlet on the same branch.

Cherry, black (Prunus serotina)
Light: Sun
Soil moisture: Avg/moist
Bloom color: White
Bloom season: Spring
Height: 70-90'
Remarks: White clustered flowers followed by edible fruits; valuable to wildlife.

Hickory, shagbark (Carya ovata)
Light: Sun/part shade
Soil moisture: Avg
Height: 70-90'
Remarks: Edible nuts in late summer & host plant for dozens of insects. Produces an allelopathic chemical that will inhibit the growth of some other plants.

Maple, red (Acer rubrum)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: Red
Bloom season: Spring
Height: 40-60'
Remarks: Red flowers in spring; brilliant autumn color

Maple, sugar (Acer saccharum)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Red/green
Bloom season: Spring
Height: 60-75" **Remarks**: A landscape standout. Leaves turn yellow, burnt orange or red in fall. Not salt tolerant.

Oak, black (Quercis velutina)
Light: Sun/part shade
Soil moisture: Dry
Height: 50-80"
Remarks: Slow-growing; lacks brilliant fall color that some other oaks have. Supports many wildlife species.

Oak, pin (Quercis palustris)
Light: Sun
Soil moisture: Avg/dry/moist
Height: 60-70'
Remarks: Lovely pyramidal shape, turning more oval in older age. Fast-growing.

Oak, white (Quercus alba)
Light: Sun/part shade
Soil moisture: Avg/moist
Height: 50-80'
Remarks: Keystone species supports hundreds of wildlife species; showy orange-red fall foliage.

Oak, red (Quercus rubra)
Light: Sun/part shade
Soil moisture: Avg/moist
Height: 60-75'
Remarks: Good street tree, tolerates pollution and compacted soil. Red fall color; acorns are valuable wildlife food.

Oak, scarlet (Quercus coccinea)
Light: Sun
Soil moisture: Dry/moist
Height: 60-80'
Remarks: Brilliant red fall foliage. Acorns are a valuable wildlife food. Does not like acid soil.

Sassafras (Sassafras albidum)
Light: Sun/part shade
Soil moisture: Avg/wet
Height: 20'
Remarks: Mitten-shaped, oval, or 3-lobed leaves; outstanding fall color. Forms colonies. Larval host plant for Spicebush butterfly, Tiger swallow-tail, Palamedes butterflies, Pale Swallowtail.

Sycamore, American (Platanus occidentalis)
Light: Sun/part shade
Soil moisture: Avg/moist/dry
Bloom color:
Bloom season:
Height: 75-100'
Remarks: Fast grower; needs room to spread; interesting bark.

Tulip Tree, Yellow poplar
(Liriodendron tulipifera)
Light: Sun/part shade
Soil moisture: Med/moist
Bloom color: Yellow
Bloom season: Spring
Height: 150'
Remarks: Fast-growing, tall straight tree. Attracts birds, bees and butterflies. Should not be placed near pavement. Can be weak-wooded.

Willow, black (Salix nigra)
Light: Sun/part shade
Soil moisture: Wet
Height: 50'
Remarks: Fast growing keystone species for moths/ butterflies; don't plant near buildings or septic systems.

FERNS

Broad beech fern (Phegopteris hexagonoptera)
Light: Shade
Soil moisture: Moist
Height: 1-3'
Remarks: Good to grow beneath deciduous trees; adaptable to shade gardens but does not tolerate dry soil.

Hay-scented fern (Dennstaedtia punctilobula)
Light: Part sun/shade
Soil moisture: Dry/avg
Height: 1-3'
Remarks: Tough adaptable fern that spreads quickly; good to cover slopes/large open spaces, not for gardens.

Lady fern (Athyrium filix-femina)
Light: Part sun/shade
Soil moisture: Moist, well-drained
Height: 2-3'
Remarks: Neat, clumping habit makes a great woodland garden fern to blend with wildflowers; low maintenance.

Christmas fern (Polystichum acrostichoides
Light: Part shade/shade
Soil moisture: Avg/moist
Height: 1-2'
Remarks: Evergreen. Relatively deer resistant. Good for erosion control on wooded slopes.

Maidenhair fern (Adiantum pedatum)
Light: Part sun/shade
Soil moisture:
Height: 1-2'
Remarks: Elegant and very distinctive many-fingered delicate fronds. Grows in clumps.

Ostrich fern (Matteuccia struthiopteris)
Light: Part sun/shade
Soil moisture: Avg/moist
Height: 2-3'
Remarks: A very graceful plant. Fiddleheads are edible. Prefers moist soil and will spread and thrive.

GRASSES AND SEDGES

Grass, Big Bluestem (Andropogon geradrii)
Light: Sun
Soil moisture: Dry/avg
Bloom color: Gold
Bloom season: Summer
Height: 7'
Remarks: Great for tall meadows with beautiful fall color.

Grass, Indian (Sorghastrum nutans)
Light: Sun-Shade
Soil moisture: Avg/wet
Bloom color: Green/bronze
Bloom season: Summer
Height: 6'
Remarks: Forms rich clusters of bronze-colored seeds; birds love the seeds.

