
Meadow Garden Quick Facts
for docents & volunteers
“Adopt the pace of nature,
her secret is patience””
-Ralph Waldo Emerson

Meadow Garden Map

The Meadow Boardwalk
Highlighted in yellow

Guests can enjoy our fully accessible Meadow boardwalk. View a wide variety of meadow landscapes from the comfort of an elevated boardwalk and crushed granite path. This path provides expansive views of the woodland edge, the nearby Meadow grasses and plantings, the Meadow and Hourglass Lake Bridges, and crosses Hourglass Lake to the Hourglass Lake Pavilion.

Distance: 1/3 mile one way (about 10 minutes)

Terrain: boardwalk and walking path is suitable for all guests. The gentle grade is wheelchair and stroller accessible, partially shaded

Habitat: Woodland edge, Meadow edge, Wetland and Ponds

East Meadow Hike
Highlighted in orange

Guests walk past Hourglass Lake, over the Earth Bridge and stop at Hawk Point for great bird viewing and viewpoints across the Meadow garden. The Webb Farmhouse is a 10 minute walk from Hawk Point. +Return along northern path and over a shallow creek on Beech Boardwalk. Follow the old Rt 52 roadbed past wetlands and old oaks on the way back to the Hourglass Lake Pavilion.

Distance: roundtrip approximately 1 mile (about 40 minutes) from the Hourglass Lake Pavilion

Terrain: varied terrain, uneven grass trails slope upwards with a moderate incline to the Webb Farmhouse and back down toward the creek and roadbed.

Habitat: dry and wet meadow, wetlands, forest and large specimen white oaks

Meadow Valley Hike
Highlighted in green

This easy walk starts near the Hourglass Lake Pavilion. Guests walk along the edge of the Hourglass Lake and take the second left to walk along the transformed Route 52 roadbed, now a grassy walking path. After crossing a creek via Beech Forest Boardwalk guests return along a slight incline, passing the site of an old quarry, wetlands and spring house before returning to the Hourglass Lake Pavilion via the beautiful Earth Bridge. Along the way guests will see native wetland plants, American holly, and stands of mature beech and oak trees.

Distance: 3/4 mile round trip (about 40 minutes)

Terrain: nearly flat, grass paths and boardwalk

Habitat: creek and wetland, and large specimen white oaks

Outer Meadow Hike
Highlighted in blue

This all-encompassing hike winds along the outer edges of the Meadow offering panoramic overviews of the meadow plantings, quiet corners for contemplation and a unique opportunity to enjoy the Brandywine Valley landscape. With stops at all the Pavilions, the Webb Farmhouse, Beech Boardwalk, and Meadow and Earth Bridges, guests can explore the complete Meadow. Throughout the varied terrain guests can experience many varied habitats including the transitional woodland edges, meadow grasslands, wetlands and lake.

Distance: 1.7 miles roundtrip

Terrain: primarily uneven grass trails with short boardwalk sections-- with varied terrain, bridge crossings, rolling hills and some steep areas.

Habitat: dry and wet meadow, wetlands, forest edge

Note: It is 1.25 miles to the Webb Farmhouse from the main Meadow Garden entrance


Winter, Spring, Summer, and Fall in the Meadow…


Meadow Garden History 1700 - 1950

Lenni Lenape were the predominant people living in this heavily forested region. They cleared small areas of land to plant corn, beans and squash.

1682 William Penn established the colony known as the Commonwealth of Pennsylvania.

Around 1730, English Quaker and landowner William Webb cleared the land and built the farmhouse from stones in the area.

