

Powerhouse Kit

2025 Owner's Manual



Five native species that bloom from Spring to Fall to provide beauty in your yard and critical habitat for pollinators

Great Swamp Watershed Association Native Plant Program 2025

Kit Contents

A hummingbird's paradise, this garden is full of nectar producing flowers that do well in sunny areas. Hairy beardtongue and helmet skullcap start spring off with colors of whites, pinks and blues. Pink tubular flowers of obedient plant bloom in summer, followed by the electric-red cardinal flower and fluffy boneset blooms, taking the garden into fall. Spent seedheads of common boneset will provide forage for small mammals and songbirds in the colder months. This garden does best in sun to part sun and moist soils.

Your 25-plant plug kit includes five species that thrive in sunny gardens (6 hours of sun per day minimum) and average to moist soil conditions. The kit includes:

- Golden Ragwort, *Packera aurea*, 5 plugs
- Narrowleaf Mountain Mint, *Pycnanthemum tenuifolium*, 5 plugs
- New England Aster, *Symphyotrichum novae-angliea*, 5 plugs
- Spotted Beebalm, *Monarda punctata*, 5 plugs
- Zigzag Goldenrod, *Solidago flexicaulis*, 5 plugs

Important: Once you get home, check to see if your plugs need water. Keep their soil moist to the touch (but not soaked) until you are able to plant them in the ground.

Cover Photo Credits: Public Domain, Ginger Van Ryzin, Public Domain, Bob Peterson, R.W. Smith

Designing your garden: Design Considerations

Your Landscaping Style

These plants can fit any style from a formal garden to a naturalistic garden (like this design) to a wild garden with clumps. Pollinators will be equally happy with any of these.

Your Garden

This design can be easily altered to fit a deeper, wider, or curved garden bed. These designs use moderate 10-12-inch center-to-center plant spacings to easily fill a 80 or 50 square foot area. The goal is to eventually have plants pressing shoulder to shoulder for easier maintenance. Tightly spaced plants create a "green mulch" reducing the opportunity for weeds to sprout so that annual mulching is no longer required. You can choose to plant on a tighter spacing. A larger spacing will require more maintenance and mulching to manage weeds, until plants establish.

Add On!

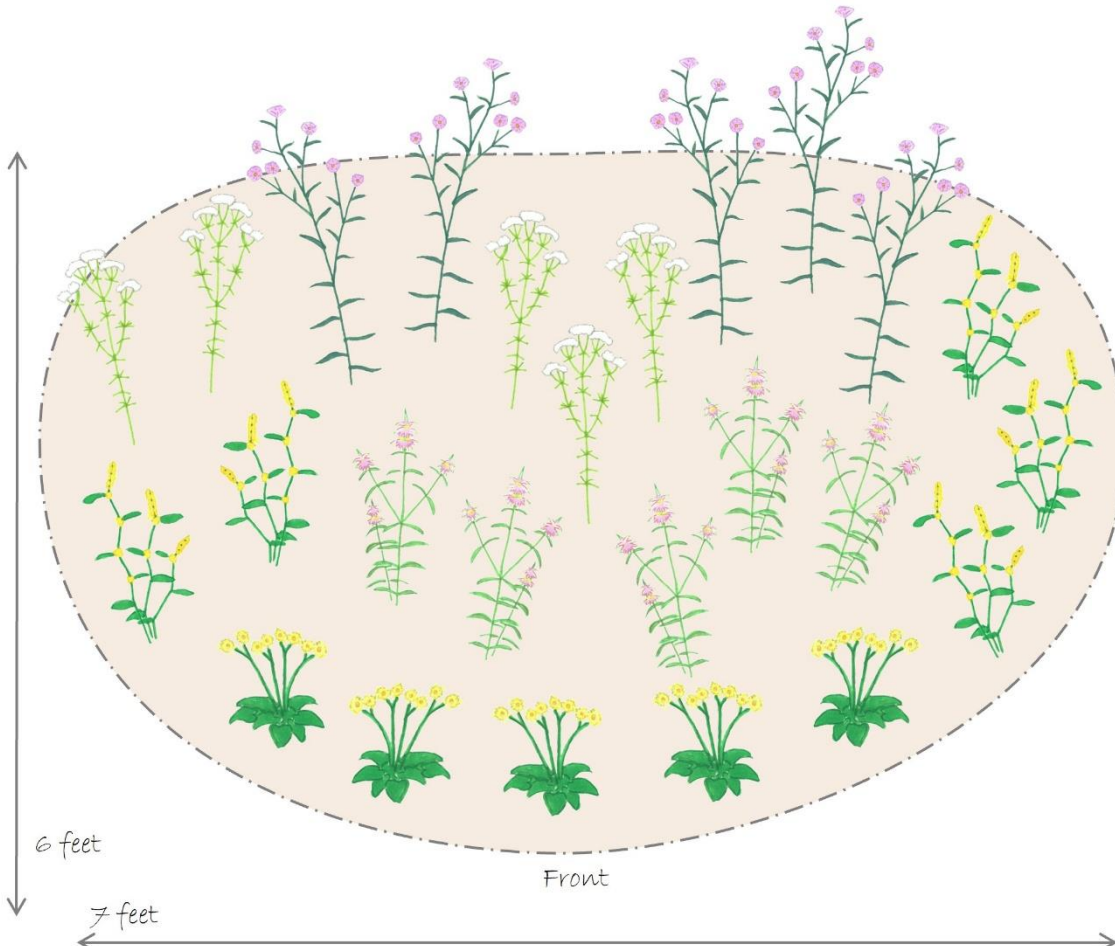
These species can be planted alone or can be combined with other sun-loving kits or your favorite individual species to make a larger planting.