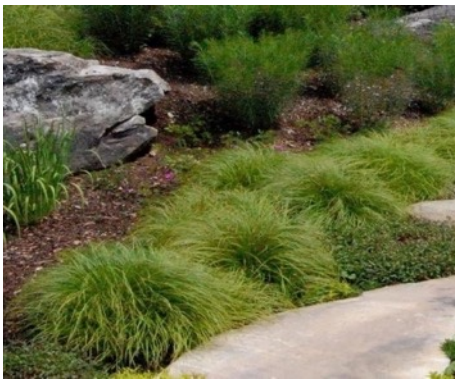
Grass, Little Bluestem (Schizachyruim scoparium)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Copper/red
Bloom season: Summer
Height: 2-3'
Remarks: Blue color in summer, turning red. Clumping form. Songbirds favor the seeds.

Grass, Prairie Dropseed (Sporobolus herterolepis)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Gold
Bloom season: Fall
Height: 2'
Remarks: Wonderful showy bunch-forming grass; use along paths as a border.

Grass, Purple love (Eragrostis spectabilis)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Red/purple
Bloom season: Summer
Height: 1-2'
Remarks: Tough ornamental that reflects a puple haze with flowers bloom in August.

Grass, Switch (Panicum virgatum)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Pink
Bloom season: Summer-Fall
Height: 4'
Remarks: Clumping grass for tall meadows with beautiful fall color. Great winter cover for wildlife.

Appalachian sedge | Pennsylvania sedge | Plantain sedge



Sedge, Appalachian, (Carex appalachica)
Light: Sun/part shade
Soil moisture: Avg/dry
Height: 8-10'
Remarks: Forms tight clumps of fine, flowy leaves making it great for interplanting grassy areas.

Sedge, Pennsylvania (Carex pensylvanica)
Light: Sun/shade
Soil moisture: Dry
Height: 16"
Remarks: Low maintenance lawn substitute or groundcover for a Shade Garden.Provides erosion control.

Sedge, Plantain, or Seersucker, (Carex plantaginea)
Light: Part shade/shade
Soil moisture: Avg/wet
Height: 6-10"
Remarks: Clumping form with textured semi-evergreen leaves. Deer and rabbit resistant.

GROUNDCOVERS

Bearberry/Kinnikinnick (Arctostaphylos uva-ursi)
Light: Sun
Soil moisture: Dry/avg
Bloom color: White
Bloom season: Spring
Height: 6"
Remarks: Low shrub. Drought tolerant; needs sun and good drainage. Good to stabilize slopes. Evergreen/red berries.

Common Juniper (Juniperus communis)
Light: Sun
Soil moisture: Dry/avg
Height: 1'
Remarks: Versatile, sprawling shrub/ground cover. Rock gardens, wall edges. Mass on slopes for erosion control. Grows in a variety of challenging conditions and is resistant to browse. Birds feed on cones.

Phlox, moss or rock (Phlox subulata)
Light: Sun
Soil moisture: avg/dry
Bloom color: Pink, purple, white
Bloom season: Spring
Height: 6"
Remarks: Showy, vigorous and mat-forming. Use in rock gardens, borders, draping over stone wall. Listed in USDA database as native to Mass. GoBotany lists as native to NY and south.

Pussytoes, field (Antennaria neglecta)
Light: Sun
Soil moisture: Dry/avg
Bloom color: White
Bloom season: Late Spring
Height: <1'
Remarks: Good for meadows, ledges or to use in alternative lawn.

Pussytoes, Plantain-leaved or Women's tobacco, (Antennaria plantaginifolia)
Light: Sun
Soil moisture: Dry/avg
Bloom color: White/pink
Bloom season: Spring-Summer
Height: <1'
Remarks: Good for meadows, ledges or to use in alternative lawn.

Three-toothed cinquefoil (Sibbaldiopsis tridentata)
Light: Sun
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 10"
Remarks: A mat-forming perennial; drought resistant; use in rock gardens or as groundcover.

American wintergreen
(Gaultheria procumbens)
Light: Sun/shade
Soil moisture: Dry/moist
Bloom color: White-pink
Bloom season: Summer
Height: 6'
Remarks: Slow-spreader; wintergreen-scented evergreen leaves with red berries. Prefers dry shade.

Bluet, little,
(Houstonia caerulea)
Light: Sun/shade
Soil moisture: Moist
Bloom color: White/blue
Bloom season: Late Spring
Height: 5'
Remarks: Grows in tiny 8" tufts. Does well in grasses of lawns and fields, but don't mow before they have set seed.

Bunchberry, Dwarf dogwood,
Chamaepericlymenum canadense
Light: Shade
Soil moisture: Moist
Bloom color: White
Bloom season: Late Spring
Height: 5"
Remarks: Feeds more than 100 species of moth and butterfly caterpillars. Provides pollen & nectar.

Canada anemone (Anemone canadensis)
Light: Part shade-shade
Soil moisture: Avg-moist
Bloom color: White
Bloom season: Summer
Height: 12"
Remarks: An aggressive spreader; good for covering large areas quickly, but not suitable for a formal bed.

