



NATIVE PLANTS, NATURAL LANDSCAPES

SOUTHEASTERN PENNSYLVANIA CHAPTER

September 2024 Newsletter

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Designing and Planting a Meadow -- Dream Meets Reality

Who hasn't looked at enticing photographs of former lawns that were converted to meadows filled with native grasses and flowers and thought, "I want that in my yard!" Maybe you've already converted some of your lawn to native planting beds, and your trees, shrubs, and understory plants are well on their way to becoming a community. Now you've turned your attention to a larger area where you want a more open view. What are the options?

A meadow planting is a snapshot in time. Nature's goal is to fill an area with the plants that can be sustained by the site's soil, water, and sunlight conditions. For most of southeastern Pennsylvania, that means woodland. Pennsylvania was almost completely covered with forest when the first humans arrived, and with few exceptions -- for example, stone outcrops and tidal flats -- that's what the land wants to become again. Anything other than woodland succession requires significant input from the gardener.

Volunteers, Good and Bad

But we know this -- either we welcome the constant native volunteer shrub and tree seedlings into our plantings, or we pull them to maintain more light for the remaining plants. If we're going to plant and maintain a meadow, we need to provide the same attention on a larger scale.

In addition to natives that seed into a planting, meadows are also plagued by invasives. Meadows are touted as lower maintenance plantings. This might be true compared to the constant maintenance required for a turf grass lawn. Meadows require a different kind of attention. Nonnative inva-

sives and native volunteers that are not part of the meadow design need to be kept in check in order to keep the meadow from evolving into woodlands.

This doesn't mean the meadow plants themselves won't change. Some plants will fade away because conditions aren't ideal; others will seed in and be welcomed. Common native volunteers you may encounter in your meadow planting include thoroughwort (*Eupatorium serotinum*), snakeroot (*Ageratina altissima*), wingstem (*Verbesina alternifolia*), common milkweed (*Asclepias syriaca*), and Canadian germander (*Teucrium canadense*). You may also find volunteers from your nearby perennial beds. New York ironweed, native sunflowers, penstemons, cut-leaf coneflower, garden phlox, blue wood aster, and tall heath aster are happy to volunteer where conditions suit them.

Common meadow invasives include mugwort, Japanese honeysuckle, oriental bittersweet, common mullein, garlic mustard, Canada thistle, dame's rocket, sweet clover, and dandelion. Wetter meadows may see knapweed and purple loosestrife.

Keeping It Meadow

Your first defense against problems is good design. A healthy and diverse meadow will be more resilient to invasion by exotic species as well as extreme weather events such as drought. Whether you plant seeds, plugs, or potted plants, include as many species of grasses and forbs as you can, given your budget and site conditions. This provides better site coverage if some species don't survive.

Make sure your preparation deals adequately with the plants that are on site when you start your meadow planting. You'll be dealing with invaders, both native and nonnative, whether you start with

bare soil or plant into an existing environment, so include monitoring and maintenance in your plans.

Meadow plantings are primarily grasses -- 80/20 is a common ratio of grasses to forbs. The grasses are the structure of the planting; the forbs add pollen, nectar, color, and leaves that feed caterpillars.



Meadows, which essentially are grasslands with flowers, provide important habitat for pollinators. We need to keep planting meadows, but we need to do it right, so they don't succumb to the pressures of invasives.

Maintenance Strategies

Clumping grasses like switchgrass, big bluestem, and Indiangrass provide a tremendous amount of biomass. If this is allowed to remain in place year after year, it will decompose to form rich soil, but the dense, decomposing grass will also prevent many of the forbs from reseeding. Most native plants don't need the extra nutrients from annual grass decomposition.

To manage this resource, divide your meadow into several sections. Each spring, mow and rake off a different section. Compost the plant debris elsewhere. The bare soil will invite self-seeding forbs as well as insects that burrow in exposed soil.

Excess nutrients encourage ruderal plants to take hold. Ruderal species are the first to colonize disturbed areas. They process nutrients efficiently, mature quickly, and produce a lot of seed. They may be short-lived, but they colonize a space efficiently.