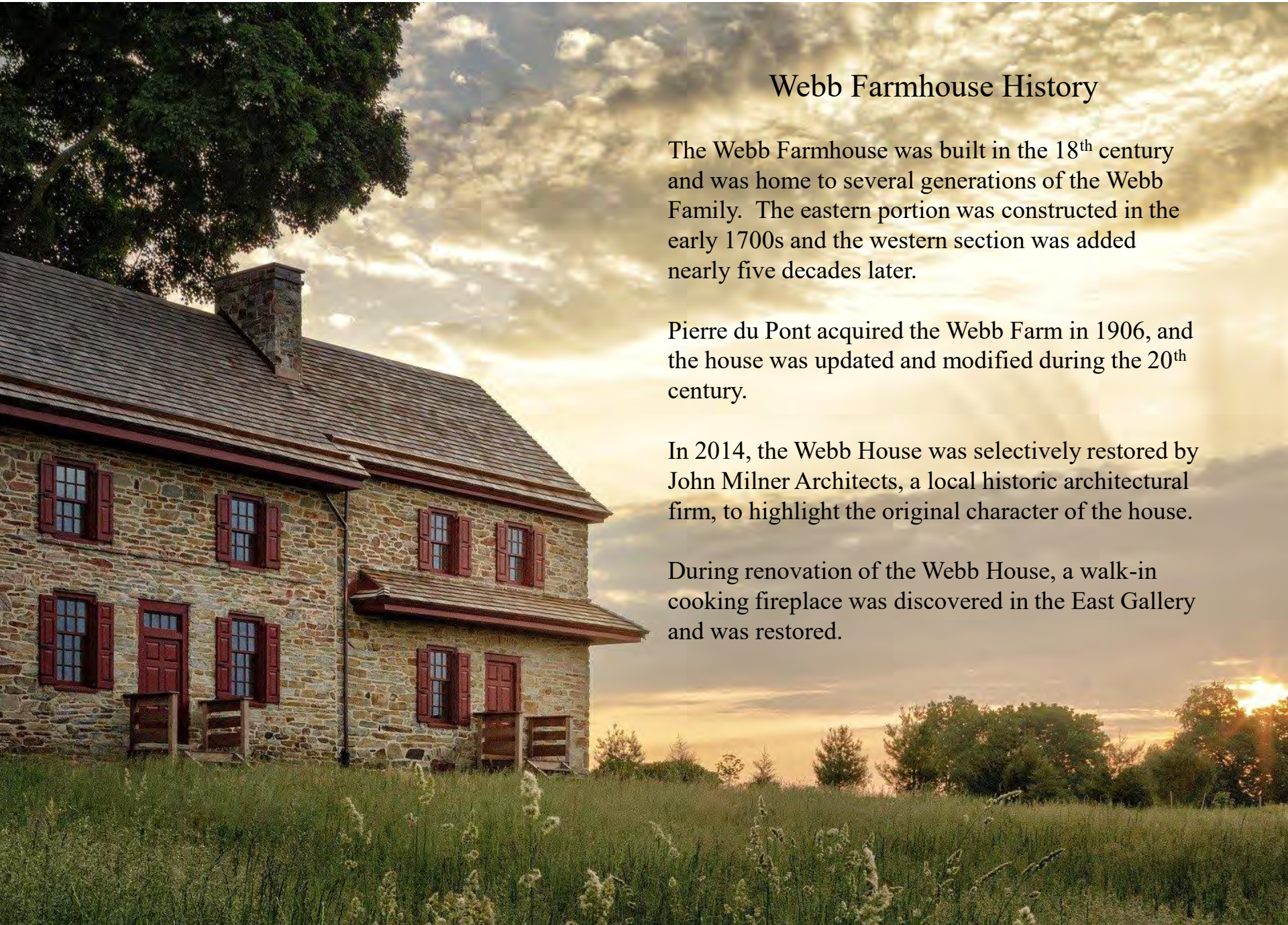
1800s Webb family maintained livestock and farmed the land

1916 Pierre du Pont purchased the Webb farm and neighboring Merrick farm to expand his Longwood farm operations.

1919 Original Webb barn replaced with larger, existing barn built for Pierre's horses and cattle.

1951 Pierre du Pont ceases all farm operations

1600 1700 1800 1900



Webb Farmhouse History

The Webb Farmhouse was built in the 18th century and was home to several generations of the Webb Family. The eastern portion was constructed in the early 1700s and the western section was added nearly five decades later.

Pierre du Pont acquired the Webb Farm in 1906, and the house was updated and modified during the 20th century.

In 2014, the Webb House was selectively restored by John Milner Architects, a local historic architectural firm, to highlight the original character of the house.

During renovation of the Webb House, a walk-in cooking fireplace was discovered in the East Gallery and was restored.