Canada mayflower
(Maianthemum canadense)
Light: Part shade-shade
Soil moisture: Avg-moist
Bloom color: White
Bloom season: Spring
Height: 8"
Remarks: Small plant forms colonies in a woodland garden. A lookalike to the non-native lily of the valley.

Cranberry, American
(Vaccinium macrocarpon)
Light: Sun-part shade
Soil moisture: Avg-wet
Bloom color: White
Bloom season: Spring
Height: 6"
Remarks: Low-maintenance, evergreen shrub with large, tart edible berries.

Foam flower (Tiarella cordifolia)
Light: Part shade/shade
Soil moisture: Avg-moist
Bloom color: White
Bloom season: Spring-Summer
Height: 8'
Remarks: One of the best native groundcovers for woodland gardens; semi-evergreen; quick spreader; frothy white flowers.

Ginger, Canadian (Asarum canadense)
Light: Shade
Soil moisture: Avg/moist
Bloom color: Purple
Bloom season: Spring
Height: 8"
Remarks: Flowers bloom beneath the large, heart-shaped leaves. Spreads quickly in moist soils.

Groundsel, Running (Packera obovata)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Yellow
Bloom season: Spring
Height: 1-2'
Remarks: Round, purple-tinged leaves with yellow flowers. Good nectar source. Spreads quickly.

Groundsel, Golden (Packera aurea)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Yellow
Bloom season: Spring
Height: 1-3'
Remarks: Heart-shaped , glossy leaves with gold-yellow flowers on tall stems, Fast spreading. Pollen and nectar source for spring pollinators.

Mayapple (Podophyllum peltatum)
Light: Part shade/shade
Soil moisture: Avg
Bloom color: White
Bloom season: Spring
Height: 1'
Remarks: Whimsical leaves; Use in woodland gardens but not formal beds due to aggressive nature. GoBotany lists as rare in NE, but it is not on the MESA list and USDA database lists as native to Mass.

Pennsylvania sedge (Carex pensylvanica)
Light: Sun/shade
Soil moisture: Dry
Height: 16'
Remarks: Low maintenance lawn substitute or groundcover for a Shade Garden. Provides erosion control.

		
Self Heal/Heal All (Prunella vulgaris) **Light**: Sun/part shade **Soil moisture**: Avg **Bloom color**: Purple **Bloom season**: Summer **Height**: 6' **Remarks**: Use as a border, groundcover or Interplant in the lawn for color and pollinators. Can be mowed.	**Strawberry, wild (**Fragaria virginiana) **Light**: Sun/part shade **Soil moisture**: Dry/avg **Bloom color**: White **Bloom season**: Spring **Height**: 6" **Remarks**: Covers large areas quickly; can be interplanted with perennials; can be mowed; delicious red berries.	**Violet (**Viola sororia) **Light**: Sun/shade **Soil moisture**: Dry/moist **Bloom color**: Purple **Bloom season**: Spring-Summer **Height**: 6" **Remarks**: Readily self seeds; cheery purple flowers; integrate into a lawn for color and pollinators

PERENNIALS - FULL SUN

Aster, New England (Symphyotrichum novae-angliae)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Pink/purple
Bloom season: Fall
Height: 5'
Remarks: Flowers range from neon pink to bright purple. Flowers until frost. Attracts bees & butterflies. Larval host for Pearl Crescent butterfly.

Aster, New York, (Symphyotrichum novi-belgii)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Purple
Bloom season: Fall
Height: 3-4'
Remarks: Large flowers and of special value to native bees.

Aster, smooth (Aster laevis)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Purple
Bloom season: Fall
Height: 18-24"
Remarks: A shorter aster, not as apt to flop. Attracts bird and butterflies and is larval host to Pearl Crescent butterfly.

Aster, Tall White (Doellingeria umbellata)
Light: Sun
Soil moisture: Avg/wet
Bloom color: White
Bloom season: Summer
Height: 5'
Remarks: Blooms in July, much sooner than other asters. attracts wide variety of birds, bees, wasps, flies, beetles and butterflies.

Beardtongue, foxglove (Penstemon digitalis) *
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Pink/white
Bloom season: Summer
Height: 3-4'
Remarks: GoBotany shows this as "introduced in NE and native to NY/PA. USDA lists as native in MA.

Bee balm, red (Monarda didyma)
Light: Sun
Soil moisture: Moist/wet
Bloom color: Red
Bloom season: Summer
Height: 3-4'
Remarks: GoBotany shows this as "introduced in NE and native to NY/PA. USDA lists as native in MA.

Bee balm, spotted (Monarda punctata)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: Pink/purple
Bloom season: Summer/Fall
Height: 1-3'
Remarks: Noticeably fragrant flowers; attractive to bees and butterflies.

Bee balm, Wild bergamot (Monarda fistulosa)
Light: Sun
Soil moisture: Avg/dry
Bloom color: Light purple
Bloom season: Summer
Height: 3-5'
Remarks: Hardy, quick spreader with brilliant blooms and fragrant foliage. Special value to native bees. Also attracts butterflies.

