

Gardening for Habitat

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Ecological context: We live in a place that was recently glaciated and even more recently colonized. In the past 200 years, many new species have been introduced and various human activities have caused very rapid climate change. All this has brought us to a situation where many habitats are at risk of being lost or seriously degraded. “Hands off” type management turns out to not be a feasible option for many areas. Whether you are managing 10 sq ft or 10 sq miles your choices have a impact on habitat quality. Luckily, with a little thought and care, having a positive impact on the habitat you live in can be pretty easy, not mention fun!

The Importance of Native Plants: Because plants are the base of terrestrial habitats having suitable plants around is necessary for most other species to survive. While non-native plants often provide some level of habitat for generalist pollinators, this doesn’t account for specialist pollinators and when we start to examine plants that support caterpillars (a important food source for birds and other animals) the numbers skew even further towards native plants being very important. Seed grown “straight species” as opposed to clonal cultivar / “nativar” plants generally offer better habitat and protect the gene pool of the plants themselves. While they are currently a bit hard to find in the marketplace, local ecotype plants are probably the very best choice possible for habitat gardens. With the climate shifting rapidly, it is also worth considering near native plants, especially those whose historic ranges are to our south and west.

What to leave, what to plant: Before considering what to plant, it’s generally a good idea to figure out what you already have! Identifying every plant in your landscape is a admirable goal, but not strictly necessary. A general understanding of what is growing where is all that’s really required. Books like [Wildflowers of New England by Ted Elliman](#), websites like [Go Botany](#) and apps like [Inaturalist](#) are all very helpful. Plants you might want to consider removing include: any plants [considered invasive](#), non-native trees, lawns, any non-native plants without known human or ecological benefit. No need to do it all at once or remove all plants that don’t particularly serve the ecology. Aiming for 75% native plants is a good goal. This 75% should be calculated by leaf area, so those native trees matter quite a bit.

- When it come to what to plant, trees are a good place to start. Do you have at least a couple native trees in your landscape? If not, planting one or two might be a high priority for creating habitat. My top picks would be Oaks, Willows, Maples and native Cherries/Plums. Many landscapes already have lots of native trees, or lack suitable space for more trees, so don’t worry if you don’t have a spot for a new tree.
- Sunny areas can provide a space for many native species of perennials to thrive, some of these species are experiencing significant loss of habitat as most non-forest areas of the state are either cultivated with non-native species, or have significant pressure from invasive species.
- Native shrubs provide many important habitat niches as well as food for many insects, birds... and humans too!

Styles of garden: A ecological garden can be arranged many different way and can have many different aesthetic qualities. That said, some of landscape styles and practices that we have become accustomed to create inherently poor habitat and should probably be abandoned.

- Lawns catch a lot of flak for being ecological disasters, and a lot of that is probably deserved. That said, lawns do often serve important functions (like outdoor play), a no other planted landscape feature can take sustained foot traffic like turf grass. I advise replacing lawns/mown grass area where they do not serve a function and diversifying areas that make sense to keep.
- “Traditional” Beds can be excellent habitat spaces when planted with suitable species. However the aesthetic and management practices commonly associated with this style of landscaping are not conducive to high quality habitat.
- Meadows are open sunny or part shade areas with minimal or no woody species and complete coverage of grasses and other herbaceous plants. They nearly always require some sort of maintenance to keep them from growing into woodlands. Careful annual or bi-annual mowing or burning plus occasional hand weeding of woody plants is usually good. Meadows can be established relatively cheaply by direct seeding, typically in the fall. Lots of good info at <https://wildseedproject.net/2022/03/return-of-the-meadow/> Seed mix recommendations at edgewood-nursery.com/s/meadowseed.pdf

Management: Even with a wonderful slate of plants a suburban landscape isn't always a good habitat for many species. Some landscape management strategies are very detrimental to wildlife, lucky for us, they are pretty easy to avoid. Good ecological management could fill lifetimes of study, but the basics can be boiled down to "don't screw up natural processes". Here are some rules of thumb, exceptions exist to all of them.