If we're talking about native ruderals like snakeroot and enchanter's nightshade, this is a good thing. Not so much for nonnatives like dandelion, bitter

cross, and garlic mustard. Bare, nutrient-rich soil will invite invasive ruderals as well as natives to seed in, so pay attention to the section of meadow that's been mowed and raked, to head off the invasives that will quickly appear.

Mowing and raking will also allow you to remove more established invasives, like Japanese honeysuckle, oriental bittersweet, wineberry, and mugwort. Honeysuckle and bittersweet vines can smother a meadow if they're not controlled. They will continue to seed in, due to bird population in the meadow, so controlling them will be a constant task. Once mugwort is established in a meadow, it's difficult to get rid of it except by wading in and pulling out the plants for several years in a row, to deplete the extensive underground rhizome system.

Meadows can become overgrown with tall goldenrod, (*S. altissima*) whose creeping rhizomes choke out even the tall grasses. Excess tall goldenrod can be kept in check by pulling it when the meadow is mowed and raked. If the tall grasses are well established, they should bounce back the same season.

Another recommended control strategy for excess tall goldenrod is to mow or weed-whack the plants in April, when they are less than 1 foot tall. Mowing at a height of 4" at this stage won't affect warm-season grasses, which are just starting to grow in late spring. In September, when the plants are blooming, mow again. If this will impact too many desirable species, weed-whack selectively, or simply cut off the flowering stalks and remove them from the meadow. Overseed mowed areas with a grass/forb mix during winter, or plant plugs in bare areas in spring.

Adding More Plants

The bare spots where goldenrod, mugwort, and vines were removed can be replanted with plugs of tenacious natives:

tall asters	cut-leaf coneflower	goldenrods
<i>Helianthus</i>	ironweed	Joe Pye weed
milkweeds	<i>Monarda</i>	yarrow

In short-grass meadows, where the grasses are little bluestem, side oats gramma, purple top, and prairie dropseed, shorter native forbs can be planted:

blazing star	coneflowers	<i>Coreopsis</i>
golden Alexander	Mexican hat	mountain mints
shorter asters	skullcap	vervains

Tree of the Month -- A Year of Oaks

Oaks are our most essential native tree, according to University of Delaware Professor of Entomology and Wildlife Ecology Doug Tallamy. The genus *Quercus* provides food for more caterpillar species than any other genus of plants in North America. Because so many native species rely on oaks for their survival, oaks have been dubbed one of the “keystone species” that play a pivotal role in the food chain.

Logging and land clearing for agriculture, homes, and commercial development have contributed to the loss of oaks in eastern forests. Diseases such as sudden oak death syndrome, bacterial leaf scorch, and oak wilt are also culprits in the decline of oaks.

Oaks native to Pennsylvania can be divided into two main groups: the red oaks (ten species), which have bristles at the end of their leaf tips or lobes and acorns that take two years to mature, and the white oaks (six species), which lack bristles on their leaf tips and have acorns that mature in one growing season. Some common red oak species include northern red, black, scarlet, and pin oaks. Common white oaks include white, chestnut, and swamp white oaks.

Different species of oak thrive in habitats ranging from dry soil to swamps. Many can grow to be 80-foot giants, but some oaks can also be pruned to stay small and adapt to smaller yards.

Resources

The Nature of Oaks, D. Tallamy

The Little Things That Run the World, E.O. Wilson

Swamp White Oak

The swamp white oak, *Quercus bicolor*, is a long-lived tree (up to 300 years) with a large, rounded crown. As its name indicates, it occurs in the wild along streams and in swampy soils. It has a moderate growth rate and can grow as tall as 80 feet in ideal conditions.

Swamp white oaks have the familiar leaf shape of other white oaks, with wavy lobes, wide upper halves, and an oval shape. The leaves are not as deeply lobed as those of white oak and usually display a strong color contrast between the shiny dark green top and the velvety white underside. In fall,

the leaves can turn a showy yellow/brown, orange, or red.



Photo: Arbor Day Foundation

The flowers are short yellow-green catkins that release their pollen in early spring. The acorns are about 1” long, with fuzzy caps that cover roughly one-third of their top. Acorns are shed in September to October and are enjoyed by ducks, wild turkeys, deer, and squirrels.

