Wild Ones
NATIVE PLANTS, NATURAL LANDSCAPES
SOUTHEASTERN PENNSYLVANIA CHAPTER

February 2024 Newsletter

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Thought of the Month -- Top 10 Winter Activities for the Native Gardener

Here are some suggestions for activities to keep you busy while we wait for the spring planting season.

1. Check for exposed soil around newly planted trees, shrubs, and plugs, and cover any exposed soil with a light layer of leaves or wood chips to prevent excessive freezing/thawing. Reseat any plants that are frost-heaved.
2. Prune dormant trees, shrubs, berries, and vines as needed.
3. Plant live stakes -- find out how on page 3.
4. Check for browse damage and protect plants as needed.
5. Weed, weed, weed! Get them while they're young and vulnerable.
6. Cut down invasive shrubs while they're more accessible. Read more about this on pages 5-7.
7. Pre-order seeds and plants.
8. Plan and design for the coming season.
9. Winter-sow seeds.
10. Clean, sharpen, and oil metal tools.

February Program -- Designing for Small Garden Spaces

Compact gardens have their own design requirements. Not every garden has room for lots of large trees or a pocket prairie or meadow. A few tools will help you design beautiful and effective small garden spaces.

Designing in layers applies to all gardens. A small garden might have just one structural element, which could be as small as a shrub. The middle layer provides seasonal color and form. The groundcover layer knits all the plants together and creates a living mulch.

If your garden is in a visible spot, use visual cues to tell visitors that the planting is intentional and not just "plants gone wild." Use edging -- bricks, pavers, stones, logs -- to define the line separating the garden from the sidewalk, road, or lawn. Incorporate a focal point, such as an arbor, a water feature, a length of fence, or even a dramatic plant.

Planting in groups will emphasize each species' flowers, foliage, or form. Incorporate plants with varying textures and sizes of leaf and flower. Focal-point plants include false indigo, goatsbeard, cup plant, Joe Pye, little bluestem, and rose mallow.

Signs can help neighbors understand why you have a small lawn and so many unusual plants.

Limit your species palette to 1 or 2 structural plants and 4 to 5 species each for the middle and groundcover layers. Choose clump-forming plants rather than spreaders. Limit the height of your middle-layer plants to 1/3 of the longest side of the bed, and keep the tall plants in the middle of the bed.

Resources

Native Plants for the Small Yard

Front Yard Formal: A Way to Middle Ground

WO-SEPA 2023 Program Schedule

March 6 Keystone Plants (zoom)

April 20 11:00 a.m. Jenkins Garden Shop Opening Day Meet-Up; meet in Garden Shop

Recordings of meetings are on our Youtube channel.

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.

Each issue of our 2024 newsletter will focus on a different species of oak that is native or adapted to southeastern Pennsylvania. Oaks are more than just big, slow-growing trees that don't drop their leaves until spring. Different species of oak thrive in habitats ranging from dry soil to swamps. Many can grow to be 80-foot giants, but 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

Blackjack Oak

In keeping with this month's program on designing for small garden spaces, meet the blackjack oak (*Quercus marilandica*), the smallest oak native to our area. We don't often see an oak referred to as "small," but with an average height of 20 to 45 feet, this tree can easily fit into a site plan for a smaller area. Its mature shape is broad and rounded when given space and good soil, but if planted closer to other trees or in poor soil, it will be shorter and narrower.

Blackjack oak is common in dry upland forests and on sites with poor soil. This oak can withstand fire due to its thick, insulating, nearly black bark and its ability to re-sprout when top-killed by fire.

Blackjack is in the red oak family, with small acorns that take two years to mature. The large, wedge-shaped leaves are a leathery dark green and can turn a striking deep red in fall.

Willows and birches are known for their ability to re-sprout after their trunk is cut close to the ground, but this ability is not as well-known for the slower-growing oaks.

If a blackjack oak becomes too tall for its site, it can be cut to a 1-foot stump that will regrow from the roots' reservoir of stored food and the dormant buds concentrated near the root collar. This ability to regrow from a cut trunk makes the blackjack oak suitable for planting in smaller gardens.

