



GOING NATIVE

For HOA's, Developers, Landscapers, Municipal & Township Properties: A GUIDE



South Central PA Chapter

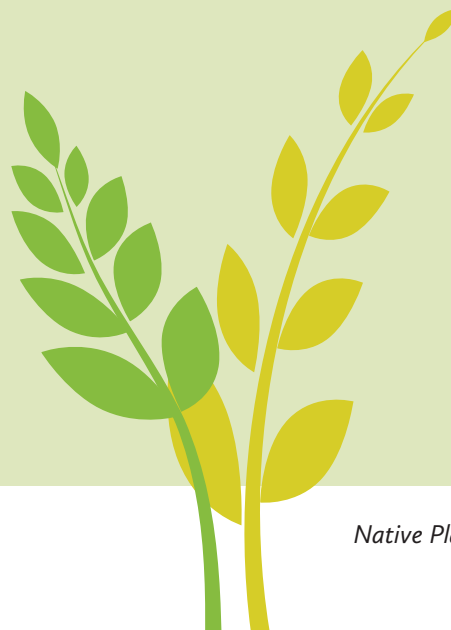


APPALACHIAN
AUDUBON SOCIETY

contents



- 5 Why native plants?
- 6 Trees
- 7 Shrubs
- 8 Perennials and grasses
- 9 Meadows
- 10 Riparian buffers
- 12 Containers
- 13 Maintenance
- 14 Signage
- 15 Want to Learn More?
- 16 *Appendix A:*
Wild OnesSCPA Native Plant Resources
- 17 *Appendix B:*
Keystone Native Plants of the Eastern Temperate Forest Eco-Region by National Wildlife Federation
- 19 *Appendix C:*
Native Plant Ordinance





Little Island, New York City • Photo Mark Preston



Private Gardens of John and Courtney, Kind Earth Growers, Pennsylvania • Photo Heather Andrews



Garden in the Woods, Massachusetts • Photo Lorrie Preston



Highline, New York City • Photo Heather Andrews

“THE *fragmentation of native habitats creates areas too small to support sustainable ecosystems. Special preserves cannot do the job alone; urban, suburban, and rural areas must increase native habitat to provide the support needed to sustain the biodiversity necessary for all of us.”*

— Doug Tallamy

WHY *native plants?*

Plants are the basis for all life on earth, translating the sun's energy into food for all. However, if plants are not local, most local insects, including important pollinators, cannot use them for food or shelter. Local critters have evolved with local plants over the millennia to often specialize on certain plants for their food source. The decline of available local native plants has caused a marked drop in the number and variety of insect and bird species, threatening the entire food web we all rely on.

Why has this happened?

Suburban and urban development and large-scale farming continue to eliminate native habitat and wild edges. The fragmentation of native habitats creates areas too small to support sustainable ecosystems. Special preserves cannot do the job alone; urban, suburban, and rural areas must increase native habitat to provide the support needed to sustain the biodiversity necessary for all of us.

The use of pesticides and herbicides residentially and agriculturally has impacted insect populations.

Lawns make up a territory in the US the size of all of New England and consist of compact turf with shallow roots. They are dead zones to native insects and birds, and foster run-off. In addition, lawns require intense watering, promote pesticide and herbicide run-off, and contribute excess carbon in the atmosphere, due to the gas-powered equipment used for their maintenance.

The marketing of non-native trees, shrubs, and flowering plants to home gardeners and developers has been based on the older notions about preferring exotic plants and that gardens are only for human enjoyment, rather than being important for all living species.

Invasive species, many evolving from those exotic plants marketed to gardeners, have escaped into native habitat and proliferated, suppressing native species in many areas.

We can turn this around if we all do our part!

So what can native plants offer?

- Food sources to restore declining insect and bird populations
- Beautiful landscapes that require less water, mowing, and general maintenance, saving money
- Educational opportunities for visitors
- Reduced stormwater run-off, protecting property and waterways

Next, we will suggest some plants that will provide beauty and support bio-diversity in urban to rural environments.

trees



Red bud



River birch



Oak

Oaks provide a food source for more than 430 types of caterpillars of pollinator butterflies and moths. As such they are the best tree for habitat that can be planted. White Oak, Red Oak, Black Oak are some of the native oaks to our area that provide beautiful long lived shade producing trees for parks and township building grounds. If a smaller tree is need in an urban setting, smaller oaks, such as the Dwarf Chinkapin Oak, can be a solution.

Willows for moist areas and native cherry trees also support large numbers of insect populations. River Birch, Sugar Maple and other native maples, and native crabapples are also great choices to support caterpillar populations. While supporting caterpillars, these trees also are critical for declining bird populations. Almost all birds feed caterpillars to their young — it takes as many as 9,000 to raise one batch of chickadees in spring!