East Gallery

The East Gallery features the oldest part of the Webb Farmhouse, built in the early 1700s.
Highlights include:

- A variety of maps, historic imagery, and illustrations trace the changes to this land over time
- Architectural features such as rough plaster walls and period oak wood flooring
- An exhibit library

West Gallery

The West Gallery depicts the Meadow Garden through the seasons.
Art, including sculpture, herbarium specimens, photography, and illustrations, depict the Meadow as it changes through the seasons and highlights our year-round stewardship of this Garden.

Stewardship of the Meadow Garden

Without intervention, the Meadow Garden would eventually become a Forest.
Woodland/Forest is usually the mature ecosystem for southeast Pennsylvania due to annual precipitation levels and soils that are well-suited for tree growth. Open meadows naturally transition to woods over 25-50 years, although the influx of native species can often delay this transition.

A diversity within the native plant community makes for a stronger, healthier and more resilient ecosystem which can better withstand environmental changes. This in turn supports a more diverse ecological community of insects, birds and other fauna, as many of these species have co-evolved with our native plant communities.

Longwood has augmented the Meadow Garden's native plant community diversity by introducing an additional 100+ native plant varieties and species.

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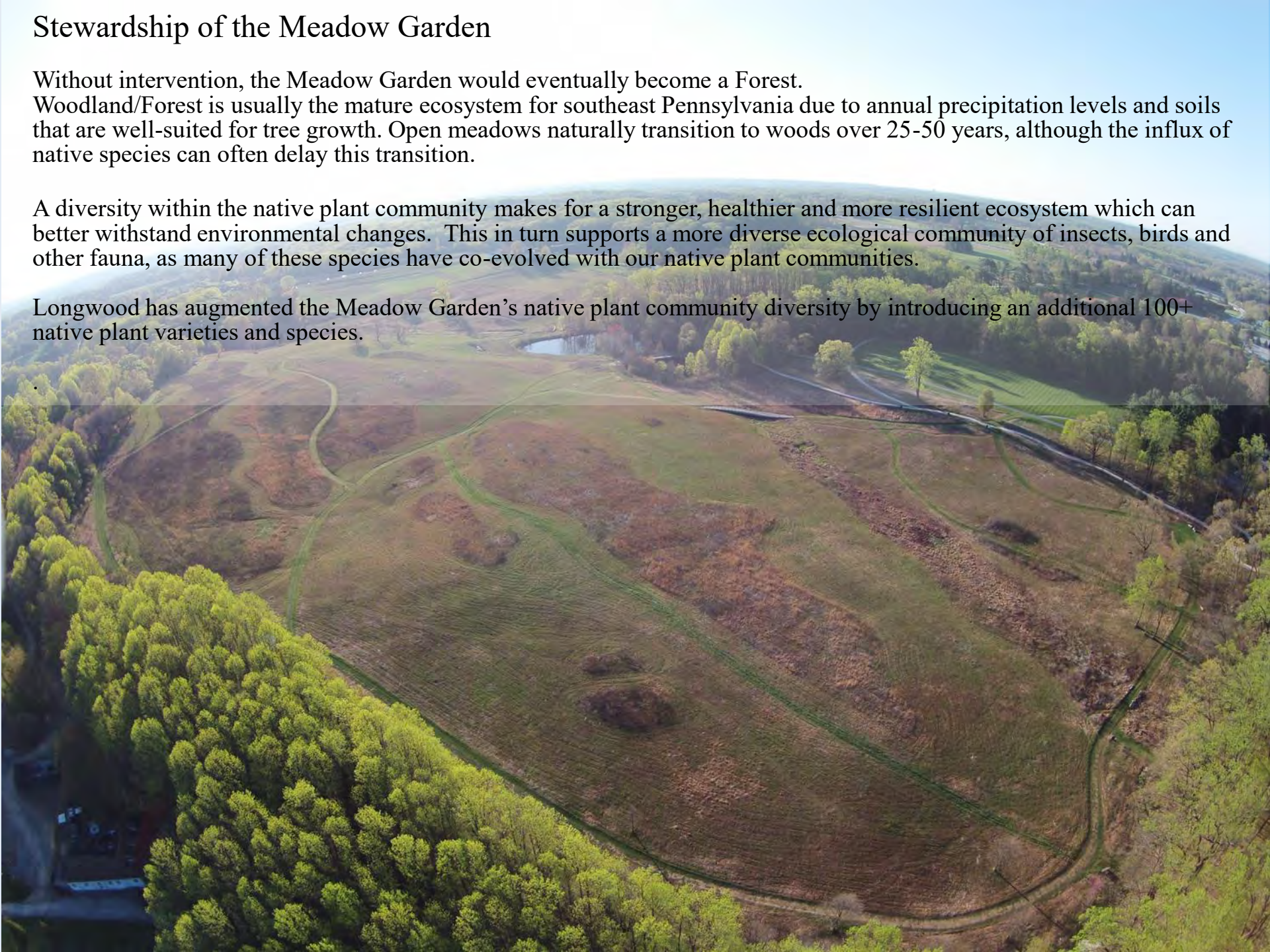


