

# February 2023 Newsletter

SOUTHEASTERN PENNSYLVANIA CHAPTER

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# **February Meeting Highlights**

#### **Chapter Business**

- Chapter membership stands at 140.
- Our chapter is looking for a member to serve as Community Project Chair, to guide proposed projects through the grant approval process with the board. This would set us up for success in the future when we have more proposed projects than we have money to grant.

# Thought of the Month -- Living Landscape Function Calculator

Presented by Christopher Sohnly of Spruce Hollow LLC

This project evolved from Christopher's experience as a landscape architect and the inspiration he gained from reading <u>The Living Landscape</u>, by Rick Darke and Doug Tallamy (Timber Press 2014). The book explains how to design for beauty and biodiversity in the home landscape. The final 75 pages of the book contain an exhaustive list of native trees, shrubs, vines, herbaceous plants, bulbs, grasses, rushes, sedges, and ferns, organized by regions of the country and rated for their ecological and landscape functions.

Just what is meant by ecological function? Gardening and landscape design traditionally have focused mostly on aesthetics and organizational function. Plants were chosen for color, shape, size, fragrance, and their ability to screen or shade a landscape. Native plants play a broader role in the natural landscape, providing essential food, shelter, and breeding habitat for native insects, birds, amphibians, fish, and animals. Native plants also sustain each other. Trees would not survive without an understory of shrubs and smaller plants at their feet to cool, nourish, and protect their root zone. Woodland plants need the canopy of tall trees for the same reason.

A plant's ecological function include its ability to provide food, shelter, and breeding habitat for native flora and fauna. Some plants support a wider array of insects, birds, animals, and plants than others. In addition, native plants perform landscape functions to varying degrees. Some have beautiful or fragrant flowers, foliage, or bark. Some provide ground cover, screening, shade, or food for humans.

The <u>Living Landscape Function Calculator</u> is an online resource to help gardeners determine the ecological and landscape function of plants in various geographical areas of the country. The search tool enables a user to select the region of the country and certain plant characteristics. The results are rated by the plants' ecological and landscape function scores.



Using this tool, gardeners can design landscapes

that are ecologically sound as well as beautiful. The goal of the website is to help gardeners create landscapes that support specialist and generalist pollinators, support food webs, sequester carbon, and help manage soil and water resources.

# **Native Tree Appendix**

*Prepared by Marc M. Radell, Master Gardener Emeritus, PennState Extension Montgomery County* 

Last fall, Marc presented a program to our chapter on <u>How To Select and Plant Native Trees in the</u> <u>Home Landscape</u>. The Native Tree Appendix at the end of that presentation is a list of trees chosen by Marc from the <u>Audubon Native Plants Database</u> as the best native trees to plant in Montgomery County, PA. If you live outside Montgomery County, you can use the <u>Audubon Native Plants Database</u> to check whether a plant in the Native Tree Appendix is native to your ecoregion.

Every native plant supports wildlife in some way. Trees grow better when planted in naturalistic communities, rather than as single specimens. Trees planted as part of a woodland maximize the habitat value of the space.

Trees naturally interact with other plants in the landscape Soft landings under trees (native plants instead of turf grass) protect the tree trunk and root flare, increase beneficial soil organisms that help feed and sustain the tree, infiltrate water, and provide overwintering and breeding habitat.

Historically the red oak/mixed hardwood forest predominated in the uplands of southeastern Pennsylvania. This habitat included red oak, white oak, chestnut, tulip tree, red maple, and hickories. In floodplains, the forest included sycamore, silver maple, box elder, elms, black willow, black walnut, green ash, and red maple. The <u>Pennsylvania Natural Habitat Program</u> provides detailed plant community descriptions and county inventories.

Today, diseases, insect pests, and climate change have impacted elms, chestnuts, hemlocks, oaks, beeches, dogwood, sugar maple, and ash. Planting a diversity of species to hedge against disease, pests, and climate impacts is a good plan. Plant two more of each species for best cross-pollination. Native trees that tolerate one or two zones warmer could fare better in the long term.

#### **Evergreen Trees**

These are trees that retain live foliage all year, shedding old leaves in either spring or fall. Evergreens have a waxy coating on their leaves or needles to reduce water loss. Special proteins and concentrated sugars in the leaves or needles act as antifreeze to protect the foliage from the cold.