For understory on woods edge or in partial shade of larger trees, native green leafed redbuds and serviceberries provide early spring flowering beauty and habitat for insects and birds.

430+

types of
pollinator butterfly and
moth caterpillars
that use oaks as a food source

9,000

approximate number of
caterpillars
needed to raise
one nest of chickadees

A note about the recommended native species:

The following species listed in this pamphlet and on the Eco-Region List are not native to Pennsylvania, but are native to the greater eco-region. Decisions on including species native to the wider Eco-Region or strictly to Pennsylvania only must be made during design.

*Camphorweed (Heterotheca subaxillaris)
Curlycup Gumweed (Grindelia Squarrosa)
Large Flower Coreopsis (Coreopsis grandiflora)
Lanceleaf Coreopsis (Coreopsis lanceolata);
Instead use Tall Tickseed (Coreopsis tripteris)
Oakleaf Hydrangea (Hydrangea quercifolia)
Fothergilla (Fothergilla gardenia)*

The following species should be exclusively selected from PA ecotypes as they are considered rare in PA

*Maryland Golden-aster (Chrysopsis mariana)
Stiff Leaf Goldenrod (Solidago rigida)*

shrubs

Shrub habitat has disappeared more than any other type of habitat. Shrub thickets provide important areas for bird nesting, as well as hiding places for other mammals, and their berries can be important food sources. Whether planted as a shrub drift or thicket or as specimens in groupings, don't leave out this important layer of native habitat.

There are so many native shrubs to choose from:

- Native viburnums, such as Blackhaw, Arrowwood, and Nannyberry
- Native shrub dogwoods, such as Red Osier or Red Twig and Gray
- Native hydrangeas, such as Smooth or Oakleaf
- Highbush or Lowbush Blueberries
- Pussywillows
- Shrubby St. John's Wort — a neat, compact long blooming shrub loved by native bees
- Sweetshrub, Sweetspire, and Summersweet — all different, but wonderful flowering and fragrant shrubs



Serviceberry



Oakleaf hydrangea



Red twig dogwood

perennials & grasses

There are literally hundreds of native perennials and grasses to choose from in designing a garden area. So how do you choose?

Examine your site — is it sunny, shaded, dry, moist, what is the acidity of the soil? All these are important in determining the best plants to use and reduce care and maintenance in the long run.

Some native plants can get quite tall and leggy, so determining which will best suit your purposes should also factor in structure and height.

Planting a native garden is different than the way we typically have created gardens with exotic or non-native plants.

Expectations: It takes a few years for a native garden to really “perform”. In their first year, native plants work on putting down those deep root systems that help with stormwater runoff and surviving dry conditions without needing supplementary watering. The adage for native plants is “The first year they sleep, the second year they creep, and the third year they leap”. By that second year, your garden will start to flourish and plants that were barely there in year one will begin to be showy.

Native gardens are full and closely planted — the concept of mulch and plants every few feet is not what native plants want or need. By filling in, you will reduce any weeding and future mulching, as well.

The best time to plant is late fall, when watering will be minimal for new plants. Once in they will be established enough to not need watering over the next summer, except in drought conditions. If late fall doesn't work, very early spring is another good time to plant.

You will want to put about an inch of mulch around your new plantings, but by the second year you should only need to mulch at the border edge. The plants will fill in and suppress weeds on their own. A “green” ground cover of low plants like native violets can also suppress weeds. By the third year, little weeding will be necessary.

These photographs illustrate some “Keystone” plants that offer the most benefit to pollinators and birds. Most are also deer resistant, depending on the amount of deer pressure. The appendix also has an extensive list of all types of keystone plants to get you started.



Wild Blue Indigo (Baptisia) is a spring bloomer for the native garden.



The monardas (there are several in various colors) are key early summer plants for pollinators. The red variety is loved by hummingbirds.



The milkweeds (Orange Butterflyweed shown here) are critical for Monarchs.



The Mountain Mints are bee and wasp magnets (and not the kind that sting!)



Purple Coneflower provides what bees want and seeds for birds.



Rudbeckia fulgida, or Black-eyed Susan, blooms a long time and provides seed for birds.



Goldenrods and asters are a critical late source of food for pollinators. There are some beautiful and tame goldenrods for gardens; and it's a myth that they cause allergies!



Asters can vary from tall and rangy like this New England Aster to compact and shrub-like varieties, like Fragrant Aster.



Little Bluestem is a gorgeous addition to the garden that adds height and interest.