Types of Stewardship Intervention

Controlling Invasive Species with Mowing / Burning

Longwood mows selected portions of the Meadow each spring (mid-late March) to promote diverse plant growth and help control invasive species. Prescribed burns also provide suitable conditions plants which require fire in order to germinate new seedlings.

Removing invasive, non-native plants

Woody invasive plants are cut low to the ground and the stumps sprayed with herbicide to control their spread with limited use of herbicide. Where feasible, others are pulled to minimize disturbance to native plant species and communities.

Introducing additional plants

New plant plugs and seeding are introduced as needed to maintain and add diversity. We are experimenting with a new technique--plants which are native but aggressive growers are cut back in late summer before they go to seed, and new plant plugs planted so they can grow and compete without as much competition. We are evaluating this technique over the next few years.

Using locally sourced and grown plants

Locally grown plants are likely to be stronger and better adapted to the local soils and climate.

What kind of plant is it? Native plants , invasive plants, or something else?

Native Plant

A plant that is a part of the balance of nature that has developed over hundreds or thousands of years in a particular region or ecosystem. Note: The word native should always be used with a geographic qualifier (that is, native to Pennsylvania [for example]). Only plants found in this country before European settlement are considered to be native to the United States.

Asclepias syriaca
Common Milkweed

Non-Native Plant

A plant introduced with human help (intentionally or accidentally) to a new place or new type of habitat where it was not previously found. Note: Not all non-native plants are invasive. In fact, when many non-native plants are introduced to new places, they cannot reproduce or spread readily without continued human help (for example, many ornamental plants).

Begonia 'Brothglow'
Sparks Will Fly

Naturalized Plant

A non-native plant that does not need human help to reproduce and maintain itself over time in an area where it is not native.

Many naturalized plants are found primarily near human-dominated areas. Sometimes "naturalized" is used to refer specifically to naturally reproducing, non-native plants that do not invade areas dominated by native vegetation.

Plantago major
Common Plantain

Invasive Plant

Invasives are a small, but troublesome, sub-category of naturalized plants.

A invasive plant is both non-native and able to establish on many sites, grow quickly, and spread to the point of disrupting plant communities or ecosystems or causing harm to human health or economies.

Invasive plants are initially introduced to a new area by humans but become naturalized to this new area and then spread naturally (without human help).