Quick Facts -- Blackjack Oak

Size	20-45 ft tall & wide
Sun	full sun
Soil	dry to medium, preferably acidic soil; tolerates poor, stony soil, clay, sandy soil, and shallow soil
Water	drought-tolerant once established; does not tolerate wet soil or poor drainage
Habitat Value	nesting site for many birds, including woodpeckers; larval host for over 450 caterpillar species; acorns eaten by snakes and raccoons

Live Staking

Live staking is a type of plant propagation by cuttings. It involves cutting dormant stems from woody plants in late winter and rooting them directly in the ground to create new plants.

Late February to early March is the best time for live staking in our area. Live stakes need to be cut while the plants are still dormant, before they start pushing out new growth for the season, but after the soil has thawed. Live stakes can be cut before the soil is completely thawed and held under refrigeration, but this can decrease the success rate.

Certain types of shrubs and trees lend themselves well to live staking; others less so. Choose multi-stem plants that are several years old.

Best Species for Live-Staking

Wet-loving, clump-forming pioneer species tend to be good candidates for live-staking.

Common Name	Scientific Name
Smooth alder	*Alnus serrulata*
Speckled alder	*Alnus incana*
Buttonbush	*Cephalanthus occidentalis*
Silky dogwood	*Cornus amomum*
Grey dogwood	*Cornus racemosa*
Spicebush	*Lindera benzoin*
Ninebark	*Physocarpus opulifolius*
Pussy willow	*Salix discolor*
Sandbar willow	*Salix exigua*
Black willow	*Salix sericea*
Black elderberry	*Sambucus canadensis*
Red elderberry	*Sambucus racemosa*
Arrowwood viburnum	*Viburnum dentatum*
Nannyberry viburnum	*Viburnum lentago*

Cutting dormant stems and driving them into wet soil triggers the plant's response to produce new growth. Stem nodes in contact with soil will be prompted to form roots, while new branches will develop from the nodes above ground. If the new shoot gets enough water and sunlight, it will develop into a new shrub or tree.

How To Cut Live Stakes

Grab a 5-gallon bucket with a few inches of water in the bottom, garden pruners, and loppers. Choose stems that are as thick as your thumb at the base. Cut them 2 to 3 feet long and trim the bottom of the stake to an angle just below a node. Each stake should have at least 6 nodes. Remove any side branches. Cuttings taken from the lowest portion of a branch may have a better chance of rooting.

Plan to plant your stakes right after cutting. If needed, stems can be kept up to a few weeks if kept wet and cool with the angled ends of the stems in water.

To plant, push the angled end of the stake into wet soil, at least 1 foot deep, so that several stem nodes are underground. You can use a piece of rebar as a hole starter, but make sure it's thinner than your stakes, because you want to ensure good soil-to-stake contact all along the branch.

Silky dogwood live stake, 1 year after planting.

Live stakes need constant moisture to establish roots. Streambanks and rain gardens are the best locations. Painting the top of the stake may help prevent some transpiration.

Live Staking for Erosion Control

Live stakes can be planted en masse along streambanks to help control bank erosion.

In this technique, the live branches are bunched together and tied with a biodegradable twine and placed horizontally into a shallow dug-out trench or cradle. They are staked in place with a live stake branch or a wooden stake. These fast-rooting vegetative cuttings will root and sprout branches all along their length.

Resources

Live Staking -- A How-To Guide

Live Staking

Winter Sowing in Plastic Containers

The seeds of many natives require a period of cold weather, called cold stratification, to break dormancy. In some cases, the freeze-thaw cycles are necessary to break down tough seed coverings. Although such seeds can often be sown in place in the fall to overwinter, winter sowing in containers provides more control over the germination process and makes it easier to pot up seedlings to be planted elsewhere.

Check on-line resources to find out the recommended length of time for cold stratification for the species you want to grow. Some seeds need to be winter-sown as early as November, but you can still sow seeds that require 30 or fewer days of stratification.

What You Need

- White or clear plastic containers -- gallon jugs, soda bottles, clamshells, totes
- Cutting tools -- box cutter, scissors, knife
- Electric drill and 1/4" bit
- Permanent marker, plant tags, heavy tape
- Potting soil
- Seeds

Make sure containers are clean. For jugs and soda bottles, make a cut about 4" from the bottom MOST of the way around the container, leaving enough material for a hinge. On gallon jugs, cut just below the handle so the hinge is under the handle.