Pennsylvania Sedge is a lower-growing grass that can be grouped as groundcover in shade.

meadows

Do you have turf areas that are not needed for recreation? Why spend time, fuel, and money weekly mowing lawn, when there is a great alternative? Native meadows, filled with native grasses and flowers, are the ultimate in providing what our native bees, wasps, butterflies, and others need. However, native meadows require knowledge and experience to transform former mowed turf to true meadow. It is not simply a matter of letting the grass grow.

Unless the area was a previous hay meadow that has been long neglected and has naturally begun to host native plants, a meadow must be started from scratch. The existing turf must be killed by processes such as sod-cutting, solarization, or smothering. During this process, the area may look less than desirable, as it can take months to a year for the turf to be eliminated. Sometimes chemical means are used to kill the turf, though not preferred due to their effects on the environment.



Meadow in summer.

A native seed mix designed for the soil type and location is then applied and then scratched and tamped into the soil for good contact. Seed mixes should be local ecotypes, if possible. Ernst Seed, near Erie, PA, is highly recommended to help with the type and amount of seed mix needed, as well as the expertise they can lend to the project.

In the first year especially, the area will need to be monitored for invasive plants. Early succession plants will bloom, but fade out in subsequent years as more long lived perennials begin to show in year two. It may take three years for the meadow to fully show its wealth of plants.

For the first year, the meadow area should be mowed to a height of 6–8” until early June to discourage cool season non-natives. After the first year, the meadow should be mowed only once a year in April after the weather has reached 50°F for at least one week to allow insects to emerge from winter hiding.



Meadow in fall.

riparian buffers

Riparian buffers are plantings of native trees, shrubs, grasses, and other plants along stream banks to help slow pollution into streams and other bodies of water. The roots of these plantings help filter pollutants, like sediment and nutrients, headed to the water body. Precipitation is filtered by the plantings, which act like a sponge. The roots also help hold soil on the banks in place when high water may cause erosion or collapse. The wider the buffer, the more effective it will be.

Riparian buffers:

- Protect and recharge groundwater
- Mitigate flooding
- Reduce Pollution
- Promote climate resiliency
- Add native habitat to the area



Typical riparian tree plantings along a stream.



Experimental dense riparian planting, Horn Farm, York.



native plant containers



Grasses fill, and mountain mint gives height to this arrangement of pots.



Simple black eyed susans in massed pots provide an entry focus.

Even in small spaces, native plants can add color and texture in containers, while benefiting pollinators who may be in the neighborhood. Native plants need less water than traditional container plants, an added benefit.

- Some small shrubs may do well in larger pots, such as Fothergilla, Summersweet, Virginia Sweetspire, Shrubby St. John's Wort.
- Grasses such as Little Bluestem or Switchgrass provide great container structure and drama.
- A combination of flowering perennials that will provide interest over the summer make a great display.
- In shade, native ferns and heucheras can make wonderful container plants.

As a bonus, after the season is done, the plants can be incorporated into a regular garden, rather than being tossed for winter.

“THE *glory of gardening:
hands in the dirt, head in the sun,
heart with nature. To nurture a garden
is to feed not just on the body, but the
soul.”*

— Alfred Austin

maintenance

Once native plants are established, maintenance is greatly reduced from a typical garden.

- As noted, mulching in garden beds is only needed the first year except around the garden edges.
- Fall cleanup is kept to a minimum to keep seed heads for birds and leaves and stems available for over-wintering insects and other small creatures. Leaves are left in place unless very thick and matting; gently rake these to a corner where they can be saved for wintering insects and hungry birds searching them out.
- As with meadow mowing, clean up should only start in spring once it has been above 50°F for at least a week.
- Plants should be cut back in spring no lower than 8–12". New plants will soon hide the old stems, but they will stay in place as future nesting sites for solitary bees and other insects.
- Weeding for invasive plants will be needed in early years about once a month, and lessen as the garden fills in.
- Plants put in the ground in fall should not need to be watered, other than shrubs and trees which need water for the first two years equal to 1–2" of rain per week. Perennials planted in spring will need water for six weeks and when very dry thereafter for the first year.



How to Create Habitat for Stem-nesting Bees

WINTER
Leave dead flower stalks in-tact over the winter.

SPRING
Cut back dead flower stalks leaving stem stubble of varying height, 8 to 24 inches, to provide nest cavities. Female bees find cut or naturally-occurring open stems, start a nest, then lay an egg on the pollen balls. Larvae eat the pollen.

SUMMER
New growth of the perennial hides the stem stubble. Bee larvae develop in cut dead stems during the growing season.

FALL **WINTER**
Bees hibernate in stems during the winter.