Designing your garden: Sample Powerhouse Garden Design

Can be used as is or easily modified to fit your chosen space and your gardening goals. The deer icon indicates deer resistance; however, no plant is deer proof and **deer still may browse these species.**

<p>Golden Ragwort</p> <p>Color Light Moisture Shape Season</p>	<p>Narrowleaf Mountain Mint</p> <p>Color Light Moisture Shape Season</p>
<p>New England Aster</p> <p>Color Light Moisture Shape Season</p>	<p>Spotted Beebalm</p> <p>Color Light Moisture Shape Season</p>

<p>Zigzag Goldenrod</p> <p>Color Light Moisture Shape Season</p>



Site Preparation

Know your sun, moisture, and soil conditions

The plants in the Powerhouse Kit need 6 hours of sunlight per day, but more sun is always better.

These species grow well in average to moist soil conditions. You may need to water your plants during dry summer periods during the first season, after that they should only need watered during drought. Once their roots are established, they will generally not suffer permanent damage even without watering.

These native plants are selected for the clay-silt-loam soils typical for our piedmont or highlands region.

Prepare the bed

If planting in a prepared bed, remove grass and any other unwanted plants that may compete with your new native garden while establishing. Minimize soil disturbance.

To prepare a new native plant bed replacing previous plantings:

Sheet mulching is a great way to start! It is a back-saving “no-dig” strategy that kills unwanted weeds and grass by blocking out sunlight, allowing everything to die and decompose, minimizing soil disturbance and avoiding stirring up the weed seed bank.

- Mow the area you’d like to transform. Use a garden hose or a length of rope to create the garden outline.
- Cover the area with tapeless clean cardboard or 5 to 8 sheets of newspaper (don’t use glossy pages.) Overlap the edges to prevent gaps so that the turf is solidly covered. Wet down as you go.
- Cover cardboard with 3-4” of composted mulch. No soil amendments, no fertilizer. Native plants grow best in simple, nutrient poor soils.
- Poke many small holes through the cardboard to maintain rainwater infiltration.

During spring and summer, this will take at least a month, usually two, to kill enough weeds and turf. Dig spot planting holes straight through to plant plugs.

