

Additional Resources

Thetford Conservation Commission Native Gardening Series
with Alicia Houk

Ecological Garden Checklist

Plants:

- ☐ Canopy trees
- ☐ Small trees
- ☐ Shrubs
- ☐ Perennials
- ☐ Grasses
- ☐ Sedges
- ☐ Groundcovers
- ☐ Self-seeding annuals
- ☐ Flowers in the lawn
- ☐ Keystone species for moths and solitary bees
- ☐ Early spring flowers for bumblebees
- ☐ Plants for your favorite butterflies (and milkweed!)
- ☐ Flowers for early spring through late fall
- ☐ 70% of plants native to the northern forest ecoregion
- ☐ Tree underplantings for “caterpillar pupation sites”
- ☐ Putting “the right plant in the right place”
- ☐ Bare earth!

Home and Garden Maintenance:

- ☐ Leave plants standing through winter for insects and winter interest
- ☐ Trim back after 2 weeks above 50 degrees, leaving 12”-20” of stem
- ☐ Trim back by 6 inch increments and leave as mulch around plant or...
- ☐ If mulch or leaves need to be removed from more formal gardens, move them to the more naturalistic garden spaces
- ☐ Keep whole leaves -they make great mulch for garden beds
- ☐ Refrain from pesticide use
- ☐ Avoid chemical fertilizers for the lawn (plant nitrogen fixing clover instead)
- ☐ Remove invasive species
- ☐ Mow at 4 inches or more in morning or afternoon to avoid collisions with evening wildlife
- ☐ Install window well covers to keep toads, frogs etc. from becoming trapped and dying
- ☐ Reduce light pollution (and insect mortality) with motion sensor security lights
- ☐ Make windows safe for birds

Butterfly and Moth Gardening Summary

Planting

- Include keystone trees and perennials
- Include host plants and nectar plants for your favorite butterflies
- Create garden beds under trees to catch leaves and create habitat for 90% of caterpillars in your trees
- Site gardens in sunny spots (near where you like to sit is especially recommended)
- Put plants in little drifts/groupings of a single species
- Aim for at least 70% of the garden in plants native to the Northern Forest Ecoregion (NH, VT, ME)
- Small groves of trees/shrubs have more stability than singular trees
- Plant lots of milkweed!
- Make sure the garden provides fall nectar for monarchs and others

Maintenance

- For overwintering try to keep some logs, branches and brush piles available for butterflies
- Don't chip branches in the fall
- Leave plant stalks in place through winter
- Leave the leaves, and try to keep as many whole leaves in the yard as possible
- Please do not use pesticides

Other fun things

- Consider basking rocks, butterfly fruit feeders, and puddling places
- Plant white clover in your grass

Top 10-ish attractive nectar plants for garden butterflies (just my opinion)

Common milkweed, swamp milkweed

New England aster, smooth aster

Joe Pye Weeds

Northern blazing star, Button blazing star

Purple Coneflower

Showy goldenrod

Beebalm (Monarda)

Mountain mints

New Jersey Tea

Buttonbush

Monarch Nectar Plants – Northeast, Xerces Society

<https://xerces.org/publications/plant-lists/monarch-nectar-plants-northeast>

Solitary Bee and Bumblebee Gardening Summary

Planting

- Include flowers for specialist wild bees
- Include early spring woodland flowers, flowering shrubs and trees for bumblebees
- Ensure multiple species of flowers are blooming throughout early spring through late fall
- Don't forget sunflowers!

Nest Sites

- **Solitary bees**
 - Create or allow bare soil for ground nesting bees (70% of solitary bees), on a southern slope is even better
 - Leave plant stems through winter: goldenrod, elderberry, cranberry, gooseberry, cane berries, sumac, joe pye weed, and various grasses provide hollow or pithy stems and are attractive to bees
 - When cutting back, leave 18" to 2' of stalk remaining
 - Allow snags or logs for beetle burrows for cavity nesters
- **Bumblebees**
 - Bumblebees need a cavity, with protection from rain, and digging predators
 - Surface: under bunch grasses, cavities in dead trees, fallen logs, rock piles, brush piles
 - Underground: abandoned rodent nests -most bumblebees nest underground!