> American holly (*Ilex opaca*) Eastern red cedar (*Juniperus virginiana*) Short-leaf pine (*Pinus echinata*) Red pine (*Pinus resinosa*) Pitch pine (*Pinus rigida*) Eastern white pine (*Pinus strobus*) Eastern hemlock (*Tsuga canadensis*)

#### **Fast-Growing Trees**

Trees that grow quickly often have a shorter lifespan and/or weaker wood. They can be helpful in establishing and stabilizing a woodland habitat while the slower growing plants fill in.

> Red maple (*Acer rubrum*) Pawpaw (*Asimina triloba*) Rive birch (*Betula nigra*) Common hackberry (*Celtis occidentalis*) Pagoda dogwood (*Cornus alternifolia*) Eastern red cedar (*Juniperus virginiana*) Sweetgum (*Liquidambar styraciflua*) Eastern white pine (*Pinus strobus*) Black cherry (*Prunus serotina*) Pin oak (*Quercus palustris*) Black locust (*Robinia pseudoacacia*) Black willow (*Salix nigra*)

# WO-SEPA 2023 Meeting Schedule

#### March 9 Rain Barrels

April \_\_\_ Insect-Plant-Flower Interactions
May 11 Native Edibles & Companion Planting
June 7 Backyard Nature Preserve Tour
September 14 No More Fall Cleanup
October 11 Native Seed Collection Techniques
November 16 Chapter Native Seed Swap

Recordings of past meetings are on our Youtube channel.

American basswood (*Tilia americana*) American elm (*Ulmus americana*)

#### **Trees with Showy Flowers**

The shape, size, color, and fragrance of showy flowers evolved to attract specific pollinators.

Serviceberry (*Amelanchier* spp.) Eastern redbud (*Cercis canadensis*) American fringe tree (*Chionanthus virginicus*) Dogwood (*Cornus* spp.) Hawthorn (*Crataegus* spp.) American witch hazel (*Hamamelis virginiana*) Sweetbay magnolia (*M. virginicus*) Sweet crabapple (*Malus coronaria*) Plum and cherry (*Prunus* spp.)

#### **Trees for Wet Areas**

Wet soil is sticky when rolled into a ball and has a paste-like consistency.

Red maple (Acer rubrum) Silver maple (Acer saccharum) Serviceberry (Amelanchier spp.) River birch (Betula nigra) American hornbeam (Carpinus caroliniana) Common hackberry (Celtis laevigata) American fringe tree (Chionanthus virginicus) Kentucky coffee tree (Gymnocladus dioicus) American holly (Ilex opaca) Eastern red cedar (Juniperus virginiaia) Sweetbay magnolia (Magnolia virginicus) Black gum (Nyssa sylvatica) Ironwood (Ostrya virginiana)

#### **Trees for Dry Areas**

Soils that are dry do not stick together and have a dusty consistency.

Shadbush (Amelanchier laevis) American witch hazel (Hamamelis virginiana) Eastern red cedar (Juniperus virginiana) Sweetgum (Liquidambar styraciflua) Sourwood (Oxydendrum arboretum) Pin oak (Quercus palustris) White oak IQuercus alba) Sassafras (Sassafras albidum)

#### **Deer-Resilient Trees**

"Resilient" means deer do not prefer to browse the mature leaves of these trees, or that browsing seldom results in severe damage. However, hungry deer will eat almost any plant. Plants may have bitter or even toxic foliage, but deer don't know that until they taste them. Deer often eat energyfilled buds and immature fruit of otherwiseresistant species. Even resilient trees can be damaged by antler rub.

Serviceberry (Amelanchier spp.) River birch (Betula nigra) Sweet birch (Betula lenta) American hornbeam (Carpinus caroliniana) Common hackberry (Celtis laevigata) American fringe tree (Chionanthus virginicus) American holly (Ilex opaca) Eastern red cedar (Juniperus virginiana) Black gum (Nyssa sylvatica) Ironwood (Ostrya virginiana) Sourwood (Oxydendrum arboretum) Virginia pine (Pinus virginiana) American sycamore (Platanus occidentalis)

#### **Keystone Trees**

All native plants provide some benefits to wildlife. The definition of "keystone" varies and can refer to the ecosystem, caterpillars, birds, or pollinators.

Oak (*Quercus* spp.) Plum & cherry (*Prunus* spp,) Willow (*Salix* spp.) Birch (*Betula* spp.) Poplar (*Populus* sppl) Maple (*Acer* spp.) Apple (*Malus* spp.) Hickory (*Carya* spp.) Pine (*Pinus* spp.) Elm (*Ulmus* spp.)

Each slide in the Appendix includes information on the tree's height and spread, its soil and sun preferences, and its value to wildlife, as we;; as notes on where the tree grows best (e.g., edge habitat, open woods, floodplains, understory, uplands, streambanks, etc.)