SPRING
Cut back dead flower stalks. Old stem stubble will naturally decompose. Adult bees emerge and start nests in newly cut dead stems or in naturally-occurring open stems.

Graphics and content: Colleen Sotyniuk, Elaine Evans, Heather Helm, Sarah Falk-Jordan

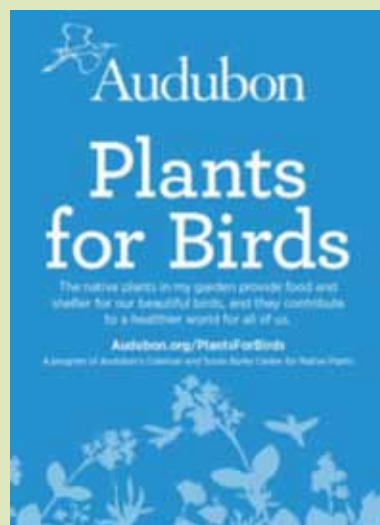
signage

Signage is important for helping visitors understand the importance of planting natives to restore biodiversity and protect the food web. Signage can also help in the first years when a planting is immature and may not look like a typical suburban garden to visitors or when old plants stems and seed heads are still up in early spring.

Signage to identify trees, shrubs, and plants and explain their benefit will help visitors understand the importance of adding native plants to their gardens at home.

Your native plantings can also gain certification through Penn State as a Pollinator Garden, Audubon's Backyard Habitat program, or with the National Wildlife Federation. Certification brings with it the opportunity to post a sign designating that achievement.

Some examples are below:



want to learn more?



Wild Ones SCPA member Heather Andrews can provide your group with a presentation to help you learn more about the benefits of native plants for your environment. Contact her through her website: <https://gardenthoughtfully.com>.

Doug Tallamy, renowned entomologist and promoter of the Homegrown National Park concept, has written about the topic in an accessible way in *Nature's Best Hope* and other books. You can view a webinar where he outlines the reason all of us need to think about increasing native plantings in our local neighborhoods at OSU Pollinator 101, a webinar series put out by Ohio State University in 2022 (<https://www.youtube.com/watch?v=rU6xhsSwxVg>).

The Xerces Society also has an extensive handbook "Pollinator Friendly Parks" which can be found on their website <https://xerces.org> under resources — publications library — subject: parks and public spaces

The Alliance for the Chesapeake Bay works with Municipalities, HOAs, and others with spaces larger than half an acre, providing no-cost native tree plantings as lawn conversions and riparian buffers. They work with landowners to create planting plans and schedule plantings which are included in signed agreements. Contact can be made at <https://www.allianceforthebay.org>.

The Pennsylvania Department of Conservation and Natural Resources (DCNR) has service foresters in each county who can help guide the process and provide recommendations. DCNR also has a lawn conversion program which is building towards having comprehensive technical resources and can sometimes assist with funding. The local county conservation district is also a place to go for guidance and potential funding.

Appendix A contains a list of local native plant nurseries, many of which can provide helpful information on tree, shrub, vine, and perennial selections. Nurseries which specialize in native plants can provide straight species natives that have not been treated with pesticides that can harm pollinators. The listing also contains local native plant landscape designers, who can be engaged in a variety of ways, among them creating a native plant design for your space, recommending native plants for different environments, as well as procuring and installing the plants. (Wild Ones SCPA does not guarantee or endorse any of the listings, nor guarantee that the list is complete.)

“WHERE
*possible, and within
reason, adopt a more
tolerant attitude to
feral bee colonies
in buildings, and of
hived bee colonies in
one's neighbourhood.
If we want bees we
need to make space
for them.”*

— Dr. David Heaf
The Bee-friendly Beekeeper



South Central Pennsylvania Chapter
 Join at <https://wildones.org>
<https://southcentralpa.wildones.org>
<https://m.facebook.com/wildones.scpa>
<https://www.instagram.com/wildones.scpa>
wildonesscpa@gmail.com



APPALACHIAN
 AUDUBON SOCIETY

<https://appalachianaudubon.org>
<https://m.facebook.com/appalachianaudubon>
<https://m.facebook.com/groups/515034908575016>
<https://www.instagram.com/appalachianaudubon/>

WILD ONES SCPA Native Plant Resources

Native Seed Sources

- Prairie Moon Nursery** (Westfield, WI)
 • Seeds, seed mixes, and plugs
 • <https://www.prairienursery.com>
- Ernst Seeds** (Meadville PA)
 • Seeds, seed mixes
 • <https://www.ernstseed.com>