Black-eyed Susan (Rudbeckia hirta)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: Yellow
Bloom season: Spring/Summer
Height: 2-3'
Remarks: Attracts birds and butterflies. Larval host for Gorgone Checkerspot & Bordered Patch butterfly.

Coreopsis, lance-leaf (Coreopsis lanceolata)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Yellow
Bloom season: Spring/Summer
Height: 2'
Remarks: GoBotany lists as "introduced in NE" and native to midwest and southeast. USDA lists as native throughout NE.

Everlasting, Pearly (Anaphalis margaritacea)
Light: Sun
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 2'
Remarks: Pure white flower. Larval host for Painted Lady butterfly and adult food source for American Lady butterfly.

Everlasting, Sweet/ Rabbit tobacco (Pseudognaphalium obtusifolium)
Light: Sun
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 2'
Remarks: Flowers are small and white, quickly becoming brown. Host to American Lady butterfly.

Golden Alexander (Zizia aurea)
Light: Sun/part shade
Soil moisture: Avg
Bloom color: Yellow
Bloom season: Spring
Height: 2-4'
Remarks: Dry seedheads turn purple, adding summer interest. Attracts butterflies and is larval host for Black Swallowtails.

Ironweed, New York (Vernonia noveboracensis)
Light: Sun/part shade
Soil moisture: Moist/wet
Bloom color: Deep Purple
Bloom season: Summer
Height: 6-8'
Remarks: Very tall plant; suited for the back of a garden or meadow. Attracts birds and butterflies.

Jerusalem artichoke (Helianthus tuberosus)
Light: Sun
Soil moisture: Avg/moist
Bloom color: Yellow
Bloom season: Summer
Height: 6-10'
Remarks: Large, aggressive plant for late summer color. Seed heads attract birds.

Joe Pye weed, spotted (Eutrochium maculatum)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: Purple/pink
Bloom season: Summer
Height: 5'
Remarks: Great meadow plant in mass. Somewhat deer resistant. Attracts butterflies and caterpillars of some moths.

Lily, Turk's cap (Lilium superbum)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Orange
Bloom season: Summer
Height: 4-5'
Remarks: Large, spectacular lily with up to 40 flowers on a single plant. Attracts hummingbirds and butterflies.

Milkweed, butterfly (Asclepias tuberosa)
Light: Sun
Soil moisture: Avg/dry
Bloom color: Orange
Bloom season: Summer
Height: 2'
Remarks: Showy, long-living plant with strong color. Attracts bees, hummingbirds and butterflies. Larval host for Grey Hairstreak, Monarch, and Queens butterflies.

Milkweed, common (Asclepias syriaca)
Light: Avg/wet
Soil moisture: Avg/wet
Bloom color: Pink
Bloom season: Summer
Height: 2-4'
Remarks: Does not compete well with other vegetation. Attracts bees and butterflies. Larval host for Monarchs.

Milkweed, rose, or swamp (Asclepias incarnata)
Light: Sun
Soil moisture: Avg/wet
Bloom color: Pink
Bloom season: Summer
Height: 2-4'
Remarks: Well-behaved for gardens. Attracts hummingbirds, bees & butterflies. Larval host for Monarch and Queen butterflies.

Mountain mint, clustered (Pycnanthemum muticum)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 2-4'
Remarks: Beautiful blue-green foliage. Attracts a wide range of bees, wasps, flies, butterflies, and beetles seeking nectar.

Mountain mint, hairy (Pycnanthemum verticillatum var pilosum)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 2-4'
Remarks: Very fragrant with long bloom period. Attracts a wide range of bees, wasps, flies, butterflies, and beetles.

Mountain mint, slender-leaf (Pycnanthemum tenuifolium)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 1-3'
Remarks: Silvery fragrant foliage and long blooming period. Bees and butterflies use flowers.

Mountain mint, Virginia (Pycnanthemum virginianum)
Light: Sun
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 3'
Remarks: Attracts bees & butterflies. Host plant for Regal Fritillary, Delaware Skipper, Hermit Sphinx, and Tobacco Budworm Moth.

Obedient plant (Physostegia virginiana) *
Light: Sun/part shade
Soil moisture: Moist/avg
Bloom color: Pink/white
Bloom season: Summer
Height: 4'
Remarks: * GoBotany lists as "introduced in NE". USDA lists as native to Mass.

Phlox, fall or garden phlox, (Phlox paniculata) *
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Pink, white, purple
Bloom season: Summer
Height: 2-3'
Remarks: * GoBotany lists "native to the midwest."; USDA lists as native to Middlesex County, Mass.

Primrose/Sundrops (Oenothera fruticosa)
Light: Sun
Soil moisture: Avg/dry
Bloom color: Yellow
Bloom season: Summer
Height: 1-2'
Remarks: Spreads quickly for a nice, low-growing cheerful color. Attracts bees and butterflies.