### Sedges, Rushes, and Grasses -- Oh My!

Sedges have edges; rushes are round. Grasses are hollow right down to the ground.



Photo: Mt. Cuba Center Research Report, *Carex for the Mid-Atlantic Region*, 2022.

Graminoids -- grassy herbaceous plants -- are important elements of native plant communities, providing valuable habitat for native creatures as well as adding structure, color, and texture to your plantings.

Whether graminiods are clumping or spreading, these plants have deep root systems that can drill through clay or survive in challenging habitats, from thin sand to flooded soil, depending on the species. This makes them enormously valuable components of a native plant community, whether for erosion control, nutrient transfer, or soil aeration.

Most graminoids are adaptable to less fertile soil. Their deep root systems allow many of them to tolerate drought once established. Others thrive in wetter soil and are useful in rain gardens for stormwater control.

Graminoids require virtually no maintenance in a native planting. Some sources recommend cutting back sedges and grasses before new growth starts in spring, but this isn't necessary. Foliage should be left standing over winter to provide habitat as well as visual interest. In the spring, new growth will overtake the spent winter foliage, which will decompose to build healthy soil.

Most graminoids are not eaten by deer or rabbits and can be used to protect more vulnerable plants.

Nearly every North American habitat hosts graminoids, often multiple species. Although some have large ranges, many are specific to a certain habitat. However, these species often can adapt to a wider array of growing conditions in our gardens. Many sedges will spread to form a dense weedsuppressing colony and are great ground cover plants, particularly under trees. Depending on the species, sedges can provide soft, airy, or bold textures, and colors in every shade of green. Some sedges and rushes are evergreen or semievergreen.

Sedges and shorter grasses, such as prairie dropseed and little bluestem, are especially useful in challenging situations like hellstrips (the area between sidewalk and street) and parking lot strips. Sedges that thrive in wetter soil can be planted at the entry points to a rain garden, where their dense foliage and root system will withstand strong volumes of water and retain the soil.

Tall grasses add a sense of movement and sound in the landscape. Many native grasses have attractive and even dramatic foliage, flowers, and seed heads. They can form large drifts in a landscape or be used as fillers. Some are adaptable to containers.

Although most rushes prefer wet habitat, the common rush is adaptable to average soils and can provides interesting vertical interest in containers.

Graminoids are wind pollinated, so their flowers don't attract pollinators, but their foliage provides food and shelter for many insects, including skippers. The seeds are food for birds and turtles.

If they are not cut back, graminoids deposit large amounts of organic material in the ecosystem. This spongy organic material holds moisture, which moderates ground temperatures and maximizes the growth of beneficial mycorrhizal fungi. This habitat supports many insects, including ants. Ants are major players in native flower pollination and seed dispersal.

Many native graminoids grow in clumps or bunches. This provides important habitat for bumblebees, which will nest at the base of the clumps, along with ground-nesting birds, invertebrates, and small mammals. In fields and prairies, this bunching characteristic also creates runways for quail and small turkeys to easily travel through the grasses while being protected from overhead predators.

#### **Resources**

<u>Grasses and Sedges</u> <u>Native Grasses Benefit Butterflies and Moths</u> <u>**Plant This Not That -- Sedges, Rushes, and Grasses</u> Nonnative invasive ornamental plants can escape residential gardens and colonize our woods, fields, and wetlands, displacing and altering native plant communities, and degrading wildlife habitat and water quality.</u>** 

You can help reverse this degradation by replacing nonnative invasive ornamentals with native plants. The leaves, flowers, and seeds of the natives listed below provide important habitat and food for insects and birds.