Drill 6 to 12 1/2" holes in the base of the container for drainage. Label each container on the outside and put a plant tag inside as well.

Prepare Your Soil

The success of germination can be increased by using the right kind of soil. A light soil is best. If you use compost, heat-treat it to eliminate volunteer seedlings that could out-compete your native seed. Peat used to be a preferred potting soil, but it's no longer recommended due to the depletion of peat bogs. Coir (coconut fiber) is a great renewable alternative. You can mix some screenings and sand into the mixture to increase porosity.

Work with well-dampened soil; stir in water as needed. Smack each container lightly on the tabletop several times to settle the soil. Smooth the surface evenly and sprinkle the seed on the soil. Press them gently onto the soil but not under it.

Check your sources -- some seeds require light to germinate, and some need darkness. If it's not specified, you can cover seeds with fine soil or sand just to their thickness. You can water the soil lightly at this point -- you don't want to disturb the seeds -or let the rain do it.

Tape the tops and bottoms of the jugs and soda bottles together. Duct tape works well. It doesn't need to hold for more than a couple of months.

Leave the tops off the containers to allow rain in. Cover totes and clamshell bases with hardware cloth, netting, or reemay to keep animals from disturbing the soil.

Place the containers on the ground, not on concrete, asphalt, or other non-natural surfaces, because those retain heat from the sun. As the weather starts warming, you can open the containers on warm days and close them if frost is expected. Check the soil periodically; if it's dry, water the surface of the soil gently. If there's condensation on the inside of the jugs and bottles, there's no need to water.

When the seedlings have two sets of true leaves, they should be potted up into larger containers to grow out over the spring and summer. Use a spoon to extract seedlings. If seedlings are too close together, cut the soil into small squares and transplant into pots.

Caterpillar Café -- Designing a Garden To Feed Caterpillars

Yes, planting natives to attract pollinators -- bees, wasps, beetles, moths, and flies -- is important, but the adults represent just one stage in the life of an insect. To support a healthy population of these colorful pollinators, gardeners also need to provide caterpillar host plants.

Caterpillars transfer more energy from plants to other animals than any other type of creature, according to University of Delaware Professor of Entomology and Wildlife Ecology Doug Tallamy.

When caterpillars don't have enough native plants to eat, there won't be enough caterpillars to provide energy to birds and other wildlife. Ninety-seven percent of a songbird's diet is insects. A landscape without caterpillars is a dead-end for the food web.

The larvae of many native insects can feed on a variety of native plants, but a significant number of insect species have specialized to thrive on just a few species of plants. The larvae of the painted lady butterfly can thrive on thistles, mallows, and some legumes. Viceroy larvae feed on willows and poplars. But zebra swallowtail caterpillars need the young leaves of the paw paw tree. Baltimore checkerspot larvae feed on turtlehead (*Chelone glabra*).

Some insect species have evolved to feed on host plants whose leaves contain toxins that protect the plants against most insect predators. The insects in turn Incorporate these toxins into their bodies to provide their own defense against predators. As a result, these insects need their host plant to survive.

The pipevine swallowtail lays its eggs on Dutchman's pipevine (*Aristolochia*)

Photo credit: Mary Anne Borge, The-Natural-Web.org

Discovering which caterpillar foods you can grow in your garden to support a variety of native butterflies offers an opportunity to try out different types of native plants. Planting diverse species of caterpillar food will attract a greater variety of birds to your garden.

You may not think about grasses and sedges when planning a caterpillar garden, but quite a few moths and smaller butterflies, particularly skippers, host on them.

Planting a caterpillar café means that the leaves of your plants will get eaten. You may see holes in leaves and even the flowers. Don't panic! This is exactly what is supposed to happen, and under no circumstances should you apply any kind of pesticides, even organic ones. Once you spot your first butterflies-to-be, you won't mind the nibbled look at all. It's a sure sign of success! Caterpillar café gardening means looking at your garden in a different way.