- Avoid using poisons of all kinds. Obviously herbicides, pesticides, fungicides etc are bad for habitat quality...but sometimes as a last resort they can be an important tool. Avoiding pesticides includes plants grown with systematic pesticides, avoid big box stores and support small local nurseries.
- Avoid jumping the gun on "cleaning up", while cutting back herbaceous plants and removing fallen leaves in autumn is a common aesthetic practice, it destroys important overwintering habitat for many species. Once spring temps are consistently over 50° F you can tidy up a bit as needed. Even then, I tend to cut material down and let it sit on the ground and decay in place. Some exceptions include pruning woody plants and disease or pest issues in cultivated plants. Most of the time insects eating the plants in your garden is what you want, not a pest issue, Cabbage moths on your Broccoli is a pest issue.
- Many species use standing dead wood. If managing woodlands, leaving some standing dead wood is a good idea. In a urban/suburban environment you can create habitat for these species by simply leaving large chunks of wood around to rot. Holes can be drilled in these pieces of wood to provide nesting habitat.
- Deer can be a issue in habitat gardening. Like anything munching on your garden, Deer are part of the ecosystem and need to eat something. However without their natural predators, their populations and behavior can get out of wack and have detrimental effects on habitat. Hunting and installing Deer fences can have large impacts, but often if something is needed, a short term fence around a specific planting is often enough.

Disturbance and Succession: Succession is a ecological process where habitats change over time. Around here most areas will become old growth forest, given a several hundred years. Disturbance is a force that moves succession in the opposite direction, disturbances include cuttings trees, bulldozing, tilling, extreme weather and fire. Once established, a habitat garden may experience succession or you can create disturbances to keep succession from happening. Common small disturbances would be mowing, prescribed fire, pulling weeds/tree seedlings etc. Too much disturbance can damage habitat quality and animal populations, so use these tools with care.

Adding habitat features: Across a broader landscape many features exist that might not be in your current garden, if you want to provide habitat for the maximum amount of species you can consider adding one or more of these.

- Water features can range from a 1 sq foot mud puddle (which provides habitat and nesting material for insects) to a 1' deep mini pond (which provides reproductive habitat for amphibians + insects) to a 4+ ' deep pond (which would provide overwintering habitat for amphibians, turtles, fish etc).
- While covering soil with plants and/or leaf mulch is generally desirable, having a little bare ground for ground nesting insects is nice. This area should not be in a path or other area with foot/vehicle traffic. If your soil is heavy/clay digging a hole and filling it with sandy soil adds another type of ground nesting habitat.
- If standing dead / fallen trees are not present, you can add large chunks of untreated wood. Laying on the ground or standing upright. Woodpecker holes are a important habitat feature of woodlands, if not present, you can add bird boxes to fill that niche.










Establishing New Plantings: My preferred method for starting a new bed is sheet mulching, which involves mowing the area, then laying a layer cardboard or several layers of newspaper over existing vegetation. This smothers it out and creates a blank slate to put in new plants. Compost and other amendments can be placed under the sheet layer, but are often not needed for native plants. Leaves, wood chips, hay, or other mulch layers are placed on top of the sheet layer. You can plant into a fresh sheet mulch by cutting holes in the sheet layer, or let it sit for a season. The sheet layer will completely biodegrade in 1 year. Be careful to remove plastic tape and labels from cardboard before using. Where sheet mulching is not practical (steep slopes, high density of woody plants, Japanese Knotweed) some other options are occlusion (covering the area with a silage tarp for a season), prescribed fire, tillage and in some circumstances careful use of herbicide. Most people are familiar with planting in spring (late April to mid June), but fall planting (Early September to early October) is also a good time. Summer planting is possible, but more difficult.

Additional Resources:










- Wild Seed Project (wildseedproject.net) has a huge amount of great info on habitat gardening. Consider joining the organization to receive their annual publications. They are also a great source for native plant seeds.
- The book [Bringing Nature Home by Douglas W. Tallamy](#) has inspired a huge number of people to garden for habitat, it is available at many local libraries and through [MaineCat/ILL](#)
- The Xerces Society for Invertebrate Conservation (xerces.org/) has a huge amount of info on insect habitat and conservation.
- Maine Audubon (maineaudubon.org) has several types of information available, from native plant gardening to woodland management and many others.
- Plant Lists: These plant lists are extremely helpful when thinking about what to plant in a habitat garden.
 - Wild Seed Project has several great plant lists at <https://wildseedproject.net/plant-lists/>
 - Plants for Pollinators - <https://xerces.org/publications/plant-lists/pollinator-plants-northeast-region>
- You can buy a selection of native plants from me at [Edgewood Nursery](#) or find many other local nurseries listed at <https://wildseedproject.net/buy-native-plants/>

My favorite plants for habitat: This list doesn't necessarily represent the "best" habitat plants, they are simply some of my favorites. Many are human edible as well as providing food and other resources for non-human animals. See plant lists above for more options and details.