Instead of These Nonnatives	Plant These Natives
<i>Ophiopogon japonicas</i> (mondo grass) Fine, dark green to black foliage; thrives in shade. Aggressive spreader that can rapidly choke out other plants.	<b>Carex pennsylvanica (Pennsylvania sedge)</b> Fine, delicate foli- age with low, graceful, arching habit; spreads slowly via rhi- zomes. Part to full shade, dry to average well-drained soil.
Liriope muscari (lilyturf); Liriope spicata (creeping lilyturf) Drought-tolerant ground cover, often used for edging; lavender or white flower spikes in sum- mer. Aggressive spreader that can choke out other plants. Festuca glauca (blue fescue) Compact, clumping, semi-evergreen grass with fine blue-green foliage. Intolerant of wet soil and humidity. Must be divided every few years to prevent center die-out.	<i>Carex appalachia</i> (Appalachian sedge) Fine foliage, similar to <i>C. pennsylvanica</i> but clump-forming, spreads via offshoots.
	<i>Carex plantaginea</i> (seersucker sedge) Wide, bright green tex- tured leaves; clump forming; thrives in light to deep shade and moist to semi-dry soils. Showy black flower spikes on dark purple
	stems in spring. <b>Carex flaccosperma (blue wood sedge</b> ) Compact clumps of grass-like blue-green foliage. Evergreen in most winters. Moist to average soil in part shade; tolerates clay.
<b>Pennisetum alopecuroides (fountain grass)</b> Shorter grass (2' to 3') with purple or pink flower heads. Forms thick stands that can crowd out other plants. <b>Imperata cylindrical (Japanese blood grass)</b> Bright green blades 1 to 2 feet tall, upper portions turn red in summer. Banned as invasive in many south- ern states.	<b>Sporobolus heterolepsis (prairie dropseed)</b> Easy-to-grow grass for full sun; 2-foot mounds of graceful foliage topped with fragrant pink to tan flower spikes in summer;. Good edging plant. Tolerates drought, erosion, dry soil, and shallow rocky soil.
	<i>Muhlenbergia capillaris</i> (pink muhly grass) Clump-forming, grass with clouds of pink to pinkish-red flower panicles from ear- ly to late fall. Dark green finely textured basal foliage. Ideal for hot, dry sites.
	<i>Schizachyrium scoparium (</i> little bluestem) Upright clumps of blue-tinged stems turn reddish bronze in fall. Performs best in average, dry to medium-moist, well-drained soil in full sun. Host plant for numerous skipper butterflies.
	<i>Juncus effusus</i> (common rush) Clump-forming; smooth green evergreen foliage. Effective erosion control on stream and pond banks; also thrives in regular garden soil. Prefers full sun.
Miscanthus sinensis (Chinese silver grass) Tall, clump-forming grass with fluffy white seed heads. Extremely invasive; many "sterile" cultivars can cross-pollinate and set viable seed. Cortaderia selloana (pampas grass) Tall, clumping grass with sharp-edged foliage and large feathery white plumes. Spreads rapidly by seed. Calamagrostis brachytricha (reed grass) and Cala- magrostis acutiflora (feather reed grass) Tall clump-forming grass; narrow, upright habit, white to tan feathery flower spikes.	<b>Andropogon ternarius (split bluestem)</b> Medium-height prairie native preferring poor, sandy soil. Foliage turns blue-green in summer and copper-bronze in fall.
	<b>Andropogon virginicus (broom sedge)</b> Medium-tall grass (to 4 feet) turns from green to dark red-purple in fall, to golden orange in winter.
	<b>Panicum virgatum (switch grass)</b> Tall, long-lived grass spread- ing slowly via short rhizomes. Airy, pink-tinged flower spikes in mid-summer. Seeds support birds.
	<b>Andropogon gerardii (big bluestem)</b> Tall clump-forming prairie native. Foliage turns blue-green in summer, changing to bronzered in fall. Host plant for skippers. Drought tolerant, grows in full sun in almost any soil from wet clay to dry sand.
	<i>Sorghastrum nutans</i> (Indian grass) Clump-forming prairie native with golden-bronze seed plumes in late summer. Blue-green summer foliage turns gold in fall. Tolerates heavy clay and poor, dry soil.

# Spotlight on Plants with "Weed" in the Name

Pickerelweed (*Pontederia cordata*) is a pond or wetland plant that grows along shallow shorelines. Populations of this plant have declined because of habitat destruction. Habitats include shallow water of marshes, swamps, bogs, ponds, and protected areas of rivers where the water is slow-moving.

The plant spreads via thick rhizomes to form large colonies. Its preference is for fresh water up to 12" deep in full sun and rich loamy soils. It can tolerate part sun, poor soils, and occasional flooding up to 20".

Pickerelweed's deep green, waxy leaves emerge at the end of the stems. Leaves are quite variable in shape and size, from arrowhead to heart-shaped, 2" to 10" in length and 1" to 6" in width.

Tall spikes of lavender-blue flowers bloom from mid -July through early September and attract butterflies and bees. Pickerelweed pollen supports two native specialist bees. The 3" to 6" densely packed flower spikes are held well above the water and bloom from the bottom up.



The starchy seeds are eaten by several species of ducks. Moth and beetle larvae feed on the leaves, and dragonflies and damselflies lay eggs on the stems. When this plant forms dense colonies, its roots protect the shoreline from erosion and provide cover for fish and other aquatic wildlife. Wading birds hunt for insects and amphibians in patches of pickerelweed. The seeds and rootstocks are important foods for muskrats and beaver.