Monarch caterpillars can really chow down on common milkweed, but the plants will produce new leaves. It's worth a few munched leaves to see those monarch butterflies flitting through your garden!

Resources

Butterfly Larval Host Plant List

Host Plants for Butterflies and Moths

Dealing with Invasive Species

In most issues, this newsletter highlights a particular nonnative invasive species along with recommendations for identifying and eradicating it. Here is a deeper dive into some issues behind why and how we eradicate nonnative invasive species.

First, why do we need to remove nonnative invasives? Many gardeners observe that butterflies congregate on nonnative butterfly bush (*Buddleia* spp.), and birds eat the berries of nonnative bush honeysuckles (*Lonicera* spp.). Why shouldn't we plant these species if they feed native insects and birds?

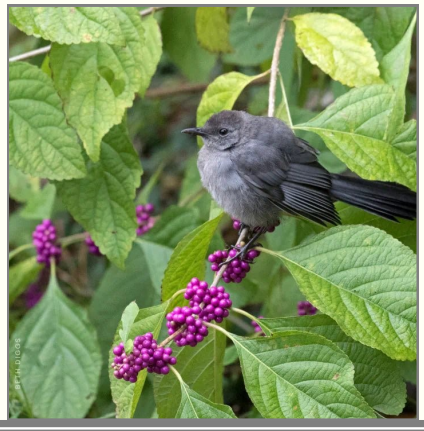
Does Butterfly Bush Really Benefit Butterflies?

Let's start with butterfly bush, a native of Asia that has been extensively cultivated and hybridized in North America for its abundant attractive and fragrant flowers. Although adult insects (primarily butterflies and day-flying moths) feed on the flowers' nectar, not a single native insect feeds on the leaves of this plant. Supporting pollinators includes providing food for their larvae, without which there will be no adults.

Anyone who has grown *Buddleia* knows how vigorously it can reseed. *Buddleia* seedlings spread easily from back yards to nearby fields and edges of woods, where they aggressively crowd out native plants that could be feeding caterpillars. This is the reason to root out *Buddleia* -- there is never just one, and every *Buddleia* plant takes the place of a native plant that could be feeding the young of native insects that ultimately feed our native birds.

Alternatives to Butterfly Bush

American beautyberry, *Callicarpa americana*, is a well-behaved shrub with arching stems featuring small pink or white flowers in mid-spring and dramatic clusters of red-purple berries amid chartreuse foliage in fall. The fruit is an important source of food for native songbirds.



Summersweet or sweet pepperbush, *Clethra alnifolia*, is a densely branched shrub that tolerates more shade and wetter soil than beautyberry, blooming even in part shade. In late summer, spikes of wonderfully fragrant white or pink flowers cover the plant, attracting native bees, butterflies, and hummingbirds.

Bush Honeysuckle --- Not for the Birds

These nonnative shrubs have spread throughout our woods to form dense thickets that can grow 6 to 18 feet tall, shading out native spring ephemerals, ground cover plants, and young trees and shrubs. Because nothing grows under these thickets, bush honeysuckle contributes to soil erosion.

Bush honeysuckles leaf out earlier in spring and hold their leaves later in fall than most natives do, which lends them a competitive advantage over many natives. They also release chemicals into the soil which prevent other plants from emerging.

So many natives provide berries for birds that there is no reason to tolerate bush honeysuckle. Although these shrubs produce copious amounts of fruit, the berries are lower in fat and the nutrients needed by migrating birds.

Similar to butterfly bush, this shrub is like junk food for natives insects and birds.

Bush honeysuckles can be identified by their long, arching branches and conspicuously striated grey or tan bark. Pairs of fragrant white, yellow, or pink tubular flowers appear along the stems in spring, followed by clusters of fleshy red berries.

The mature stems of nonnative honeysuckles are hollow, whereas the stems of native honeysuckle are solid.

Alternatives to Bush Honeysuckle

Arrowwood viburnum, *V. dentatum*, is an upright, rounded, multi-stemmed, deciduous shrub that typically matures at 6' to 10' tall and wide. Showy white flowers in late spring that give way to blue-black fruit that are attractive to birds and wildlife.