Sneezeweed (Helenium autumnale)
Light: Sun/part shade
Soil moisture: Avg
Bloom color: Yellow/orange
Bloom season: Summer
Height: 5'
Remarks: East to grow. Attracts bees, butterflies, and wasps.

Spiderwort (Tradescantia ohiensis)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: Purple
Bloom season: Summer
Height: 2'
Remarks: Aggressive spreader. Attracts bees, butterflies, and wasps.

Sunflower, oxeye (Heliopsis helianthoides) *
Light: Sun/part shade
Soil moisture: Dry
Bloom color: Yellow
Bloom season: Summer/Fall
Height: 4-6'
Remarks: * GoBotany lists native to NY-west and south. USDA lists as native to NE.

Full sun (cont)

Wild indigo, yellow (Baptisia tinctoria)
Light: Sun
Soil moisture: Dry
Bloom color: Yellow
Bloom season: Summer
Height: 2'
Remarks: Bushy perennial. Attracts bees and butterflies. Larval host to Frosted Elfin and Wild Indigo Duskywing butterflies.

Violet, Common (Viola sororia)
Light: Sun/part shade
Soil moisture: Dry/moist
Bloom color: Purple
Bloom season: Spring/summer
Height: 6"
Remarks: Valuable to a wide variety of pollinators and other wildlife--bees, birds, mice, and butterflies. Larval host plant for 29 species of Lepidoptera. Prolific spreader and good for groundcover or to mix in an alternative lawn.

Violet, Birdsfoot, Viola pedata)
Light: Sun
Soil moisture:
Bloom color: Purple
Bloom season: Spring/summer
Height:
Remarks: Considered to be the most beautiful violet, with distinctive "bird's-foot"-shaped leaves. Attracts bees and butterflies and is the larval host for the Regal Fritillary butterfly.

PERENNIALS - PART SUN/PART SHADE

Aster, heart-leaved, or Blue wood (Symphotrichum cordifolium)
Light: Sun - Part shade
Soil moisture: moist
Bloom color: Blue-Purple
Bloom season: Summer-Fall
Height: 3'
Remarks: Many insects feed on the leaves. Attracts bees and butterflies. Larval host plant for Pearl and Northern Crescent butterflies and many moths.

Aster, New England (Symphyotrichum novae-angliae)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Pink/purple
Bloom season: Fall
Height: 5'
Remarks: Flowers range from neon pink to bright purple. Flowers until frost. Attracts bees & butterflies. Larval host for Pearl Crescent butterfly.

Aster, New York (Symphyotrichum novi-belgii)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Purple
Bloom season: Fall
Height: 3-4'
Remarks: Large flowers and of special value to native bees.

Aster, smooth (Aster laevis)
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Purple
Bloom season: Fall
Height: 18-24"
Remarks: A shorter aster, not as apt to flop. Attracts bird and butterflies and is larval host to Pearl Crescent butterfly.

Bowmans Root, Indian physic (Gillenia trifoliata)
Light: Part sun/Part shade
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 2-4'
Remarks: A lovely shrubby backdrop plant for short perennials. Goes well with shrubs and grasses, Attracts bees and butterflies.

Beardtongue, Foxglove (Penstemon digitalis) *
Light: Sun/part shade
Soil moisture: Dry/avg
Bloom color: Pink/white
Bloom season: Summer
Height: 3-4'
Remarks: GoBotany shows this as "introduced in NE and native to NY/PA. USDA lists as native in MA.

Bee balm, red (Monarda didyma)
Light: Sun
Soil moisture: Moist/wet
Bloom color: Red
Bloom season: Summer
Height: 3-4'
Remarks: GoBotany shows this as "introduced in NE and native to NY/PA. USDA lists as native in MA.

Bee balm, spotted (Monarda punctata)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: Pink/purple
Bloom season: Summer/Fall
Height: 1-3'
Remarks: Noticeably fragrant flowers; attractive to bees and butterflies.

Bee balm, Wild bergamot (Monarda fistulosa)
Light: Sun
Soil moisture: Avg/dry
Bloom color: Light purple
Bloom season: Summer
Height: 3-5'
Remarks: Hardy, quick spreader with brilliant blooms and fragrant foliage. Attracts butterflies & bees.

Blue Vervain (Verbena hastata)
Light: Sun/part shade
Soil moisture: Wet/avg
Bloom color: Purple
Bloom season: Summer
Height: 5'
Remarks: Striking stems for backdrop in a garden, shaped like a candelabra. Flowers bloom from the bottom up. Attracts bees and butterflies and larval host plant for Common Buckeye.

Cardinal flower (Lobelia cardinalis)
Light: Sun/part shade
Soil moisture: Moist/wet
Bloom color: Red
Bloom season: Summer
Height: 1-4'
Remarks: Showy red blooms. Particularly attractive at the edge of a woodland garden. Attracts birds, butterflies & hummingbirds.

Columbine red (Aquilegia canadensis)
Light: Part sun/Part shade
Soil moisture: Dry/avg
Bloom color: Red & Yellow
Bloom season: Spring/Summer
Height: 3'
Remarks: Eye-catching blossoms with delicate foliage. Attracts birds, bee, butterflies and hummingbirds.