Plant pickerelweed along the edges of a pond or stream, in a bog, or in the wettest portion of a rain garden, in a sunny location. In a small water garden, pickerelweed can be planted in a pot to contain its spread.



### **Pickerelweed Quick Facts**

Height	3 to 4 feet
Spread	Spreads via rhizomes to form mats
Sun	Full sun preferred
Soil	Wet; roots and base of stems should remain submerged
Zone	3-10
Habitat	Wetlands, marshes, edges of streams and ponds
Ecosystem Value	Stabilizes soil, prevents erosion; provides habitat for fish, amphib- ians, insects; host plant for dragon- fly, damselfly, moths, and beetles

## **Invasive Species Alert -- Lesser Celandine**

Although we love to see the first signs of spring flowers, lesser celandine, *Ficaria verna*, is an unwelcome invader. The glossy, wavy-edged, dark green leaves start to appear beneath the leaf cover as early as mid-January in our region. Lesser celandine grows quickly, forming large, thick mats that outcompete many of our native spring ephemerals.



Like native spring ephemerals, lesser celandine takes advantage of the sunlight in open woodlands before trees begin to leaf out. Once established, it will continue to spread, quickly forming a thick mat covering forest floors. Its dense mats outcompete nearly all native ephemerals. Insects that depend on native spring ephemerals are deprived of an important nectar source when food is still scarce. Although lesser celandine prefers moist soils in forested floodplains, thriving along stream and river banks, it can also grow in drier upland areas.

Although lesser celandine disappears by mid-summer, the damage has been done. Areas overtaken by this invasive plant are difficult to reclaim for native spring ephemerals, because complete removal of this invasive isn't easy.

Small areas can be dug up. Be sure to get all the bright white tubers and small brown bulblets. The earlier you can dig, the better. Bear in mind that any soil disturbance can lead to further infestations of this and other invasives. Smothering is effective if no natives are growing among the lesser celandine. Use thick

cardboard; newspaper is too thin. Replant the area with densely rooted natives, but don't dig through the cardboard to plant, because this will expose the lesser celandine to light.

Resources Invasive Species Spotlight: Lesser Celandine Invasive Plant Alert: Lesser Celandine

Be careful not to remove the native look-alike, marsh marigold (*Caltha palustris*), which forms individual clumps rather than mats and does not have thick, bright white roots.

# Invasive Plants in PA: Lesser Celandine

# **Educational Opportunities**

- Feb. 15
   Inviting Biodiversity into Our Gardens: Insects with Benefits -- Pollination and Natural Pest Control.
   Western

   Reserve Conservancy webinar, 1:00 p.m.
- Feb. 15 Master Class: Practical Magic for Pondscapes. Grow Native! Webinar, 5:00 p.m.
- **Feb. 15** <u>Partners for Life: Fungi and Plants</u>. Native Plant Society of NJ webinar, 7:00 p.m.
- Feb. 16 Land Ethics Symposium: Creative Approaches for Ecological Landscaping. Bowman's Hill Wildflower Preserve webinar, 8 a.m.
- Feb. 21 How to Identify and Remove Invasive Species. Hollis Conservation Commission webinar, 7:00 p.m.
- **Feb. 22** <u>Too Many Deer?</u> Master Gardeners of Northern Virginia webinar, 7:00 p.m.
- Feb. 22-23 Ecolandscaping Winter Conference. Ecological Landscape Alliance webinar, 12:00 p.m.
- Feb. 24 Bring Bluebirds to Your Garden. Mt. Cuba Center, 3120 Barley Mill Rd, Hockessin DE. 1:00 p.m.
- Mar. 4 Knowing Native Plants: Trees in Winter. Bowman's Hill Wildflower Preserve webinar, 1:00 p.m.
- Mar. 4 Powerful Pollinator Plants. Jenkins Arboretum, 631 Berwyn Baptist Rd, Devon PA, 10 a.m.
- Mar. 7 Mini Meadow Making. New Directions in American Landscaping webinar, 2:00 p.m.
- Mar. 7-9 Pollinator Best Practices Summit. Xerces Society webinar, 11 a.m.
- Mar. 8 Ecology of Wild Edibles. Northeast Ohio Pollinator Society webinar, 7:00 p.m.
- Mar. 14 Gardens as Pollinator Habitat. New Directions in American Landscaping webinar, 2:00 p.m.
- Mar. 16 <u>Native Edible & Medicinal Plants in the Wild-Designed Landscape</u>. New Directions in American Landscaping webinar, 2:00 p.m.