It is easily grown in average well-drained soils in full sun to part shade.

Black chokeberry (*Aronia melanocarpa*) provides bees with nectar and pollen from its white to pink-tinged flowers. Clusters of black fruit in the fall feed the birds. Its size -- 3 to 6 feet tall and wide -- is easily manageable, and it offers attractive fall foliage that varies from yellow to orange to crimson.

Winterberry (*Ilex verticillata*) is a medium-size shrub, to 12' high, with delicate white flowers in spring and showy red berries in fall that provide food for birds. Some cultivars can be damaged by deer browsing, but the straight species appears to be more resistant to predation by deer.

Removal of Bush Honeysuckle

Young bush honeysuckle plants are easy to hand-pull any time the ground isn't frozen. Larger plants can be dug up, but the soil disturbance will be significant because of the extensive root system. Cutting the plant to the ground will result in vigorous resprouting. A better way to control mature plants is to cut the main root and any shallow feeder roots below the soil surface with a hand saw, pruning saw, or chainsaw. This severs the stems from the root and should prevent resprouting without the use of herbicides.

Pull the soil away from the root collar and make cuts diagonally from the surface downward, all the way around the root collar, until the top is severed from the roots.

Leave the roots in the soil to decompose. Replant the area with natives to prevent bush honeysuckle and other invasives from reseeding. As long as there are any invasive shrubs within miles of your site, you can expect them to reappear as animals bring the seed with them on their travels.

Using Natives To Crowd Out Invasives

We know that invasives will to continue to reappear even after we've removed existing plants, and we know they are adapted to outcompete many native plants, so how can we stack the deck in favor of natives? Anyone who has worked with disturbed areas -- land cleared for residential development, abandoned agricultural fields, successional woodlands -- has seen that along with the invasives that quickly appear and try to take over, some native plants reappear from the seed bed, or arrive courtesy of birds and animals. Can we harness these plants to push back against the tide of invasives that threaten to take over?

Gardeners are accustomed to creating a new bed by clearing the area of existing vegetation and replanting it with desired species. Even if we design these beds taking into account sunlight, moisture, and soil characteristics, the plants we choose are probably not what nature would have done.

Some gardeners advocate a different approach to planting -- what if we observe the native plants that appear on their own, and make it easier for those types of plants to succeed? Could they ultimately crowd out their invasive neighbors?

> "*Growing a natural garden or restoring habitat is not like baking a cake. Plants are fluid in their behavior, their responses contextual. They are living organisms whose growth and survival depend on factors both within and outside their control: their own chemical makeup, soil, weather, and surrounding plant and animal communities. Even individuals of the same species can have varying chemical responses to herbivory or to competition from neighboring plants*."
>
> Nancy Lawson, https://www.izelplants.com/blog/the-plants-are-coming-home/

Removing any plant, whether native or invasive, provides opportunities for others to move in. Rather than focusing on getting invasives out, we should be concentrating on letting natives in. To identify good competitors, we need to consider a plant's individual characteristics. When does the invasive leaf out, and how does it spread? Which native plants break dormancy at the same time or even earlier? Don't rely on just one native to outcompete invasives -- a layered approach increases the pressure on invasives.

Once you stop mowing a disturbed area, notice the natives that start to appear. Ruderal species -- the first to colonize an area following a disturbance -- are quick to sprout, grow vigorously, and produce a lot of seed. Ruderals native to our area include sedges, fleabanes, snakeroot, and avens. Ruderals will be different depending on site characteristics.

Observe the natives that appear in your yard in disturbed areas -- these plants are your first defense against invasives. Pull or selectively weed-whack the invasives that surround these natives to help them spread. You can dig up or smother larger areas of invasives and promptly replant with plugs or transplants of vigorous spreaders.

Natives with basal foliage (e.g., beardtongue) and evergreen foliage (e.g., ragwort), and vigorous self-seeders (e.g., blue mistflower, panic grass, bee-balm) are especially good competitors.