Winter Shelter/Maintenance

- Leave plant stalks standing through winter for solitary bees
- Leave bunch grasses for bumblebee queens
- Try to leave snags, logs, brush piles when/where possible for bumblebees and solitary bees
- Leave the leaves as much as you can -bumblebee queens often overwinter underground beneath layers of leaves
- Please don't use pesticides

Useful Websites

Vermont Center for Ecostudies Specialist Bees

<https://val.vtecostudies.org/projects/vtbees/specialists/>

Flowering Times Spreadsheet

<https://docs.google.com/spreadsheets/d/1ydS4KfWbqmgkmIBH6IjDJd9W70g3QsgzzcA15ginKCs/edit#gid=0>



Keystone Native Plants

Northern Forests – Ecoregion 5

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

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


















There are two types of keystone plants:








-  Host plants that feed the young caterpillars of approximately 90% of butterflies and moths (Lepidoptera).
-  Plants that feed specialist bees who only eat pollen from specific plants. Keystone plants for native bees feed both specialist and generalist bees.

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

Top Keystone Plant Genera in Northern Forests – Ecoregion 5

A genus is a taxonomic category of plants that contains one or more species of plants with similar characteristics. Species within each genus have adapted to local conditions and are the appropriate native species or varieties suited to a specific ecoregion.

Plant Type	Plant Genus	Sample of Common Species (not all encompassing)	# Caterpillar Species that Use this as a Host Plant	# of Pollen Specialist Bee species that Rely on this Plant
Trees	<i>Quercus</i>	White oak (<i>Quercus alba</i>), Black oak (<i>Quercus velutina</i>)	445 	
	<i>Prunus</i>	American plum (<i>Prunus americana</i>), Black cherry (<i>Prunus serotina</i>), Chokecherry (<i>Prunus virginiana</i>)	409 	
	<i>Betula</i>	Yellow birch (<i>Betula alleghaniensis</i>), Paper birch (<i>Betula papyrifera</i>)	385 	
	<i>Populus</i>	American aspen (<i>Populus tremuloides</i>), Balsam poplar (<i>Populus balsamifera</i>)	337 	
	<i>Malus</i>	Sweet crabapple (<i>Malus coronaria</i>)	285 	
	<i>Acer</i>	Silver maple (<i>Acer saccharinum</i>), Sugar maple (<i>Acer saccharum</i>)	276 	
	<i>Alnus</i>	Gray alder (<i>Alnus incana</i>)	245 	
	<i>Pinus</i>	Red pine (<i>Pinus resinosa</i>), Eastern white pine (<i>Pinus strobus</i>)	235 	
	<i>Vaccinium</i>	Lowbush blueberry (<i>Vaccinium angustifolium</i>), Cranberry (<i>Vaccinium macrocarpon</i>)	276 	6 
Shrubs	<i>Salix</i>	Pussy willow (<i>Salix discolor</i>), Prairie willow (<i>Salix humilis</i>), Black willow (<i>Salix nigra</i>)	397 	12 
	<i>Solidago</i>	Canada goldenrod (<i>Solidago canadensis</i>), Gray goldenrod (<i>Solidago nemoralis</i>), Giant goldenrod (<i>Solidago gigantea</i>)	120 	22 
Flowering Perennials	<i>Symphotrichum</i>	Calico aster (<i>Symphotrichum lateriflorum</i>), Swamp aster (<i>Symphotrichum puniceum</i>), New England aster (<i>Symphotrichum novae-angliae</i>)	9 	16 
	<i>Helianthus</i>	Pale leaf sunflower (<i>Helianthus strumosus</i>), Thin leaf sunflower (<i>Helianthus decapetalus</i>)	53 	22 

	<i>Rudbeckia</i>	Black-eyed Susan (<i>Rudbeckia hirta</i>), Green-headed coneflower (<i>Rudbeckia laciniata</i>)	14 	17 
	<i>Grindelia</i>	Curlycup gumweed (<i>Grindelia squarrosa</i>)		16 
	<i>Coreopsis</i>	Lanceleaf coreopsis (<i>Coreopsis lanceolata</i>), Plains coreopsis (<i>Coreopsis tinctoria</i>)		9 
	<i>Bidens</i>	Nodding bur marigold (<i>Bidens cernua</i>), Three-lobed beggarticks (<i>Bidens tripartita</i>)		7 
	<i>Cirsium</i>	Swamp thistle (<i>Cirsium muticum</i>)		7 
	<i>Verbesina</i>	Wingstem (<i>Verbesina alternifolia</i>)		7 