If not planting immediately

- Keep plugs in a sheltered spot with enough sun and protect from frost/wind.
- Keep them moist but do not over-water.
- Trim plants back to 6-12” and pinch off flowers if they will not be planted for more than a month. With proper care, landscape plugs should stay healthy for many weeks.

Planting your plugs

- The only tool you need is a garden knife, trowel, or lightweight one hand pick.
- Extract each plug gently from its socket. Squeeze the sides to loosen. Push up from the bottom or use a narrow spatula to ease the plug out. Avoid pulling on the plant's stem!
- Lay out where you want to place each plug. Dig a hole large enough for the plug.
- Plant so the top of the plug is even with the top of the soil. Tamp soil firmly.
- Water the plugs in well.

Pollinator Garden Management

Native plants are low maintenance, but every garden requires management.

Over-watering can be harmful. Through the first year, water them when the soil surface is dry. The second year and beyond you should only need to water during a drought.

Insects may chomp on plants, but these plants are larval hosts to butterflies and will recover.

Undesirable insects like Japanese beetles or aphids may become a problem. Find a caterpillar-safe way to mitigate the problem (Rutgers agricultural extension hotline 609-989-6853 can help). Even "organic" insecticides can kill desirable insects like Monarch caterpillars or butterflies.

- Healthy pollinator gardens host beneficial insects like ladybugs that eat pests.
- Mechanical removal, eg. spraying, wiping, or picking off large bugs works well.

Deer may also chomp some of these plants. Some species are more deer resistant than others.

- Plants are most palatable when young and don't have deep roots to recover.
- Organic deer repellents successfully repel deer and rabbits but require re-applications
- Cages and fences can be effective physical barriers but check local ordinances.
 - Deer fences should typically be 7-8' tall but for small enclosures 5' is effective.

Shortening up giants. If your soil is rich, tall-growing bushy plants may grow taller than wanted and can flop over. Avoid this by cutting back by $\frac{1}{3}$ - $\frac{1}{2}$ from Memorial Day to July 4th to shorten plant height. This can be done with narrowleaf mountain mint, New England aster and zigzag goldenrod, if desired.

A slightly messy garden is the best habitat! Leaving the stalks through the winter provides food and shelter for wildlife as well as visual interest. Cut the stalks in early spring after insects are active. In the fall, leave the autumn leaves to protect overwintering pupae and firefly eggs in your yard. The leaves decompose, enriching the soil, but ensure they are removed in the spring to protect basal rosettes.

Monitor your garden as it changes. Remove invasive plants and weeds little and often. If species prove too prolific, divide and share. Diverse yards incorporate multiple layers and support more wildlife.

Experiment and have FUN!

About each plant

Golden Ragwort



Flowers: Mar - Apr
Light: Sun to Part Shade
Moisture: Average to Wet
Height: 2 ft

Lush, low green groundcover sends up many thin 2 ft high stems topped with yellow, daisy-like, 1" flowers in March and April. Mass plantings look like a floating sea of yellow. After blooming, remaining basal foliage is an alternate groundcover alternative to non-native pachysandra, vinca, or ivy. Flowers are important to early pollinators. Acts as a host plant for the gem moth. A prolific seeder, golden ragwort can spread rapidly. Seed heads can be pruned after flowering to minimize spreading or can be left for the birds to eat. Sun to part shade, average to wet soil.

Narrowleaf Mountain Mint



Flowers: June - Aug
Light: Sun to Part Sun
Moisture: Dry to Moist
Height: 2-3 ft

A pollinator magnet of the highest order, narrowleaf mountain mint is beloved by numerous native bee and other insect pollinators and larval host to the wavy-lined emerald moth. With minty fragrant leaves on a clumping form reaching 1-3 feet, and tiny whitish-cream flower clusters on the tips of stems, this plant is unpalatable to deer and rabbits. Spreads through rhizomes and at times may be aggressive. Sun to part sun, dry to moist soils. Photo credit Ginger Van Ryzin.