Coreopsis, lance-leaf (Coreopsis lanceolata)
Light: Sun/Part shade
Soil moisture: Avg/moist
Bloom color: Yellow
Bloom season: Spring/Summer
Height: 2'
Remarks: GoBotany lists as "introduced in NE" and native to midwest and southeast. USDA lists as native throughout NE.

Golden Alexander (Zizia aurea)
Light: Sun/Part shade
Soil moisture: Avg
Bloom color: Yellow
Bloom season: Spring
Height: 2-4'
Remarks: Dry seedheads turn purple, adding summer interest. Attracts butterflies and is larval host for Black Swallowtails.

Goldenrod, showy (Solidago speciosa)
Light: Part sun/Part shade
Soil moisture: Moist/avg
Bloom color: Yellow
Bloom season: Fall
Height: 2-5'
Remarks: Compact plant with blossoms in pyramidal column. Well behaved in a formal garden. Attracts birds, bees and butterflies.

Goldenrod, wrinkle-leaf (Solidago rugosa)
Light: Part sun/Part shade
Soil moisture: Avg-wet
Bloom color: Yellow
Bloom season: Fall
Height: 4-6'
Remarks: Can form large masses; not suitable for small areas. Attracts bees and birds.

Iris, Northern Blue Flag (Iris versicolor)
Light: Part sun/Part shade
Soil moisture: moist/avg
Bloom color: Purple
Bloom season: Summer
Height: 3'
Remarks: Tolerates complete submergence, but also can be easily grown in most gardens. Attracts hummingbirds.

Ironweed, New York (Vernonia noveboracensis)
Light: Part sun/Part shade
Soil moisture: Moist/wet
Bloom color: Deep Purple
Bloom season: Summer
Height: 6-8'
Remarks: Very tall plant; suited for the back of a garden or meadow. Attracts birds and butterflies.

Joe Pye weed, spotted (Eutrochium maculatum)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: Purple/pink
Bloom season: Summer
Height: 5'
Remarks: Great meadow plant in mass. Somewhat deer resistant. Attracts butterflies and caterpillars of some moths.

Lily, Turk's cap (Lilium superbum)
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Orange
Bloom season: Summer
Height: 4-5'
Remarks: Large, spectacular lily with up to 40 flowers on a single plant. Attracts hummingbirds and butterflies.

Mallow, Rose (Hibiscus moscheutos)
Light: Sun/part shade
Soil moisture: Wet/avg
Bloom color: White/pink
Bloom season: Summer
Height: 5'
Remarks: Shrubby perennial with numerous sturdy stems arising from a single crown and large showy flowers. Attracts hummingbirds.

Marsh marigold (Caltha palustris)
Light: Wet
Soil moisture: Sun/part shade
Bloom color: Yellow
Bloom season: Spring
Height: 1-2'
Remarks: Glossy, heart -shaped leaves and large bright yellow flowers. Do not allow to dry out in summer. Attracts birds.

Meadow-rue, early (Thalictrum dioicum)
Light: Part sun/Part shade
Soil moisture: Wet/avg
Bloom color: Green-purple
Bloom season: Spring
Height: 2-3"
Remarks: Delicate green foliage. that stands out best when surrounded by native woodland groundcover. Larval host to 15 species of butterflies and moths.

Meadow-rue, tall (Thalictrum pubescens)
Light: Part sun/Part shade
Soil moisture: Moist/avg
Bloom color: White
Bloom season: Midsummer
Height: 3-10'
Remarks: Good background plant with attractive foliage for a woodland garden. Attracts butterflies & bees.

Milkweed, rose, or swamp
(Asclepias incarnata)
Light: Sun
Soil moisture: Avg/wet
Bloom color: Pink
Bloom season: Summer
Height: 2-4'
Remarks: Well-behaved for gardens. Attracts hummingbirds, bees & butterflies. Larval host for Monarch and Queen butterflies.

Mountain mint, clustered
(Pycnanthemum muticum)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 2-4'
Remarks: Beautiful blue-green foliage. Attracts a wide range of bees, wasps, flies, butterflies, and beetles seeking nectar.

Mountain mint, hairy
(Pycnanthemum verticillatum var pilosum)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 2-4'
Remarks: Very fragrant with long bloom period. Attracts a wide range of bees, wasps, flies, butterflies, and beetles.

Mountain mint, slender-leaf
(Pycnanthemum tenuifolium)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 1-3'
Remarks: Silvery fragrant foliage and long blooming period. Bees and butterflies use flowers.

Mountain mint, slender-leaf
(Pycnanthemum tenuifolium)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Summer
Height: 1-3'
Remarks: Silvery fragrant foliage and long blooming period. Bees and butterflies use flowers.

Obedient plant (Physostegia virginiana) *
Light: Sun/part shade
Soil moisture: Moist/avg
Bloom color: Pink/white
Bloom season: Summer
Height: 4'
Remarks: * GoBotany lists as "introduced in NE". USDA lists as native to Mass.