Trees

| Name | Sun | Soil | Form | Notes |
|-------------------------------------|--|-------------------------------|---------------------|--|
| Oaks (Quercus) |   | Any (depending on species) | Large Tree | Hosts massive numbers of insects and birds. Human edible nuts (acorns) require processing but are very abundant in most years |
| Willows (Salix) |   | Moderate to Damp | Shrub to Large Tree | Many native species to choose from. Fast growing. Many human uses as medicine or material. Check out living fences and structures! |
| Wild Cherries and Plums (Prunus) |   | Depends on Species | Shrub to Large Tree | Several native species, often with beautiful flowers and human edible fruit. Beach Plum (<i>P. maritima</i>) and American Plum (<i>P. Americana</i>) are my faves. |
| Maples (Acer) |    | Moderate to Damp | Small to Large Tree | Sugar and red maples can be tapped for syrup. All species host many insects. Beautiful fall color. |











Shrubs

| Name | Sun | Soil | Form | Notes |
|------------------------------------|--|-------------------------------|-----------------------|---|
| Blueberries (Vaccinium) |   | Acidic | Small to Medium Shrub | Tasty berries and great fall color, plus provides habitat for many insects. Needs acidic soil to do well. Fruits best in full sun and with plenty of water. |
| Viburnums (Viburnum) |    | Any (depending on species) | Medium to Large Shrub | Several local species. V. Trilobum has most edible fruit (cooked). Some species get leaf roller damage. |
| Shadbush (Amelanchier) |   | Dry to Moderate | Small to Medium Shrub | A few local species. All have pretty flowers and tasty fruit. Occasionally gets rust diseases. |
| Elderberries (Sambucus) |   | Moderate to Damp | Medium to Large Shrub | 2 local species, S. Nigra is much better for human consumption (cooked). Very easy to start from cuttings. Likes the edge of a damp area. |

Vines

| | | | | |
|--|---|------------------|-----------------|--|
| Grapes (Vitis) |   | Well drained | Woody Vine | A few local species, but V. Labrusca is my fave. Grow on a trellis and prune annually for best production. |
| Wild clematis (Clematis virginiana) |   | Moderate to Damp | Herbaceous Vine | Clouds of pretty white flowers. Nice for covering a fence or small arbor. |
| Ground Nut (Apios americana) |   | Moderate to Damp | Herbaceous Vine | Tends to run around a bit. Beautiful flowers and compound leaves. Edible tubers are high in protein and quite tasty. |

Perennials

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|--|---|------------------|---------------------|---|
| Sochan (Rudbeckia laciniata) |   | Moderate to Damp | Large Running Herb | Large colony forming perennial sunflower. Human edible greens are very tasty. Provides nectar to pollinators and seeds for fall/winter birds. |
| Golden Alexanders (Zizia aurea) |   | Moderate to Damp | Small Clumping Herb | Early blooming member of the Carrot family (Apiaceae) provides nectar for specialist insects, also hosts lack swallowtail butterfly caterpillars. |
| Mountain Mints (Pycnanthemum) |   | Most Soils | Medium Running Herb | Several local species with P. Muticum being my favorite. Leaves have a “mintier than mint” flavor. Extremely attractive to pollinators. Less spready then regular Mint. |
| Wild Beebalm (Monarda fistulosa) |   | Dry to Medium | Medium Running Herb | Very attractive to pollinators and makes a nice culinary herb and tea for humans. |
| Common Milkweed (Asclepias syriaca) |   | Dry to Medium | Medium Running Herb | Host plant for Monarch Butterflies and other specialists. Also a great perennial vegetable for humans (certain parts, cooked). |