Top 30 Keystone Plant Genera for Butterfly and Moth Caterpillar

Genus	Common Plant Name	# of Caterpillar Species that use this as a Host Plant
<i>Quercus</i>	oak	445
<i>Prunus</i>	almond, apricot, cherry, peach, plum	409
<i>Salix</i>	willow	397
<i>Betula</i>	birch	385
<i>Populus</i>	aspen cottonwood poplar	337
<i>Malus</i>	apple	285
<i>Acer</i>	maple	276
<i>Vaccinium</i>	blueberry, cranberry deerberry	276
<i>Alnus</i>	alder	245
<i>Pinus</i>	pine	235
<i>Carya</i>	hickory	206
<i>Ulmus</i>	elm	187
<i>Picea</i>	spruce	144
<i>Crataegus</i>	hawthorn	156
<i>Rubus</i>	blackberry raspberry	153
<i>Tilia</i>	basswood	146
<i>Fraxinus</i>	ash	133
<i>Juglans</i>	walnut	125
<i>Corylus</i>	hazel	129
<i>Solidago</i>	goldenrod	120
<i>Fagus</i>	beech	127
<i>Castanea</i>	chestnut	121
<i>Abies</i>	fir	116
<i>Rosa</i>	rose	119
<i>Cornus</i>	dogwood	116
<i>Larix</i>	larch	113
<i>Amelanchier</i>	serviceberry	113
<i>Viburnum</i>	viburnum	102
<i>Tsuga</i>	hemlock	110
<i>Symphotrichum</i>	aster	108



Top 30 Native Host Plants for Pollen Specialist Bees

Genus	Common Plant Name	# of Pollen Specialist Bee Species Relying on this Plant
<i>Helianthus</i>	sunflower	22
<i>Solidago</i>	goldenrod	22
<i>Rudbeckia</i>	Black-eyed Susan	17
<i>Grindelia</i>	gumweed	16
<i>Symphotrichum</i>	aster	16
<i>Salix</i>	willow	12
<i>Coreopsis</i>	tickseed	9
<i>Bidens</i>	beggartick	7
<i>Cirsium</i>	thistle	7
<i>Verbesina</i>	wingstem	7
<i>Euthamia</i>	goldentop	6
<i>Silphium</i>	rosinweed	6
<i>Vaccinium</i>	blueberry, cranberry deerberry	6
<i>Erigeron</i>	fleabane	5
<i>Ratibida</i>	prairie coneflower	5
<i>Vernonia</i>	ironweed	5
<i>Cornus</i>	dogwood	4
<i>Heterotheca</i>	goldenaster	4
<i>Physalis</i>	groundcherry	4
<i>Astragalus</i>	milkvetch	3
<i>Dalea</i>	prairie clover	3
<i>Echinacea</i>	coneflower	3
<i>Lotus</i>	bird's foot trefoil, deervetch	3
<i>Lysimachia</i>	loosestrife	3
<i>Eurybia</i>	aster	2
<i>Gaillardia</i>	blanketflower	2
<i>Heliopsis</i>	heliopsis	2
<i>Hieracium</i>	hawkweed	2
<i>Kalmia</i>	laurel	2
<i>Lupinus</i>	lupin	2