As the common name suggests, swamp white oak grows in lowland and bottomland areas that tend to flood when it rains. They tolerate clay soil and areas that are saturated with water seasonally, but they are adaptable to a wide range of soil and weather conditions. Swamp white oak prefers somewhat acidic soil and can display chlorosis when grown in alkaline soils.

Quick Facts -- Swamp White Oak

Size	50-75 feet
Sun	Full sun
Soil	Moist, well-drained, acidic soil; tolerates clay; limited tolerance of drought
Water	Tolerates spring flooding and poorly drained soil
Habitat Value	Acorns are eaten by woodpeckers, blue jays, small mammals, wild turkeys, white-tailed deer, and black bears. Oak trees support a wide variety of <i>Lepidoptera</i>

Creature Café - Grow Goldenrods!

Goldenrods have been identified as a keystone species of particular importance to native insects. Goldenrods support dozens of butterfly and moth species by serving as their caterpillar host plants. They also support dozens of native bee species that are pollen specialists, which means they can feed their young only on the pollen of certain native plants.

Goldenrods (*Solidago* and *Euthamia* spp) are characterized by striking golden flowers that bloom profusely from late summer into fall, providing a late-season source of pollen and nectar for dozens of species of butterflies and moths preparing to migrate or hibernate for the winter. Goldenrod flowers are profuse and nectar-rich. Their dense foliage and sturdy stems offer shelter for overwintering insects, and the seed heads are a valuable food source for birds in winter.

Goldenrod's dense, fibrous root system holds soil in place to prevent erosion and improve soil structure. Some goldenrods are tough enough to rehabilitate disturbed landscapes, while others are delicate enough to mix with woodland plants.

Goldenrods are generally well-adapted plants, tolerating conditions from dry to moist, and sand to clay. Once established, they require little maintenance other than thinning and division of the more robust growers, making them an ideal choice for rewilding meadows and other natural landscapes.

In general, deer do not bother goldenrod once the plants are well established. However, newly transplanted seedlings may need protection.

Most goldenrods are pollinated by insects (hence their importance to wildlife), meaning the pollen is generally too heavy to be wind-borne and therefore doesn't cause hayfever-type allergies.

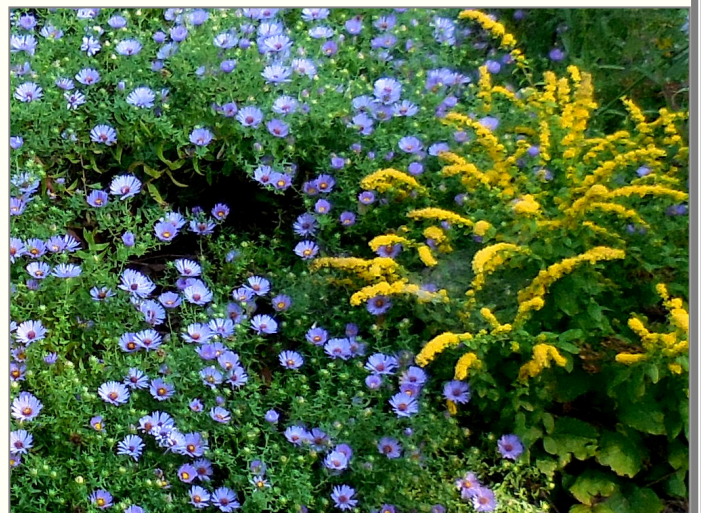
If your only experience with goldenrod is seeing fields dominated by 6-foot-tall Canada goldenrod (*S. canadensis*), here are some better-behaved natives that can join your garden without taking over.

Stiff goldenrod (*S. rigida*) is widely adaptable, growing in dry to medium soil and clay to sand. It grows 3 to 5 feet tall with rounded clusters of golden flowers. This plant can self-seed vigorously, so it's better in a meadow setting than a small garden.

Showy goldenrod (*S. speciosa*, right) has upright bottle-brush spikes of yellow flowers rather than plumes. It typically grows 3 to 5 feet tall and prefers full sun in dry to medium soil.