PA Native Plant Sources — Retail

- Arcadia Natives** (Washington, PA)
<https://arcadianatives.com/>
- Behmerwald Nursery** (Schwenksville, PA)
<https://www.behmerwald.com>
- Bowman's Hill Wildflower Preserve**
 (New Hope, PA)
<https://bhwp.org>
- Calyx Native Nursery** (York, PA)
<https://calyxnativenursery.com/>
- Diakon Wilderness Greenhouse**
 (Boiling Springs, PA)
<https://www.diakon.org>
- Edge of the Woods Native Plant Nursery, LLC** (Orefield, PA)
<https://edgeofthewoodsnursery.com>
- Gino's Nursery** (Newtown, PA)
<https://ginosnursery.com>
- Go Native Tree Farm** (Manheim, PA)
<https://www.gonativetrees.com>
- Horn Farm Center** (York, PA)
<https://hornfarmcenter.org/>
- Hungry Hook Farm** (Bainbridge, PA)
<https://www.hungryhookfarm.com>
- Izel Plants** (Mail order)
<https://www.izelplants.com/all-plants/>
- Keystone Wildflowers** (Robesonia, PA)
<https://www.kestonewildflowers.com/>
- Northeast Natives and Perennials**
 (Quakertown, PA)
<https://nenativesandperennials.com>
- Perennial Gardens** (New Bloomfield, PA)
<http://perennialgardens.name/>
- Pollen Nation** (Mail order; retail for New Moon Nursery)
<https://www.thepollennation.com/>
- Prairie Moon Nursery** (See above — plugs)
- Redbud Native Plant Nursery** (Media, PA)
<https://redbudnative.com>
- The Native Niche** (Greencastle, PA)
<https://www.thenativeniche.com/>

Native Plant Sources — Wholesale

- New Moon Nursery**
<http://www.newmoonnursery.com/>
- North Creek Nursery**
<https://www.northcreeknurseries.com>
- Octorara Nursery**
<https://www.octoraro.com>

Local Plant Sales in Spring

- Diakon Wilderness Greenhouse
- King's Gap Native Plant Sale
- Manada Conservancy
- Central PA Native Plant Festival and Sale (Boalsburg)
- Local Master Gardeners
- Penn State Extension Offices

Local Native Plant Designers/ Consultants

- Campisi Property Service LLC**
 York, PA • 717-586-5522
<https://www.facebook.com/campisipropertyservicellc>
- Debra Kirkpatrick, RLA**
 Harrisburg, PA • 717-671-1636
<https://dakirkpatrickrla.com/>
- Garden Thoughtfully**
 Heather Andrews
 Mechanicsburg, PA • 404-368-9542
<https://gardenthoughtfully.com/>
- Green Gardner Designs**
 Mechanicsburg, PA • 717-319-6477
<https://www.greengardnerdesigns.com/>
- LadyBug EarthCare**
 Dillsburg, PA
<https://www.ladybugearthcare.com>
- Landstudies**
 Lititz, PA • 717-627-4440
<https://landstudies.com>
- Ruth Consoli Design**
 Harrisburg • 717-329-3719
<https://www.ruthconsolidesign.com/>
- Soil + Ink**
 Carlisle, PA • 717-323-5042
<https://www.soilandink.co/>



Keystone Native Plants

Eastern Temperate Forests – Ecoregion 8

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 Eastern Temperate Forests – Ecoregion 8

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>)	436 	
	<i>Prunus</i>	American plum (<i>Prunus americana</i>), Black cherry (<i>Prunus serotina</i>), Chokecherry (<i>Prunus virginiana</i>)	340 	
	<i>Betula</i>	River birch (<i>Betula nigra</i>), Sweet birch (<i>Betula lenta</i>)	284 	
	<i>Populus</i>	Eastern cottonwood (<i>Populus deltoides</i>)	249 	
	<i>Acer</i>	Box elder (<i>Acer negundo</i>), Silver maple (<i>Acer saccharinum</i>), Sugar maple (<i>Acer saccharum</i>)	238 	
	<i>Malus</i>	Southern crabapple (<i>Malus angustifolia</i>), Sweet crabapple (<i>Malus coronaria</i>)	237 	
	<i>Carya</i>	Bitternut hickory (<i>Carya cordiformis</i>), Pignut hickory (<i>Carya glabra</i>), Mockernut hickory (<i>Carya tomentosa</i>)	213 	
	<i>Pinus</i>	Pitch pine (<i>Pinus rigida</i>), Eastern white pine (<i>Pinus strobus</i>), Virginia pine (<i>Pinus virginiana</i>)	200 	
Shrubs	<i>Vaccinium</i>	Northern highbush blueberry (<i>Vaccinium corymbosum</i>), Black highbush blueberry (<i>Vaccinium fuscatum</i>), Hillside blueberry (<i>Vaccinium pallidum</i>)	217 	14 
	<i>Salix</i>	Prairie willow (<i>Salix humilis</i>), Black willow (<i>Salix nigra</i>)	289 	14 
Flowering Perennials	<i>Solidago</i>	Stiff leaf goldenrod (<i>Solidago rigida</i>), Atlantic goldenrod (<i>Solidago arguta</i>)	104 	42 
	<i>Symphyotrichum</i>	Blue wood aster (<i>Symphyotrichum cordifolium</i>), Smooth aster (<i>Symphyotrichum laeve</i>)	100 	33 
	<i>Helianthus</i>	Woodland sunflower (<i>Helianthus divaricatus</i>), Small woodland sunflower (<i>Helianthus microcephalus</i>)	66 	50 