Phlox, fall or garden phlox, (Phlox paniculata) *
Light: Sun/part shade
Soil moisture: Avg/moist
Bloom color: Pink, white, purple
Bloom season: Summer
Height: 2-3'
Remarks: * GoBotany lists "native to the midwest."; USDA lists as native to Middlesex County, Mass.

Sneezeweed (Helenium autumnale)
Light: Sun/part shade
Soil moisture: Avg
Bloom color: Yellow/orange
Bloom season: Summer
Height: 5'
Remarks: East to grow. Attracts bees, butterflies, and wasps.

Spiderwort (Tradescantia ohiensis)
Light: Sun/part shade
Soil moisture: Avg/dry
Bloom color: Purple
Bloom season: Summer
Height: 2'
Remarks: Aggressive spreader. Attracts bees, butterflies, and wasps.

Sunflower, oxeye (Heliopsis helianthoides) *
Light: Sun/part shade
Soil moisture: Dry
Bloom color: Yellow
Bloom season: Summer/Fall
Height: 4-6'
Remarks: * GoBotany lists as native to NY-west and south. USDA lists as native to NE.

Sunflower, woodland (Helianthus divaricatus)
Light: Part sun/Part shade
Soil moisture: Dry
Bloom color: Yellow
Bloom season: Summer
Height: 5'
Remarks: A vigorous spreader that may be too aggressive for smaller gardens. Attracts birds.

Virginia meadow-beauty (Rhexia virginica)
Light: Sun/part shade
Soil moisture: Moist
Bloom color: Pink/purple
Bloom season: Spring-Summer
Height: 1-3"
Remarks: Native habitat is wetlands and wet meadows. Attracts bees.

Wild Geranium, Cranesbill
(Geranium maculatum)
Light: Part sun/Part shade
Soil moisture: Avg/dry
Bloom color: Pink/purple
Bloom season: Spring-Summer
Height: 1-2'
Remarks: Great shady woodland border plant or for slopes. It can spread quickly. Seeds attract birds.

Violet (Viola sororia)
Light: Part sun/Part shade
Soil moisture: Moist/avg
Bloom color: Purple
Bloom season: Spring/Summer
Height: 8-12"
Remarks: Spreads quickly. Good to mix in with alternative lawns, or use as a groundcover. Seeds attract birds.

PERENNIALS - PART SHADE/FULL SHADE

American spikenard (Aralia racemosa)
Light: Part Shade/shade
Soil moisture:
Bloom color: White
Bloom season: Summer
Height: 5'
Remarks: Large, shrubby plant ideal for shade gardens. Grown primarily for its spectacular tiny berries, which grow in great clusters and attract birds.

Aster, heart-leaved, or blue wood (Symphotrichum cordifolium)
Light: Sun - Part shade
Soil moisture: moist
Bloom color: Blue-Purple
Bloom season: Summer-Fall
Height: 3'
Remarks: Many insects feed on the leaves. Attracts bees and butterflies. Larval host plant for Pearl and Northern Crescent butterflies and many moths.

Bloodroot (Sanguinaria canadensis)
Light: Part Shade/shade
Soil moisture: **Wet/avg**
Bloom color: White
Bloom season: Early Spring
Height: 6-10"
Remarks: One of the first flowers to bloom in the spring. The unique leaves last through midsummer. Can spread rapidly and make an excellent ground cover. Seeds are dispersed by ants.

Cardinal flower (Lobelia cardinalis)
Light: Sun/part shade
Soil moisture: Moist/wet
Bloom color: Red
Bloom season: Summer
Height: 1-4'
Remarks: Showy red blooms. Particularly attractive at the edge of a woodland garden. Attracts birds, butterflies & hummingbirds.

Columbine red (Aquilegia canadensis)
Light: Part sun/Part shade
Soil moisture: Dry/avg
Bloom color: Red & Yellow
Bloom season: Spring/Summer
Height: 3'
Remarks: Eye-catching blossoms with delicate foliage. Attracts birds, bee, butterflies and hummingbirds.

Dutchmans breeches (Dicentra cucullaria)
Light: Partial shade/shade
Soil moisture: Moist
Bloom color: White
Bloom season: Early spring
Height: 10-12"
Remarks: Spring ephemeral with unique flowers that can spread quickly in right conditions. Attracts bees.

Ginger, Canada (Asarum canadense)
Light: Part shade/shade
Soil moisture: Moist/avg
Bloom color: Purple/brown
Bloom season: Spring
Height: 6-10"
Remarks: Excellent groundcover for deep shade; large, heart-shaped leaves with inconspicuous flowers below the leaves. Attracts butterflies and is larval host for Pipevine Swallowtail Butterfly.

Goldenrod, blue-stemmed, or Wreath (Solidago caesia)
Light: Part shade/shad
Soil moisture:
Bloom color: Yellow
Bloom season: Fall
Height: 1-3'
Remarks: A small, delicate goldenrod that is not aggressive and perfect for a shady garden. Attracts bees, birds and butterflies and is an important late season food source.