Zigzag goldenrod (*S. flexicaulis*) is a woodland native with oval rather than narrow lance-shaped leaves. The flower spikes have small clusters of yellow flowers that alternate from one side of the stem to the other, producing a visual zigzag effect. The entire plant is only 1 to 3 feet tall. It prefers part shade in dry to medium soils and will tolerate clay.

Autumn goldenrod (*S. spicelata*) grows 1 to 3 feet tall and prefers full to part sun. It tolerates average to poor and rocky soil as long as it's well drained. Autumn goldenrod spreads by rhizomes and wind-blown seeds. It is drought-tolerant, and it can be browsed by deer in areas with high deer pressure. A single, mature plant can form a clump 15" tall to 2 feet wide. The selection 'Golden Fleece' (below, with aromatic aster 'October Skies') was released by Mt. Cuba Center.



Blue-stemmed or wreath goldenrod (*S. caesia*) is a woodland native with small clusters of golden flowers all along the long, graceful stems. A mature, thick clump of blue-stemmed goldenrod can appear as a golden haze. The strong stems have a purple cast. In late August, its arching sprays of bright yellow flowers blend well with great blue lobelia (below). This goldenrod doesn't spread aggressively. It prefers filtered sun and can tolerate a wide range of soils, from dry to moist. This species is susceptible to browsing where deer pressure is high.



Rough or wrinkle-leaf goldenrod (*S. rugosa*) grows 3 to 4 feet tall and wide in sunny well-drained soil. It can tolerate wetter soils than other goldenrods as well as light shade and clay. Finely veined leaves emerge burgundy in spring and change to dark green in summer. Arching stems held above the foliage feature sprays of small yellow flowers. The cultivar 'Fireworks', a selection introduced by North Carolina Botanic Gardens, has narrower flower sprays that produce a stunning display resembling fireworks (below). Rough goldenrod spreads slowly via rhizomes to form colonies and is deer-resistant.



Sweet goldenrod (*S. odora*) has sprays of yellow flowers on 2- to 4-foot plants. Its glossy, anise-scented leaves are distinctive. This goldenrod forms tidy clumps and does not spread via rhizomes. It is native to dry, open woods with sandy or well-drained soil. It tolerates a bit more shade than most goldenrods.

Grass-leaved goldenrod (*Euthamia graminifolia*) is classified in a different genus, but similar to "true" goldenrods, its small flowers attract many insects, including butterflies, moths, long-tongued bees, short-tongued bees, and beetles. The long, narrow, tapered leaves occur all along the stem, which can grow 3 to 4 feet tall. Grass-leaved goldenrod spreads easily via rhizomes and can become aggressive in moist sunny locations. Although it occurs naturally in sunny, wet areas, it will tolerate drier soil and partial shade. It is very easy to transplant, even during the growing season.



Gray or field goldenrod (*S. nemoralis*) thrives in dry, sunny sites. Its flower plumes resemble those of Canada goldenrod, but it grows only 1 to 2 feet tall. It is drought-tolerant and spreads slowly via rhizomes and seed. Fuzzy white hairs on the leaves and stem give them a gray cast.



Monarchs and Other Pollinators are Natural Resources

Most states can actively work to recover threatened insect species
- but Pennsylvania can't. HB2471 can change this.



Declining pollinators include the rusty-patched bumble bee (left), monarch butterfly (center), American bumble bee (right).

The problem.

In Pennsylvania, state resource agencies currently lack the authority to conserve insects like bees and butterflies – vital pollinators that are in decline across the country. This regulatory gap leaves many species vulnerable to extinction and limits the state's ability to prevent population losses. Pennsylvania's insect conservation efforts are affected in the following ways:

- PA is home to 77 threatened land-dwelling insect species, including the monarch butterfly and American bumble bee – two pollinators in severe decline under consideration for ESA protection. **DCNR is best-suited to proactively protect imperiled insect species, avoiding the need to list them under the Endangered Species Act – but lacks authority to do so.**
- Once a species is protected under the ESA, the U.S. Fish & Wildlife Service is required to coordinate with states to undertake recovery actions. However, **because the state lacks jurisdiction over insects, their fate is solely up to the Federal Government.**
- Until a state agency can list insects as state threatened or endangered species, **PA cannot take advantage of federal funds to protect at-risk insects.**

Without HB2471, Pennsylvania is ineligible for these funds to protect pollinators:

Cooperative Endangered Species Conservation Fund (CESCF): supports state programs to conserve federally listed species or "candidate" species that are under consideration for listing.