Securigera varia
Crown Vetch

Crown vetch
Securigera varia

Japanese honeysuckle
Lonicera japonica

Multiflora rose
Rosa multiflora

Common Invasive Plants

Princess-tree
Paulownia tomentosa

Canada thistle
Cirsium arvense

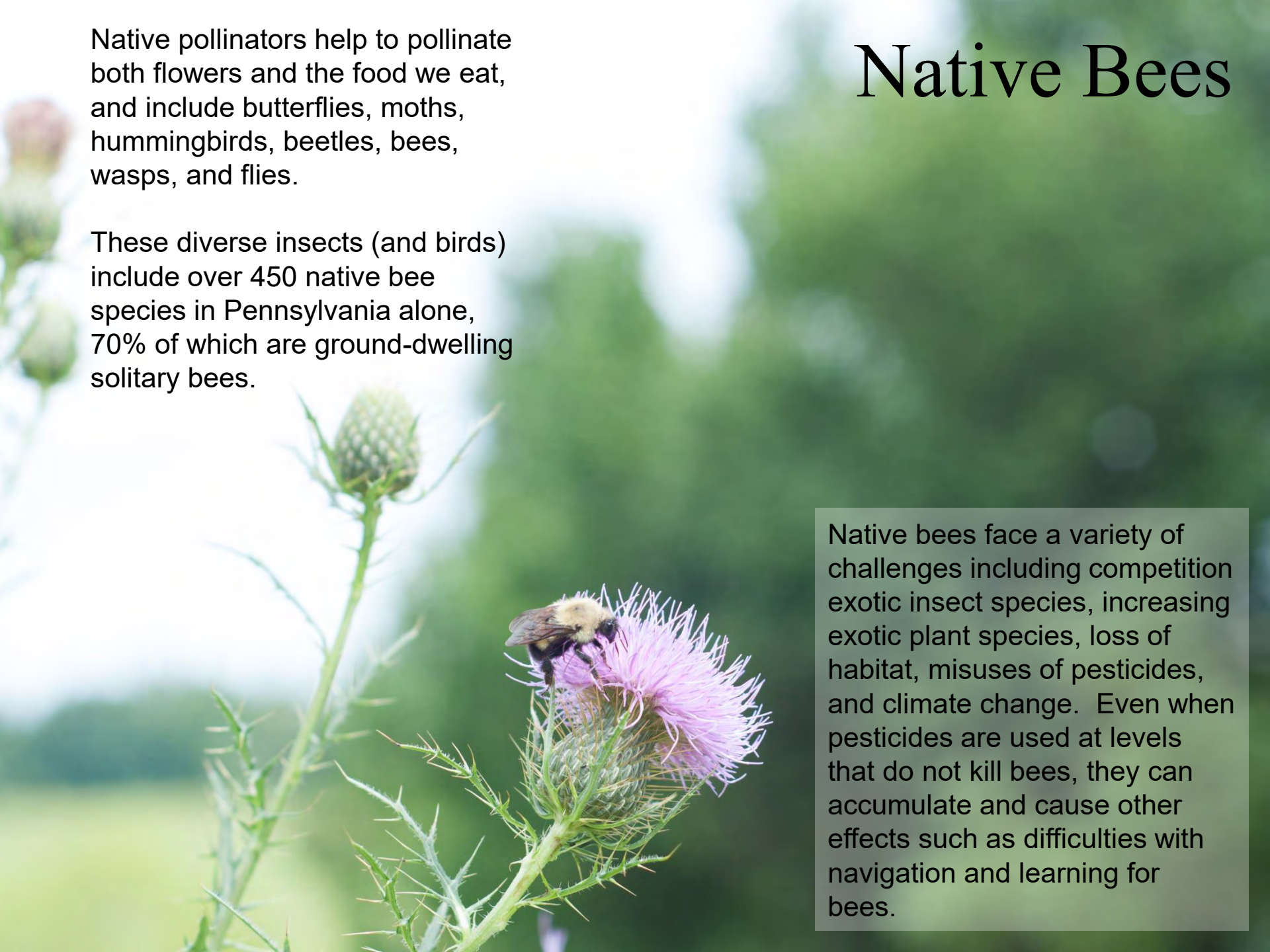
Autumn olive
Elaeagnus umbellata

Oriental bittersweet
Celastrus orbiculatus

Native Bees

Native pollinators help to pollinate both flowers and the food we eat, and include butterflies, moths, hummingbirds, beetles, bees, wasps, and flies.

These diverse insects (and birds) include over 450 native bee species in Pennsylvania alone, 70% of which are ground-dwelling solitary bees.



Native bees face a variety of challenges including competition exotic insect species, increasing exotic plant species, loss of habitat, misuses of pesticides, and climate change. Even when pesticides are used at levels that do not kill bees, they can accumulate and cause other effects such as difficulties with navigation and learning for bees.

The meadow provides native plants for a habitat and food source for native pollinators. These insects have coevolved with native plants and avoid exotic plants almost completely. The meadow also provides a large habitat area that is largely free of harmful and toxic herbicides and pesticides.

The best way to help native pollinators is to provide them with native plants for food and habitat and to reduce or eliminate your use of pesticides and herbicides in your yard.