	<i>Rudbeckia</i>	Black-eyed Susan (<i>Rudbeckia hirta</i>), Green-headed coneflower (<i>Rudbeckia laciniata</i>)	20 	29 
	<i>Heterotheca</i>	Camphorweed (<i>Heterotheca subaxillaris</i>)		29 
	<i>Grindelia</i>	Curlycup gumweed (<i>Grindelia squarrosa</i>)		31 
	<i>Chrysopsis</i>	Maryland golden-aster (<i>Chrysopsis mariana</i>)	5 	20 
	<i>Coreopsis</i>	Lanceleaf coreopsis (<i>Coreopsis lanceolata</i>), Large flower coreopsis (<i>Coreopsis grandiflora</i>)	7 	22 
	<i>Bidens</i>	Devil's beggartick (<i>Bidens frondosa</i>), Small beggartick (<i>Bidens discoides</i>)		15 
	<i>Verbesina</i>	Wingstem (<i>Verbesina alternifolia</i>)	20 	17 

 **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	436
<i>Prunus</i>	almond, apricot, cherry, peach, plum	340
<i>Salix</i>	willow	281
<i>Betula</i>	birch	289
<i>Populus</i>	aspen, cottonwood, poplar	299
<i>Acer</i>	maple	238
<i>Malus</i>	apple	237
<i>Vaccinium</i>	blueberry, cranberry, deerberry	217
<i>Carya</i>	hickory	213
<i>Pinus</i>	pine	200
<i>Alnus</i>	alder	173
<i>Ulmus</i>	elm	169
<i>Picea</i>	spruce	132
<i>Tilia</i>	basswood	132
<i>Crataegus</i>	hawthorn	131
<i>Rubus</i>	blackberry, raspberry	127
<i>Juglans</i>	walnut	125
<i>Fraxinus</i>	ash	121
<i>Fagus</i>	beech	116
<i>Castanea</i>	chestnut	115
<i>Abies</i>	fir	112
<i>Larix</i>	larch	110
<i>Corylus</i>	hazel	108
<i>Solidago</i>	goldenrod	109
<i>Myrica</i>	bayberry	103
<i>Rosa</i>	rose	102
<i>Symphotrichum</i>	aster	100
<i>Cornus</i>	dogwood	98
<i>Tsuga</i>	hemlock	92
<i>Amelanchier</i>	serviceberry	92

 **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	50
<i>Solidago</i>	goldenrod	92
<i>Symphotrichum</i>	aster	33
<i>Grindelia</i>	gumweed	31
<i>Rudbeckia</i>	black eyed susan	29
<i>Heterotheca</i>	goldenaster	24
<i>Coreopsis</i>	tickseed	22
<i>Chrysopsis</i>	goldenaster	20
<i>Verbesina</i>	wingstem	17
<i>Bidens</i>	beggartick	15
<i>Cirsium</i>	thistle	15
<i>Salix</i>	willow	14
<i>Vaccinium</i>	blueberry, cranberry, deerberry	14
<i>Erigeron</i>	fleabane	12
<i>Vernonia</i>	ironweed	12
<i>Pityopsis</i>	silkgrass	11
<i>Ratibida</i>	prairie coneflower	11
<i>Silphium</i>	rosinweed	10
<i>Baccharis</i>	baccharis	8
<i>Euthamia</i>	goldentop	8
<i>Dalea</i>	prairie clover	7
<i>Oenothera</i>	evening primrose	7
<i>Echinacea</i>	coneflower	6
<i>Gaillardia</i>	blanketflower	6
<i>Balduina</i>	honeycombhead	5
<i>Helenium</i>	sneezeweed	5
<i>Heliopsis</i>	heliopsis	5
<i>Pectis</i>	chinchweed	5
<i>Cornus</i>	dogwood	4
<i>Lyonia</i>	staggerbush	4

NATIVE PLANTING ORDINANCE

Municipality of _____

Ordinance No. 2023–

In Municipal _____, 2023

Sec. 1. TITLE.