Recovery Lands Acquisition Program: helps states acquire lands from willing landowners to protect federally listed species. Sometimes protecting habitat is the easiest way to help a species.

Conservation Planning Assistance Grant Program: funds voluntary agreements to protect candidate & listed species while permitting incidental "take" from activities like grazing or agriculture.

How will HB2471 benefit Pennsylvania?

This bill would amend the Wild Resource Conservation Act of 1982 to give PA's DCNR authority over terrestrial insects, which will:

- Help prevent the need for federal ESA protection of imperiled insect species by allowing the state to recover species early.
- Give PA a voice to speak with federal agencies acting to conserve protected insect species.
- Provide funding opportunities to offset costs of insect species recovery.
- Permit inter-agency coordination when insect conservation issues such as highway management and light pollution are discussed.
- Allow DCNR to invest in critically important pollinator species that we need for food production and resilient natural areas.

Invasive Species Alert -- Burning Bush

You might have winged euonymus in your garden without knowing it, courtesy of seeds dropped by birds and other berry eaters. In a few weeks, the bright red fall leaf color will give it away, and you can plan your attack.

Burning bush, or winged euonymus (*E. alata*) is native to northeastern Asia and was introduced into the United States during the 1860s as an ornamental plant. Its corky winged stems (below), brilliant red autumn leaves, and small red fruits were considered attractive attributes.



Seed is dispersed by birds and other berry-feeding animals, sometimes over great distances. The flowers are self-pollinating. Plants spread by root sprouts as well as seed, so just one plant can produce a colony if left unchecked. With no native predators, this plant is free to spread aggressively. It is considered invasive throughout the northeast and mid-Atlantic and is listed on the Pennsylvania Noxious Weed List, with the propagation and sale banned as of January 10, 2025. Its sale is already banned in Delaware.

Identification. Burning bush can grow 10 to 15 feet tall if left unpruned, but it will be shorter in shaded areas. Mature leaves are small and deep green, turning dark pink (below) to bright red in early fall. The flowers are inconspicuous. Fall is the best time to identify burning bush and mark it for removal when it's accessible during the winter.



Winged euonymus is shade-tolerant, which allows it to escape from yards to nearby woods, but it is also found in sunny spots such as field edges, roads, and public trails. Once established, it can form dense thickets, displacing native vegetation.

Control. Plants can be pulled, dug, or cut in any season, depending on size and accessibility. Hand-pull seedlings and compost them. Plants that are too big to pull can be dug out with a digging fork or cut at ground level or below. Digging disturbs more earth but increases the chance of permanent control if you can dig out the root crown or cut the root (use a heavy-duty pruning saw or chain saw) below the root crown. A mature clump will have an extensive system of root runners that can send up shoots 10 to 20 feet from the parent plant. Complete control will not be achieved unless all the root shoots are dug or cut. This can be done as and when the shoots appear, as part of your routine maintenance.

Plants that are too large to be dug can be cut 6 to 12 inches from the ground. When the stump re-sprouts, cut it again, closer to the ground. Allowing the stump to re-sprout draws stored energy from the roots and depletes its resources. Watch for sprouts from root shoots in the vicinity of the plant, and cut them off below the ground if possible.

Native alternatives. Fortunately, gardeners can choose from several native shrubs with bright red fall foliage to replace invasive burning bush. Black chokeberry (*Aronia melanocarpa*) grows 3 to 5 high, and red chokeberry (*A. arbutifolia*) can be used if a taller shrub (6 to 10 feet high) is desired. Both produce attractive white to pink flowers and berries that attract birds. Native blueberry (*Vaccinium corymbosum*) provides tasty berries as well as beautiful spring flowers. Maple-leaf viburnum (*V. acerifolium*) thrives in part shade and has large, palmate leaves that turn dark red to purple in fall. Flat clusters of tiny white flowers attract spring pollinators and mature to blue-black berries that provide a feast for birds in fall.