Some native flowering species include:
Spiderwort (*Tradescantia ohiensis*)
Butterfly weed (*Asclepias tuberosa*)
Common milkweed (*Asclepias syrica*)
Blazing Star (*Liatris sp.*)

Bluebirds

Our year-round monitoring and stewardship of bluebirds helps to increase the population of this species.

We have been designing, building, placing, and caring for bluebird boxes around the property for over 30 years as part of our commitment to land stewardship.

Our team of bluebird volunteers monitors our approximately 200 boxes around the property throughout the nesting season. We usually fledge an average of 200-250 young bluebirds every year along with numerous tree swallows, chickadees, and wrens.

Meadow Garden Birds and Habitat

Over 30 species of birds inhabit the Meadow in the summer. Each species is adapted to a particular microhabitat within the Meadow Garden.

If a bird's preferred habit is not available or is too crowded it will move to another area. If no habitat is available it will not nest or reproduce, becoming rare – or in worst case becoming endangered or extinct in an area.

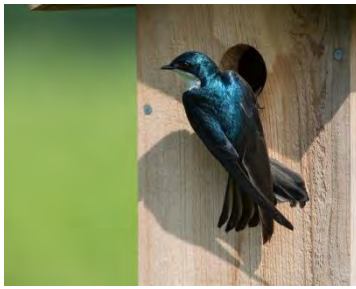
Wading birds such as the green heron and great blue heron eat minnows and frogs from Hourglass Lake. They can nest anywhere from the ground to high in a tree. The Great Blue usually nest high in a tree.

Pond birds like mallard duck and Canada goose eat the green plants in Hourglass Lake. They nest on the ground, close to water. Mallards like to have vegetation to conceal them.

Insect catchers such as the song sparrow, Eastern kingbird, and common yellow throat catch flying insects among the trees. They nest in low lying brush or trees.

Tree climbing birds such as the pileated woodpecker and nuthatch eat insects on (or in) the bark of trees. They nest in cavities they make in dead trees.

Bluebirds and tree swallows prefer open areas where they swoop up flying insects such as flies and mosquitoes. They nest in tree cavities (or bird boxes).



Insect Catchers Such as robins and wood thrush prefer eating insects and worms on the ground –usually in open fields or woodland floor. Thrush nest in low trees in the woods.

Seed eaters like cardinals, goldfinches, indigo bunting, and sparrows eat seeds from a variety of meadow plants as well as insects. They mostly nest in trees.

Raptors like the red tail and other hawks catch small mammals, amphibians and other bird in the open meadow. The usually nest high in trees at edge of the meadow.

Monarch Lifecycle

Caterpillar: 10-14 days

Chrysalis: 10-14 days

Adult: 2 weeks – 8 months

Egg: 3-4 days

Monarch caterpillars eat milkweed to make themselves toxic to predators. Milkweed itself is toxic to many insects due to its milky white sap. There are multiple types of milkweed in the meadow.

Monarch populations are declining throughout North America. Most of this decline has been caused by loss of milkweed and habitat along their migration path due to increased herbicide use, urbanization, and fewer natural plant borders around crops.

Common Milkweed
Asclepius syriaca

Butterfly Weed
Asclepius tuberosa

Swamp Milkweed
Asclepius incarnata

Common Plants of Hourglass Lake

Fetterbush
Leucothoe racemosa

Swamp milkweed
Ascelepias incarnata

Spotted Joe Pye weed
Eutrochium maculatum

Green fringed orchid
Habenaria lacera

Cattail
Typha latifolia

Blazing-star
Liatris spicata

Wild Iris
Iris versicolor

Wildlife at Hourglass Lake

Amphibians

American bullfrog

Pickerel frog

Spring peeper

Mammals

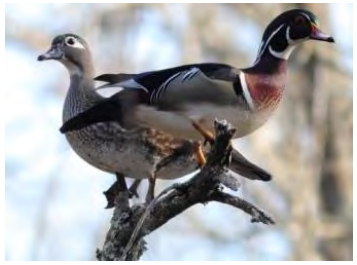
Muskrat

Red fox

American mink

Birds

Redwing blackbird



Wood duck

Green heron

Insects

Blue dasher dragonfly

Common green darner

Water strider

Ebony jewelwing damselfly

Fish

Bluegill sunfish

Largemouth bass

Grass carp