Host and Nectar Plants for Butterflies in New England

Butterfly	Host Plants	Nectar favorites
Monarch	Milkweeds	Blazingstars, Joe-Pye-weed, Asters, Echinacea
Canadian Tiger swallowtail	Birch, aspen, willows, poplars, black cherries	Many, milkweeds
Black Swallowtail	Dill, curly parsley, fennel	Milkweeds, Joe-Pye-weed, blazingstars, also curly parsley, bronze fennel
Giant Swallowtail	Northern prickly ash	Swamp milkweed, wild bergamot, ironweed
Eastern Tiger Swallowtail	Black cherry, sweet bay magnolia, chokecherry, ash, tulip tree	Crabapples, wild plums, buttonbush, Joe-Pye-weed, garden phlox
Spicebush Swallowtail	Sassafras, spicebush, sweetbay magnolia	Milkweeds, Joe-Pye-weed, blazingstars, native thistles
Checkered white	Peppergrass, Shepherd's purse, wintercress	Asters, blazingstars, milkweeds
West Virginia White*	Tootworts, <i>Cardamine spp.</i> , Rock cress <i>Arabis spp.</i>	Toothworts, spring beauty, violets
Clouded and Orange Sulphur	Alfalfa, white clover, vetches	Clover, milkweeds, asters, goldenrods, vervains, dogbane, marigolds
Cloudless Sulphur	Partridge pea, wild senna	Cardinal flower, hibiscus,
Little Yellow	Asters, goldenrod	Partridge pea
Purplish, Bronze, American Coppers	Plants in the dock family	Yarrow, milkweeds, bluets, mountain mints, dogbane
Striped Hairstreak	Blue berries, wild cherry, plums, crab apples	New jersey tea, meadowsweet, sumacs, viburnums, milkweeds, goldenrods, yarrow
Banded Hairstreak	Oaks	New jersey tea, meadowsweet, sumacs, viburnums, milkweeds, goldenrods, yarrow
Coral Hairstreak	Wild cherry, wild plums, chokeberries	New Jersey tea, meadowsweet, milkweeds, coreopsis, bluets, mountain mints, black-eyed susan
Gray Hairstreak	Wide variety	Milkweeds, joe-pye-weed, mountain mints, goldenrod,
Juniper Hairstreak	Junipers	Dogwoods, wild plums, yarrow, milkweed
Edward's Hairstreak*	Scrub oak	dogbane, goldenrod, meadowsweet, milkweeds, New Jersey tea, staghorn sumac, and white sweet clover

Early Hairstreak*	Beech, Hazelnut	Fleabane, ox-eye daisy
Eastern tailed Blue	Clovers, lupine, vetches, milk vetches	Milkweeds, asters, dogbane, clovers, fleabanes
Spring and Summer Azures	Black cherry, dogwoods, New Jersey tea, sumacs, viburnums	New Jersey tea, black berries, milkweeds, dogbanes, clovers
Silvery Blue	Vetches, milk vetches, lupines	Late spring blooms from the aster family
Brown Elfin	Blueberries, bear berries	Blueberry, spicebush, wild plum
Eastern Pine Elfin	Young pines	Pussytoes, spicebush, wild plums, willows, blueberries
Silvery Checkerspot	Wingstem, asters, wild sunflowers, black-eyed susans	Milkweeds, coneflowers, black-eyed susans, dogbane, clover
Variegated fritillary	Violets, wild flax,	Milkweeds, asters, dogbane, clover
Great Spangled Fritillary	Violets	Native thistles, coneflowers, stiff coreopsis, joe-pye-weeds
Meadow Fritillary	Violets	Rudbeckias, Vervains, dogbane
Pearl Crescent	Asters, wild buckwheat, frogfruit	Milkweeds, asters, black-eyed susans,
Baltimore Checkerspot	White turtlehead, narrow leaved plantain (non-native)	Viburnum, milkweeds, mountain mints, native thistles
Question mark	Elms, hackberry, sugarberry, hops, nettles	Milkweeds, asters
Eastern comma	American Elm, hops, nettle	Sap, dung, overripe fruit
Mourning Cloak	Paper birch, hackberry, plums, willows, cottonwoods, wild roses	New Jersey tea, milkweeds, dogbanes
Milbert's Tortoiseshell	Nettles	Thistles, asters, goldenrods

American Lady	Pearly everlasting, pussytoes, dusty millers	Buttonbush, chives, milkweeds, mountain mints, milkweeds, asters, thistles, dogbanes, vetches
Painted Lady	wide variety, especially native thistles	Buttonbush, milkweeds, thistles, asters, coneflowers, ironweeds, joe-pye-weed
Red Admiral	Nettles	Coneflowers, asters, milkweeds, dogbane, clover,
Common Buckeye	Snapdragon, plantain, vervain families	Asters, cosmos, groundsel bush, seep willow
Viceroy	Cottonwoods, willows	Asters, joe-pye-weed, rattlesnake master, mountain mints, goldenrods, black-eyed susans
Hackberry and Tawny Emperor*	Hackberry	Milkweeds, rosinweed, cupplant, thistle
Red-Spotted Purple	Cottonwoods, chokecherry, black cherry, black oak, birch	Bass wood, linden, viburnum, coneflowers
Northern Pearly Eye	Bottlebrush grass, river oats, switch cane	Butterfly feeder at edge of woods
Little Wood Satyr	Variety of grasses	Dogwoods, sumacs, viburnums, milkweeds
Common Wood Nymph	Many grasses, bluestem, purpletop	Buttonbush, clematis, coneflowers, joe-pye-weed, wild geranium, wild sunflowers
Common ringlet	Many grasses	Rabbitbrush, coreopsis, goldenrods
Silver-Spotted Skipper	Black locust, indigo bushes, American wisteria	Buttonbush, woodmints, blazingstars, bergamots, thistles, dogbanes, clover
Northern and Southern Cloudywing	Button bushes, milkweeds, dogbanes, clover	Peas, vetches, milk vetches,
Juvenal, Horace's Duskywings	Young oaks	Redbud, wild plums, buttonbush, blackberries, Joe-Pye-Weeds, mountain mints, goldenrods, dogbane, clover
Wild indigo duskywing	Wild indigo, crown vetch	Wide variety, dogbane, black berry, clover
Common Checkered Skipper	Poppy mallows, mallows	Asters, mistflower, fleabanes, clovers, marigolds
Common Sootywing	Lambs quarters, amaranth	Gourds, melons, milkweeds, ironweeds, dogbanes, mints, clovers
Little Glassywing	Purple top grass	Common milkweed, dogbane
Mulberry Wing*	<i>Carex stricta</i> , Grass family	