WO SEPA FALL CALENDAR

October 9 -- Native Gardening in an HOA, zoom program, 7:00 p.m.

November 7 -- Officer and Board Elections; Building a Small Pond, zoom program, 7:00 p.m.

Recordings of past meetings are available on our [YouTube channel](#).

Quiet Communities

New Wild Ones partner [Quiet Communities](#) promotes cleaner, healthier lawn care and the right to quiet in your own backyard. Imagine how much quieter life would be if lawn maintenance companies switched from noisy, smelly gas-powered equipment to quieter outdoor maintenance equipment. There are good reasons to move away from gas-powered leaf blowers and other fossil fuel-powered equipment. They generate loud noise and emit ozone-forming exhaust and fine particulates that are proven to be harmful to our health. Research shows that in addition to affecting hearing and exacerbating mental health issues, chronic noise raises the risks of cardiovascular disease. For children, loud and chronic noise has been shown to slow development and learning.

Many communities are reviewing their impact on the climate and setting goals for cutting carbon emissions. Transitioning municipal maintenance equipment from gas-powered to electric can be an important contribution to these goals.

Communities from [Maryland](#) to [California](#) have passed legislation to phase out the use of gas-powered landscape equipment. Every property owner can transition to quieter electric or even hand tools. Large property owners like municipalities, public school systems, botanic gardens, hospital campuses, golf courses, and industrial parks can lead the way by requiring their maintenance contractors to use quieter equipment.

Using electric equipment and manual tools is cost-effective and friendlier to pollinators. Surrounding specimen trees with layers of shrubs, forbs, and groundcover plants means that fallen leaves can be left in place, eliminating the constant noise of fall leaf blowers. Leaving the leaves allows pollinators to overwinter safely, which will attract more birds next year.

Call for Nominations for Chapter Elections

Chapter members will elect the Board of Directors and officers at our November 7 meeting. If you are interested in serving as an officer or a member of the Board, please notify the Secretary at wildonesofsepa@gmail.com before October 9.

Events and Educational Opportunities

- Sept. 27** [Fourth Fridays for Families: More than Just Honeybees](#). Bowman's Hill Wildflower Preserve, 1635 River Rd, New Hope PA. 10:30 a.m.
- Sept. 28** [Tree Festival](#). Mt. Cuba Center, 3120 Barley Mill Rd, Hockessin DE. 10 am - 6 pm.
- Sept. 29** [Wild Pawpaw and Zebra Swallowtail Guided Nature Hike](#), Lancaster Conservancy, Enola Low Grade Trail, Conestoga PA. 9:00 a.m.
- Oct. 5** [Seed Sense: Mastering Seed Saving, Storage, and Collection](#). Berks Nature, 575 St. Bernardine St, Reading, PA. 10:00 a.m.
- Oct. 5** [Knowing Native Plants: Trees of the Preserve](#). Bowman's Hill Wildflower Preserve, webinar or on-site, 1635 River Rd, New Hope PA, 1:00 p.m.
- Oct. 9** [The Glory of Goldenrods](#), Mt. Cuba Center, 3120 Barley Mill Rd, Hockessin, DE. 1:00 p.m.
- Oct. 10** [Seed Collecting](#), Mt. Cuba Center, 3120 Barley Mill Rd, Hockessin, DE. 10:00 a.m.
- Oct. 12** [Planting the Woodland Edge](#), Mt. Cuba Center, 3120 Barley Mill Rd, Hockessin, DE. 1:00 p.m.
- Oct. 17** [Plug into the Wet Meadow Matrix](#), Jenkins Arboretum webinar, 7:00 p.m.
- Oct. 17** [Exploring Shenks Ferry Wildflower Preserve and Enola Low Grade](#). Shenks Ferry Wildflower Preserve, 857 Green Hill Rd, South Conestoga, PA. 6:00 p.m.
- Oct. 24** [Matrix Landscape Design](#). Wild Ones webinar, 7:00 p.m.