This chapter shall be known and may be cited as “Municipality of _____ Landscape Ordinance Promoting the Use of Appropriate Native Vegetation.”

WHEREAS, Native Plants are localized, well adapted to the local soils and climate, tend to be more insect and disease resistant, require less watering and fertilizing than non-native plants, and provide significant mitigation for stormwater runoff.

WHEREAS, local governments use native plant ordinances to improve the landscape principles that guide landscaping of all new development. Many communities find that the use of appropriate native vegetation in local landscaping helps achieve water conservation and stormwater management goals, preserves habitat in urban areas, greatly reduces landscaping maintenance costs, and protects property values.

WHEREAS, wildlife such as birds are more attracted to the Native Plants with which they co-evolved, and use such plants for food, cover, and rearing their young.

WHEREAS, Native Plants, having evolved in the climate, are extremely hardy and therefore have lower maintenance and replacement costs.

WHEREAS, in much the same way as saving an historic home, the use of Native Plants helps to preserve our local heritage.

WHEREAS, Native Plant usage helps restore the ecological balance we have lost through development and can help maintain, or even increase, property values.

Sec. 2. PURPOSE AND INTENT.

The purpose of these regulations is to establish minimum standards for the design, installation, and maintenance of landscaped areas that require the use of appropriate native vegetation and to promote the preservation of indigenous plant communities on site. The Municipality recognizes the significant benefits of establishing and protecting appropriate native vegetation and, therefore, the necessity to maximize the use of appropriate native vegetation in all public and private landscaped areas within the Municipality. It is the intent of this ordinance that these minimum landscape requirements be incorporated in order to promote the public health, safety, and welfare.

It is the intent of this ordinance that these minimum landscape requirements be incorporated in order to combat the climate crisis, species extinction, and to promote the public health, safety, and welfare by: (a) acknowledging that pollination is an essential ecological survival function, and without native plants and the pollinators that depend on them, the human race and all of earth’s terrestrial ecosystems will not survive; (b) doing our part to reverse the massive decline in native pollinator populations from widespread use of pesticides in agribusiness, loss of habitat from development, and from our insistence on non-native plants in landscaping; (c) protecting and promoting genetically diverse and appropriate native vegetation; (d) promoting microhabitats in urban areas for the conservation of wildlife by establishing new, and maintaining and connecting existing, wildlife habitat; (e) creating larger, more connected plant populations and helping ensure the future of native plant species by increasing their ability to migrate in response to changes in climate; (f) promoting public health through the long term, widespread adoption of diverse native plantings; (g) decreasing stormwater run-off to protect property and waterways; and (h) educating residents on the importance of native plant species and native pollinators to the ecosystem.

Sec. 3. DEFINITIONS.

(a) Community Garden: a public or community use area intended for the purposes of gardening.

(b) Community Play Area: public use areas, including school and athletic fields, composed of predominantly turfgrass intended for use for recreational purposes.

(c) Endangered Plant: any plant species which is in danger of extinction throughout all or a significant part of its range.

Continued on next page

- (d) Garden: a cultivated area dedicated to growing vegetables, fruits, annual and perennial plants, ornamental grasses, and ground cover in a well-defined location.
- (e) Invasive Plant: a plant reproducing outside its native range and outside cultivation that disrupts naturally occurring native plant communities by altering structure, composition, natural processes, or habitat quality.
- (f) Landscaped Area: the entire parcel less the building footprint, driveway, non-irrigated portions of parking lots, hardscapes such as decks and patios, and other non-porous areas. Water features are included in the calculation of landscaped areas.
- (g) Landscaping: any combination of living plants and non-living landscape material such as rocks, pebbles, sand, mulch, walls, fences, or decorative paving materials.
- (h) Managed Natural Landscape: a planned, intentional, and maintained planting of native or non-native grasses, wildflowers, forbs, ferns, shrubs, or trees, including but not limited to rain gardens, meadow vegetation, and ornamental plantings. Meadow vegetation means grasses and flowering broad-leaf plants that are native to, or adapted to, and that are commonly found in meadow and prairie plant communities, not including noxious weeds.
- (i) Native Plant: those species of plants occurring within a specific habitat or biogeographical region prior to European contact, according to best scientific and historical documentation. Those species of plants naturally occurring with a specific habitat.
- (j) Pollinators: animals (primarily insect, but sometimes avian or mammalian) that fertilize plants, resulting in the formation of seeds and the fruit surrounding seeds, that humans and other animals rely on to produce nuts and fruits that are essential components of a healthy diet, and that the majority of flowering plant species found world-wide rely on to make the seeds that will become the next generation of plants.
- (k) Rain Garden: a native plant garden that is designed not only to aesthetically improve properties, but also to reduce the amount of storm water and accompanying pollutants from entering streams, rivers, and lakes.
- (l) Remove: to transport a native plant from the premises on which it has been growing.
- (m) Straight Species: a native plant that is not a cultivar or has not been bred to emphasize or minimize certain traits of the parent plant. Naturally occurring hybrids of native plants shall be considered as Straight Species for the purpose of this ordinance.
- (n) Threatened Plant: any plant species that is likely to become an endangered plant within the foreseeable future throughout all or a significant portion of its range, including but not limited to species listed as threatened, at risk, or listed as likely to become endangered by any federal or applicable state or county agency.
- (o) Tree: a self-supporting woody plant having a single trunk or a multi-trunk of lower branches, growing to a mature height of at least twelve (12) feet.
- (p) Turfgrass: continuous plant coverage consisting of a grass species that is mowed to maintain an established height.