Broad-winged Skipper*	<i>Carex spp.</i>	Swamp milkweed, thistle, blue vervain
Grass Skippers	Ornamental grasses, river oats	Vervains, self-heal
Cobweb Skipper*	Little bluestem, big bluestem	Wild strawberry, blackberry, birds foot violet, vervain
Dion Skipper*	<i>Carex spp.</i>	Button bush, sneezeweed
Two-spotted Skipper*	<i>Carex trichocarpa</i>	Blue flag iris, common milkweed, spiraea
Dusted Skipper*	Little bluestem, big bluestem	Wild strawberry, blackberry, phlox, vervain
Black Dash*	<i>Carex stricta</i>	Buttonbush, jewelweed, swamp thistle

***VT Species of Greatest Conservation Need**

Compiled from the The Gardener's Butterfly Book by Alan Branhagen, eButterfly www.e-butterfly.org
Vermont's Wildlife Action Plan 2015, National Wildlife Federation Native Plant Finder www.nwf.org/NativePlantFinder,
and Butterflies and Moths of North America (BAMONA) www.butterfliesandmoths.org

Early Spring Bumblebee Flowers

Trees:

Cherries *Prunus spp.*

Serviceberry *Amelanchier spp.*

Wild plum *Prunus americana*

Willow *Salix spp.*

Shrubs:

Pussy willow *Salix discolor*

Leatherwood *Dirca palustris*

Chokecherry *Prunus virginiana*

Blueberries *Vaccinium spp.*

Viburnums *Viburnum spp.*

Perennials:

Columbine *Aquilegia canadensis*

Wild strawberry *Fragaria virginiana*

Cream Wild Indigo *Baptisia bracteata*

Ohio spiderwort *Tradescantia ohiensis*

Spotted beebalm *Monarda punctata*

Beardtongue *Penstemon spp.*

Wild Geranium *Geranium maculatum*

Toothwort *Cardamine concatenata*

Woodland ephemerals:

Waterleaf *Hydrophyllum virginianum*

Dutchman's breeches *Dicentra cucullaria*

Spring Beauty *Claytonia virginica*

Trout lily *Erythronium spp.*

Bellwort *Uvularia grandiflora*

Bluebells *Mertensia virginica*

Jacob's ladder *Polemonium reptans*

Wild blue phlox *Phlox divaricata*

Deer Resistant Plants for the Northern Forest Ecoregion

Compiled from: Deer-resistant Plants for the Northeast by Ruth Claussen and Gregory Tepper (and various gardening podcasts)

Annuals and Biennials

Bearded beggar-ticks *Bidens aristosa*
Harlequin corydalis, *Capnoides sempervirens*, rock harlequin
Plains tickseed, *Coreopsis tinctoria**
Blanket flower, *Gaillardia pulchella**
Brown-eyed susan, *Rudbeckia triloba*