New England Aster



Flowers: Aug - Nov
Light: Sun to Part Shade
Moisture: Dry to Moist
Height: 3-5 ft

Flashy purple daisy-like flowers with bright yellow centers flower for weeks in late summer and throughout fall. Provides fall nectar to myriad pollinators and is a host plant of the pearl crescent. Complements many of the yellow blooming fall perennials such as goldenrod and coreopsis. Can reach up to 5 feet tall, but a mid-season haircut can help shorten up this gentle giant. Sun to part-shade, dry to moist soils.

Spotted Beebalm



Flowers: May - Aug
Light: Sun
Moisture: Dry to Average
Height: 1-2 ft

Interesting, lilac leaf-like bracts draw in pollinators all around in late spring and throughout summer reaching up to 3 feet. Deer tend to avoid this aromatic plant. Long blooming and great for cut flower arrangements. Larval host plant to numerous moths and butterflies and supports the specialist pollinator black sweat bee. Grows well in dry to average soils and full sun. Photo credit Bob Peterson.

Zigzag Goldenrod



Flowers: July - Aug
Light: Sun to Shade
Moisture: Moist
Height: 2-3 ft

Alternating leaves provide a zig-zag stem that reaches 2-3 ft tall. Its golden flowers provide nectar and pollen to a variety of pollinators. As a goldenrod, it is a host plant for moths and butterflies such as the ruby tiger moth. Its seeds serve as a food source for songbirds. Grows in both sun and shade, and prefers moist soils. Photo credit R.W. Smith.

Your native garden throughout the year

Emerge, Bloom and Seed Timeline														
Species Name	Spring		Summer			Fall			Winter					
Golden Ragwort	Yellow		Brown						Green					
Narrowleaf Mtn. Mint	Green		White			Brown								
New England Aster	Green		Purple			Brown								
Spotted Beebalm	Green		Purple			Brown								
Zigzag Goldenrod	Green		Yellow			Brown								
Key:														
<table border="0" style="width: 100%;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%; text-align: center;">Emerge</td> <td style="width: 33%; text-align: center;">Bloom</td> <td style="width: 33%; text-align: center;">Seed</td> </tr> </table>												Emerge	Bloom	Seed
	Emerge	Bloom	Seed											

Some native pollinators that frequent these plants

Species Name	Pollinators, Larval Hosts, and Specialist Species
Golden Ragwort	<p>Bees: cuckoo, green sweat, leafcutter, mason, mining, small carpenter, small sweat, sweat,</p> <p>Butterflies: pearl crescent, Zabulon skipper</p> <p>Wasps: potter</p> <p>Others: flies (hover, leaf miner, dance, thick-headed, Tachinid), tumbling flower beetles, false blister beetles, fire-colored beetles</p> <p>Larval Host Species: the gem moth, northern metalmark</p> <p>Specialist Species: mining bees (<i>Andrena spp.</i>)</p>
Narrowleaf Mtn. Mint	<p>Bees: bumble, cellophane, cuckoo, eastern carpenter, green sweat, leafcutter, long-horned, mason, mining, resin, small carpenter, small sweat, sweat, woolcarder, yellow-faced</p> <p>Butterflies: American lady, American snout, black dash, bronze copper, cabbage white, checkered white, clouded sulphur, common buckeye, Common wood-nymph, eastern tailed-blue, eastern tiger swallowtail, gray hairstreak, great spangled fritillary, hairstreaks (coral, gray, banded, and juniper), Juvenal's duskywing, little wood satyr, mottled duskywing, painted lady, pearl crescent, pipevine swallowtail, red admiral, skippers (fiery, broad-winged, Peck's, tawny-edged, silver-spotted), slivery checkerspot, variegated fritillary, Viceroy</p> <p>Moths: webworm, yellow-collared scape</p> <p>Wasps: beewolves, black, club-horned, cuckoo, digger, grass-carrying, great, mason, paper, potter, sand, Scoliid, spider, thread-waisted</p> <p>Other: beetles (soldier, long-horned, tumbling flower, wedge-shaped), flies (soldier, Mydas, hover, Mydas, hover, dance, bee, thick-headed, Tachinid, blow, house), Formicidae ants, weevil</p> <p>Larval Host Species: wavy-lined emerald butterfly</p>
New England Aster	<p>Bees: bumble, cellophane, cuckoo, eastern carpenter, green sweat, leafcutter, long-horned, mining, small carpenter, small sweat, sweat, woolcarder, yellow-faced</p> <p>Butterflies: American lady, black swallowtail, cabbage white, clouded sulphur, fiery skipper, monarch, orange sulphur, painted lady, pearl crescent, Peck's skipper, red admiral, Viceroy</p> <p>Moths: looper, white-lined sphinx, yellow-collared scape</p> <p>Wasps: sand</p> <p>Other: flies (hover, bee, blow, house), leaf beetles, soldier beetles</p> <p>Larval Host Species: pearl crescent, Canadian conia moth</p> <p>Specialist Species: mining bees (<i>Andrena spp.</i>), <i>Perdita octomaculata</i>, <i>Megachile inimical</i>, <i>Melissodes spp.</i>, <i>Calliopsis coloradensis</i>, <i>Colletes americanus</i></p>