Sec. 4. APPLICABILITY.

This ordinance shall be a minimum standard and shall apply to all public and private buildings, developments, subdivisions, and land within the incorporated and unincorporated areas of the Municipality.

Sec. 5. LIMITS ON WEED CONTROL LAWS.

No regulation shall be enacted by the Municipality or any person or entity which prohibits or discourages the planting, maintenance, or protection of native plants or requires or incentivizes the removal or reduction of native vegetation, except when deemed necessary for public safety.

Sec. 6. INCENTIVE PROGRAM.

The Municipality may provide incentives to promote the use of native plants. Examples of such incentives include: 1) fast track permitting for building and landscape permits; 2) reduced permitting fees; 3) certified native landscape programs/marketing; 4) tax breaks/user fee reductions; 5) payment or cost-share programs for removal of invasive species.

Sec. 7. INVASIVE PLANTS FORBIDDEN.

After the effective date of this ordinance, the Municipality shall not use or install any invasive plant in any Municipal property. Landowners shall not allow any invasive plants on their property.

Sec. 8. PRIORITIZING STRAIGHT SPECIES.

The Municipality shall, to the extent possible and to the extent such plants are reasonably available, prioritize using and installing native plants that are straight species on any Municipal property.

Sec. 9. MANAGED NATURAL LANDSCAPE.

An owner, authorized agent, or authorized occupant of any privately owned lands or premises may, consistent with this subsection and all other applicable laws, statutes, rules, and ordinances, install and maintain a managed natural landscape.

Managed Natural Landscapes shall not include any plant identified by any applicable government agency as a noxious weed. Managed natural landscapes may include plants and grasses of any height and which have gone to seed. Managed natural landscapes shall not include plants that, due to location and/or manner of growth, constitute a hazard to the public.

Sec. 10. MANAGED LANDSCAPE SET BACK.

The managed landscape must be set back from property lines by at least _____ feet. The setback is not required where the defined landscape area abuts another similar private or public landscape area, a wetland, pond, lake, or stream or if a fully opaque fence at least four feet in height is installed along the lot line adjoining the planned landscape area.

The managed landscape may be planted up to the property line.

Sec. 11. CONFLICTING REGULATIONS REPEALED.

All rules and regulations that are in conflict with this article, in whole or in part, are hereby repealed to the extent that they are in conflict.

Sec. 12. SEVERABILITY.

If any portion of this article is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate provision and shall not affect the validity of the remaining portions of the article.

Sec. 13. EFFECTIVE DATE.

This article shall take effect _____ days after it is enacted by the Municipality; provided, however, that this article shall not apply to any plantings carried out pursuant to existing contracts, invitations to bid, or designs completed prior to the effective date of this article.

Approved:

President
Council

Mayor



“PLANTS

are the basis for all life on earth, translating the sun’s energy into food for all. However, if plants are not local, most local insects, including important pollinators, cannot use them for food or shelter. The decline of available local native plants has caused a marked drop in the number and variety of insect and bird species, threatening the entire food web we all rely on.”

— Doug Tallamy



South Central Pennsylvania Chapter

Join at <https://wildones.org>

<https://southcentralpa.wildones.org>

<https://m.facebook.com/wildones.scpa>

<https://www.instagram.com/wildones.scpa>

wildonesscpa@gmail.com



APPALACHIAN
AUDUBON SOCIETY

<https://m.facebook.com/appalachianaudubon>

<https://m.facebook.com/groups/515034908575016>

<https://www.instagram.com/appalachianaudubon/>