Perennials

Common yarrow, *Achillea millefolium*
Anise hyssop, *Agastache foeniculum**
Purple giant hyssop, *Agastache scrophulariifolia*
Yellow giant hyssop, *Agastache nepetoides*
White snakeroot, *Ageratina altissima*
Canada anemone, *Anemone canadensis*
Wild columbine, *Aquilegia canadensis*
Wild ginger, *Asarum canadense*
Rose Milkweed, *Asclepias incarnata*
Common milkweed, *Asclepias syriaca*
Butterflyweed, *Asclepias tuberosa*
Pearly everlasting, *Anaphalis margaritacea*
Blue wild indigo, *Baptisia australis*
Thistles, *Cirsium spp.*
Coreopsis, *Coreopsis spp.*
Purple coneflower, *Echinacea purpurea**
Joe Pye weeds, *Eutrochium spp.*
Sneezeweed, *Helenium autumnale*
Oxeye sunflower, *Heliopsis helianthoides*
Northern blue flag, *Iris versicolor*
Northern blazingstar, *Liatris scariosa* var. *nieuwlandii*
Cardinal flower, *Lobelia cardinalis*
Great blue lobelia, *Lobelia siphilitica*
Scarlet bee balm, *Monarda didyma*
Foxglove beardtongue, *Penstemon digitalis*
Jacob's ladder, *Polemonium reptans*
Mountain mints, *Pycnanthemum spp.*
Black-eyed susans/ Rudbeckias, *Rudbeckia spp.*
Goldenrods, *Solidago spp.*
Asters, *Symphyotrichum, etc.* -Mixed reports
Wild senna, *Senna hebecarpa*
Ironweeds, *Vernonia spp.*

Ferns

Northern maidenhair fern, *Adiantum pedatum*

Northern lady fern, *Athyrium filix-femina*

Marginal wood fern, *Dryopteris marginalis*

Ostrich fern, *Matteuccia struthiopteris*

Grasses/sedges

Tufted hair grass, *Deschampsia cespitosa*

Muhly grass, *Muhlenbergia capillaris*

Little blue stem, *Schizachyrium scoparium*

Prairie dropseed, *Sporobolus heterolepis*

Appalachian sedge, *Carex appalachica*

Spreading sedge, *Carex laxiculmis*

Pennsylvania sedge, *Carex pensylvanica*

Shrubs

Service berries, *Amelanchier spp.*

Buttonbush, *Cephalanthus occidentalis*

Chokeberries, *Aronia spp.*

New Jersey tea, *Ceanothus americanus*

Dogwoods, *Cornus spp.*

Shrubby St. John's wort, *Hypericum prolificum*

Winterberry, *Ilex verticillata*

Inkberry, *Ilex glabra*

Spicebush, *Lindera benzoin*

Northern bayberry, *Morella pensylvanica*

Arrowwood viburnum, *Viburnum dentatum*

Ohio buckeye, *Aesculus glabra*

* Native to U.S. but not the northern forest ecoregion, but beneficial to pollinators

Ecological Layers, Garden Design Summary

Planting

- Include all the ecological layers to provide an abundance and variety of habitat and food for birds and insects: Small trees, shrubs, vines, perennials, grasses and sedges, groundcover layer
- Improve lawn-forest edges by creating borders with small trees, shrubs, and vines that merge with perennial beds including flowers and ornamental native grasses, mimicking early successional habitat structure
- Good places to plant small trees and shrubs: Foundation plantings, underplanting canopy trees (especially important for moths and butterflies), fence borders or yard edges, little tree groves, allées, as screening, as “walls” for garden rooms, maybe a willow coppicing garden for garden structures and baskets

Design

- Consider creating layers in the perennial bed and varying heights of plant groupings. This allows for more openness in the garden and visibility of interesting foliage or plant forms. In my opinion, it feels more peaceful.
- Consider using grasses as a backdrop for ornamental, persistent seed heads
- Grasses are also wonderful for varying leaf texture and form in the garden
- Repetition of flowering plants or grasses in the garden creates cohesion and leads the eye through the garden
- Design elements to consider:
 - Garden beds and lawn area
 - Paths through beds for fun (and for weeding)
 - Screening
 - Ponds
 - Meadows
 - Allées, groves, hedges
 - Fire pit and seating
 - Seating/dining areas
 - Garden rooms
 - Pergolas
 - Fences and gates
 - Stonewalls
 - Themes -colors, edible flowers, natives for tea
 - Willows: living fences, living tunnels, coppicing, waddling

Help Keeping Out the Weeds

Ground covers and Self-seeding Annuals/Biennials/Short-lived Perennials

Green Mulch/Ground Covers

Golden groundsel *Packera aurea*

Running foam flower *Tiarella cordifolia* var. *Cordifolia*

Violets *Viola* spp.