Goldenrod, zig-zag (Solidago flexicaulis)
Light: Part shade/shade
Soil moisture:
Bloom color: Yellow
Bloom season: Fall
Height: 2-4'
Remarks: Easy to grow and not aggressive. Zig-zag stems with a small flower Attracts bees, birds and butterflies and is an important late season food source.

Joe-Pye weed, spotted (Eutrochium maculatum)
Light: Sun/part shade
Soil moisture: Avg/wet
Bloom color: Purple/pink
Bloom season: Summer
Height: 5'
Remarks: Great meadow plant in mass. Somewhat deer resistant. Attracts butterflies and caterpillars of some moths.

Joe Pye weed, sweet (Eutrochium purpureum)
Light: Sun/shade
Soil moisture:
Bloom color: Purple/pink
Bloom season: Mid-late Summer
Height: 6'
Remarks: For meadow or woodland edges. An important food source, this plant attracts pollinators by the score, including bees, butterflies and birds.

Jack in the pulpit (Ariseama triphyllum)
Light: Partial Shade/shade
Soil moisture:
Bloom color: Purple/brown
Bloom season: Spring
Height: 1-3'
Remarks: Excellent for woodland gardens. Easy to cultivate and requires very little care. Attracts bees and birds.

Meadow-rue, tall (Thalictrum pubescens)
Light: Part sun/Part shade
Soil moisture: Moist/avg
Bloom color: White
Bloom season: Midsummer
Height: 3-10'
Remarks: Good background plant with attractive foliage for a woodland garden. Attracts butterflies & bees.

Rue anemone (Thalictrum thalictroides)
Light: Part sun/Part shade
Soil moisture: Wet/avg
Bloom color: White
Bloom season: Spring
Height: 10"
Remarks: Delicate blossoms in early spring; easily cultivated in wildflower gardens. Food for early spring bees and flies.

Solomon seal, false (Maianthemum racemosum)
Light: Part shade/shade
Soil moisture: Avg/dry
Bloom color: White
Bloom season: Spring
Height: 1-2'
Remarks: Lovely when grown en masse in a shady woodland garden. White flowers give way to red berries. Attracts bees, beetles, moths, flies, and other pollinating insects.

Solomon seal, king (Polygonatum biflorum)
Light: Part shade/shade
Soil moisture: Dry/moist
Bloom color: Yellow-green
Bloom season: Spring
Height: 2-3'
Remarks: Stately arching stems for dramatic effect in a woodland garden. Attracts hummingbirds, other birds and butterflies.

Trillium, Nodding Wakerobin (Trillium cernuum)
Light: Shade
Soil moisture: Moist
Bloom color: White
Bloom season: Spring
Height: 12-18"
Remarks: Perfect for a woodland garden. Although beetles, bumble bees, and moths partake of some nectar, this plant's seeds are dispersed by ants.

Trillium, Red or Wakerobin (Trillium erectum)
Light: Shade
Soil moisture:
Bloom color: Red
Bloom season: Spring
Height:
Remarks: Also known as Stinking Benjamin, its lovely red flower has a rancid odor to attract it's pollinators, which are flies and beetles.

Trillium, White or White Wakerobin (Trillium grandiflorum)
Light: Shade
Soil moisture: Moist/avg
Bloom color: White/pink
Bloom season: Spring
Height: 8-15"
Remarks: One of the most beloved spring woodland wildflowers. Bees and other pollinating insects enjoy the nectar from the flowers. Moths use this plant as a larval host.

Trillium, painted, or painted wakerobin (Trillium undulatum)
Light: Shade
Soil moisture: Moist/avg
Bloom color: White & pink/purple
Bloom season: Spring
Height: 8-16"
Remarks: Very show bloom for a shady garden. Has limited wildlife value. Pollinated by wasps and flies. All trilliums are attractive to deer.

Trout lily (Erythronium americanum)
Light: Shade
Soil moisture: Wet
Bloom color: Yellow
Bloom season: Early Spring
Height: 6-8"
Remarks: Forms large colonies, but can take 5 years to produce a flower. The plants gradually wither away by summer and go dormant until the next spring.

Turtlehead, white (Chelone glabra)
Light: Part shade/shade
Soil moisture: Moist
Bloom color: White
Bloom season: Summer-Fall
Height: 3-6'
Remarks: Provides a striking backdrop. Attracts bees, butterflies and moths. Larval host for Baltimore Checkerspot Butterfly.

Wild Geranium, Cranesbill (Geranium maculatum)
Light: Part sun/Part shade
Soil moisture: Avg/dry
Bloom color: Pink/purple
Bloom season: Spring-Summer
Height: 1-2'
Remarks: Great shady woodland border plant or for slopes. It can spread quickly. Seeds attract birds.

White wood aster, (Eurybia divaricata)
Light: Part shade/shade
Soil moisture: Dry/avg
Bloom color: White
Bloom season: Fall
Height: 2-3'
Remarks: Use at woodland edges. Birds & mammals eat the seeds. Bees & butterflies depend on asters for late season food. Larval host for the Pearl Crescent Butterfly.