Spotted Beebalm	<p>Bees: bumble, cellophane, cuckoo, eastern carpenter, green sweat, leaf-cutter, long-horned, metallic green sweat, small carpenter, small sweat, sweat, fairy, woolcarder, yellow-faced</p> <p>Butterflies: silver-spotted skipper</p> <p>Wasps: digger, potter, Scoliid, thread-waisted, Tiphid</p> <p>Other: beetles (antlike, soldier, longhorn, checkered, net-winged, soft-winged flower, tumbling flower, wedge-shaped), Formicidae ants, hover flies, weevils</p> <p>Specialist Species: black sweat bee, cuckoo (<i>Dufourea monardae</i>), fairy bee (<i>Perdita gerhardi</i>), mining bee (<i>Protandrena abdominalis</i>)</p> <p>Larval Host Species: gray marvel moth, northern crescent, pearl crescent, pyralid moth, snouth moth</p>
Zigzag Goldenrod	<p>Bees: bumble, cuckoo, large carpenter, leaf-cutter, long-horned, metallic green sweat, mining, small carpenter, small sweat, sweat, woolcarder, yellow-faced</p> <p>Larval Host Species: bilobed dichomeris (<i>Dichomeris bilobella</i>), brown hooded owlet (<i>Cucullia convexipennis</i>), twirler moth (<i>Gnorimoschema gallaeasterella</i>),</p> <p>Specialist Species: <i>Colletes spp</i>, mining bees (<i>Andrena hirticincta</i>, <i>A. placata</i>, <i>A. simplex</i>)</p>

For more information, check out [Pollinators of Native Plants](#) by Heather Holm or visit https://www.illinoiswildflowers.info/flower_insects/index.htm

Put your garden on the Map

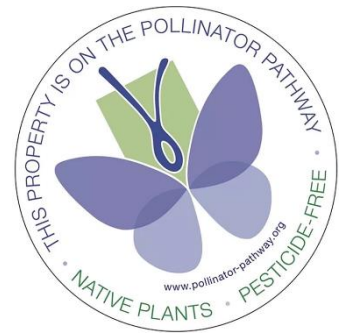
Each new native planting adds to the Pollinator Pathway that renews and extends wildlife habitat across our neighborhoods and region, whether it is one container on the patio or a fully native backyard.

If you plant it, the pollinators and birds really will come!

Please take a minute to [Register Your Pollinator Garden](#) on the map to encourage the growing sustainable landscaping community.

To encourage your neighbors, we also recommend attractive explanatory garden signs.

You can purchase a Pollinator Pathway Garden sign through the GSWA plant sale.



If you have questions about your native plant garden

Feel free to email us at plantsale@greatswamp.org We want your pollinator garden to get a good start so it will provide you with years of enjoyment!



Great Swamp Watershed Association

The Passaic River **WATERKEEPER**® ALLIANCE Affiliate

P.O. Box 300 • New Vernon, NJ 07976

(973) 538-3500 • GreatSwamp.org