You can try several methods at once: pulling, smothering, and planting native spreaders. Golden ragwort is a good competitor against a lot of invasives. Here are some suggested native competitors that work well to combat specific invasives:

Lesser celandine -- golden ragwort

Garlic mustard -- golden ragwort, Canada clearweed, black snakeroot, path rush, enchanter's nightshade, honewort, white avens,

Creeping bellflower -- bee balm, beardtongue, *Agastache*

Goutweed -- Canada anemone

Mugwort -- mountain mint (sun), golden ragwort (shade), beardtongue, goldenrods, wild bergamot

Mock strawberry -- violets

English ivy -- Virginia creeper

Stilt grass -- blue mistflower, false nettle, wood sedge (shade), Pennsylvania sedge (sun), pink turtlehead

Burning bush (re-sprouts) -- Jerusalem artichoke

Invasive Species Alert -- Chickweed

Common chickweed (*Stellaria media*), a Eurasian native, is a winter annual that's starting to appear this month. Because of its ability to produce large numbers of seeds under cool temperatures, common chickweed can rapidly colonize any cool, moist area. It creates dense mats of shoots up to 12" long which can out-compete spring ephemerals and emerging native seedlings.

Common chickweed is one of the earliest herbaceous plants to bloom in late winter and early spring. It tolerates low temperatures and can even flower and fruit under a snow cover. It is found on disturbed land, cultivated fields, trails, roadsides, and woodland edges.

Identification (right): Light green stems are prostrate, rooting at the nodes, with the upper portion erect and branching. Small oval to elliptic leaves are arranged oppositely, 1/2" to 1-1/2" long and smooth. Mouse-eared chickweed (*Cerastium vulgatum*, inset, right) is similar in form except for the leaves, which are noticeably furry. Small star-shaped flowers consist of 5 white petals that are deeply lobed, giving the appearance of 10 petals. Flowers appear alone or in small clusters at the ends of the stems. The oval, straw-colored fruit capsule contains copious amounts of tiny reddish brown seeds.

Control: Common chickweed is easy to hand pull. Remove the entire plant and root, because plant shoots have the ability to re-root. Compost all plant parts, or feed them to your chickens or livestock for an early spring treat.

Native look-alike (left): Star chickweed is native to the U.S. The stems are more upright and the flowers have longer petals than common chickweed.

Educational Opportunities

Feb. 15 How Exotic Shrub Berries Alter Bird's Plumage. Brandywine Conservancy webinar, 6:30 p.m.

Feb. 15 Solitary Bee Hotels. Jenkins Arboretum webinar, 7:00 p.m.

Feb. 18 Beetles, Butterflies, Bumblebees, and Other Pollinators. Bowman's Hill webinar, 2:00 p.m.

Feb. 21 Native Plant Trivia. Brandywine Conservancy virtual, 7:00 p.m.

Feb. 27 18 Trees To Plant in a Changing Climate. Brandywine Conservancy webinar, 6:30 p.m.

Feb. 27-29 Best Practices for Pollinators Summit. Pollinator Friendly Alliance/Xerces Society webinar, various times.

Mar. 2 Backyard Bogs. Jenkins Arboretum, 31 Berwyn Baptist Road, Devon, PA, 10:00 a.m.

Mar. 2 Trees in Winter. Bowman's Hill, webinar or in person, 1:00 p.m.

Mar. 5 Mysterious Moths. Brandywine Conservancy webinar, 6:30 p.m.

Mar. 6 Discovering Our Spring Ephemeral Wildflowers**.** Pennsylvania Native Plant Society, Lancaster Public Library, 151 North Queen Street Lancaster, PA 17603. 6:00 p.m.

Mar. 6 Creating Gardens for Wildlife: Why and How. Northeast Ohio Pollinator Society webinar , 7:00 p.m.

Mar. 12 Digging Deeper: Exploring Native Plant Communities. Brandywine Conservancy webinar, 7:00 p.m.

Mar. 16 Why Pollinators Matter and How To Create a Pollinator-Certified Garden. Penn State Extension webinar, 10:00 a.m.

Mar. 17 Amphibians and Vernal Pools - Love Is in the Water. Climbers Run Nature Center 226 Frogtown Road Pequea, PA 17565, 9:00 a.m.

Mar. 19 Native Plants Are for the Birds. Brandywine Conservancy webinar, 6:30 p.m.