White wood aster *Eurybia divaricata*

Wild strawberry *Fragaria virginiana*

Bearberry *Arctostaphylos uva-ursi*

Starry Solomon's plume *Maianthemum stellatum*

Pussytoes *Antennaria neglecta*

Wild ginger *Asarum canadense*

Green and Gold *Chrysogonum virginianum*

Barren strawberry *Geum fragarioides*

Moss phlox *Phlox subulata*

Creeping wood phlox *Phlox stolonifera*

Self-seeding Annuals

Black-eyed susan *Rudbeckia hirta*

Snow on the mountain *Euphorbia marginata*

White snakeroot *Ageratina altissima*

Annual fleabane *Erigeron annuus*

Swamp marigold *Bidens aristosa*

Spotted jewelweed *Impatiens capensis*

Spotted beebalm *Monarda punctata*

Common evening primrose *Oenothera biennis*

Biennial gaura *Gaura biennis*

Large-flowered clammyweed *Polanisia dodecandra* ssp. *trachyspermum*

Brown-eyed Susan *Rudbeckia triloba*

Cardinal flower *Lobelia cardinalis*

Columbine *Aquilegia canadensis*

Rabbit tobacco *Pseudognaphalium obtusifolium*

Blue waxweed *Cuphea viscosissima*

Partridge pea *Chamaecrista fasciculata**

Anise hyssop *Agastache foeniculum**

Yellow sneezeweed *Helenium amarum**

Blanket flower *Gaillardia aristata**

Plains coreopsis *Coreopsis tinctoria**

Foxglove beardtongue *Penstemon digitalis**

*Native to U.S. but not Northern Forest ecoregion

Getting the Garden Started Summary

Sheet Mulching

This is a great video that demonstrates how to sheet mulch as well as showing some lovely native gardens.

https://www.youtube.com/watch?v=Gsx_oj3x5zg

Just a few little notes: I often use newspaper to sheet mulch, 3 pages at a time, overlapping to create about 6 page layers, I've found this smothers well and decomposes faster, allowing me to sheet mulch, if possible, in February-March (in Iowa there wasn't as much snow!) and get planting in late May-June. Can you tell I am always running behind?

Cold Treating Seeds a.k.a. Cold-Moist Stratification

Some seeds need to break dormancy with a little moisture and some time in the cold. These are great explanations on how to get this done.

<https://www.prairiemoon.com/PDF/Prairie-Moon-Nursery.Seed-Starting-Basics.pdf>

<https://awildgarden.com/2021/01/13/lets-think-about-seeds-the-cold-treatment/>

<https://www.missouribotanicalgarden.org/Portals/0/Shaw%20Nature%20Reserve/PDFs/horticulture/Propagation.pdf>

Planting seeds

- Use trays or any pot you got
- Fill with moistened potting soil and press down
- Spread seeds
- Cover with correct depth of coarse sand*, or potting soil
- Keep moist until seeds germinate, then still water regularly
- When plants have 2 true leaves you can begin a weekly dilute fertilizer
- Put in a very sunny window, or make a light system
- Or put outside (protected with screen) to cold treat and germinate with spring

*recommended by Heather McCargo of Wild Seed Project

Seeds, Plants, and Information Resources

Prairie Moon Nursery www.prairiemoon.com

Northeast Pollinator Plants www.northeastpollinator.com

Wild Seed Project www.shop.wildseedproject.net

Wild Seed Project where to Buy Native Plants <https://wildseedproject.net/buy-native-plants/>

Bagley Pond Perennials www.bagleypondperennials.com

NWF Native Plant finder www.nwf.org/nativeplantfinder

Native Plant Trust plantfinder.nativeplanttrust.org

Flowering Times Spreadsheet

<https://docs.google.com/spreadsheets/d/1ydS4KfWbqmgkmIBH6IjDJd9W70g3QsgzzcA15ginKCs/edit#gid=0>

Where to find small trees and shrubs

New Hampshire State Forest Nursery <https://www.nh.gov/nhnursery/>

Fedco <https://fedcoseeds.com/trees/small-trees-and-shrubs>

Vermont Willow Nursery <https://vermontwillownursery.com/>

Prairie Nursery <https://www.prairienursery.com/plants-seeds/native-plants/shrubs-and-vines.html>

Cold Stream Farm <https://www.coldstreamfarm.net/>