

Meadows

Large and Small

by Beverly Fitts

I AM STUCK BEHIND A FARMER, driving his tractor from one field to another at five miles an hour. I could be annoyed, but it's fall and the wildflowers lining the narrow back road to Longwood Gardens are lovely—the mauve Joe-Pye, the purple ironweeds, the splashes of yellow goldenrod.

That was twenty-five years ago. Today, the road is wider. I never see a tractor. The meadows are gone, replaced by stuccoed houses dotting a sea of lawn. Sadness fills me as I drive my old route. The wildflowers vanished, and with them the insects, birds, and animals that fed on them. Before long, urban sprawl will consume this land. Our children and grandchildren will never see wildflowers blooming by the roadside, nor monarchs feeding on the milkweed.

In mid-August, members of the HPS/MAG Native Plant Special Interest Group spent a day in Lancaster County, studying two different meadows and their native plants. The first, Muhlenberg Meadow, is a five-acre recreated meadow in Lancaster County Central Park. The second is in a private garden belonging to Mike and Jan Slater in Mohnton, Pennsylvania. Our group met in the parking area at Muhlenberg Meadow. At the trailhead,

Mike Slater, President of the Muhlenberg Botanic Society and our guide for the day, told the meadow's story.

Tim Draude, an amateur botanist and native plant enthusiast, imagined a meadow where only plants indigenous to Lancaster County would flower again in all their beauty. Committed to preserving meadows, he knew that local plants are uniquely adapted to the area's climate and soil conditions, and that they create self-sustaining plant communities. He also knew that many native birds and butterflies depend on them for food.



Muhlenberg Meadow

When a former cornfield became available in the county park, Tim and other members of the Muhlenberg Botanic Society went to work. Meadow-making usually begins by clearing the site of weeds. But, because herbicides had been used for a number of years,

this cornfield was essentially weed free. After removing the few remaining weeds, volunteers gathered seeds from isolated fields and roadsides in Lancaster County. They cleaned, labeled, and stored them. In winter the volunteers mixed them together and stirred them into a bucket of sand to weigh down fluffy, airborne seeds such as asters. Next, they spread the sand and seed mixture over the field. Snow, rain, and frost settled the seeds into the soil, and winter gave them the necessary cold period many perennials need to germinate. Until the seedlings became established, Botanic Society volunteers hand-weeded unwanted species.

Now, ten years later, Muhlenberg Meadow basically cares for itself. Over 58 indigenous wildflower species and 10 grass species grow in the meadow. These plants feed approximately 18 species of birds plus 33 types of butterflies and their caterpillars.

Leaving the trailhead, our group walked down the path leading to the meadow. Wingstem (*Verbesina alternifolia*) grows on either side. It's a yellow composite with extensions along the stem, much like that of winged euonymus. This native species grows 4-6' tall and spreads aggressively by seed. It wasn't planted but seeded itself.

The base of Muhlenberg Meadow nestles near a creek. Here, moisture-loving species such as the hollow-stemmed Joe-Pye (*Eupatorium fistulosum*), New York ironweed (*Vernonia noveboracensis*), and bee balm (*Monarda didyma*) reach toward the sky, some so tall they blocked our view of the meadow above.

We climbed the hill, and from the top of the meadow, we could see the full expanse of wildflowers spread beneath us. The shades of purple and gold reminded me of that road to Longwood years ago. Monarch butterflies glided above the flowers, scouting the hundreds of asclepias plants scattered throughout the meadow. Three different milkweeds play host to the monarchs in this meadow: *Asclepias syriaca*, common milkweed; *A. incarnata*, swamp milkweed; and *A. tuberosa*, the orange butterfly weed that so many of us plant in our gardens. The asters weren't flowering yet, but the ironweeds, goldenrods, and mountain mints were.



Vernonia glauca

Mike, our leader, taught us how to identify the various species in bloom. For instance, ironweed seed heads resemble miniature shaving-brushes. They're called pappus. The upland ironweed (*Vernonia glauca*) has light tan to cream pappus, while the New York ironweed has dark tan to reddish-brown papas. *Solidago odora*'s leaves smell like anise, and the Virginia

mountain mint (*Pycnanthemum virginianum*) has fragrant minty foliage, while the narrow-leaved mountain mint (*Pycnanthemum tenuifolium*) does not.



Pycnanthemum incanum and
Pycnanthemum virginianum

Although the meadow essentially cares for itself, nonnative species need to be removed before they take over. One of our members asked why nonnative plants seem to have the upper hand. According to Mike, "Alien species leave most of their diseases and predators at home; they're seldom recognized as food by our native insects and animals." These advantages help them become established and often invasive, displacing our native plants.

That means Botanic Society volunteers must occasionally hand-pull seedlings of trees, shrubs, and unwanted herbaceous species to keep the meadow stable. Why isn't it mowed each fall instead? Because, mowing allows sunlight to reach the soil favoring plants that mature quickly, such as nonnative annuals and biennials. One year the path around the meadow was accidentally mowed three feet wider than usual. The following year a band of Queen Anne's lace, a nonnative biennial, surrounded Muhlenberg Meadow like a halo.

Most of us cannot plant a five-acre meadow in our back yard, but many of us could devote a portion of our property to a miniature meadow.

Garden-worthy Native Flowering Plants

- Actaea racemosa* (White Snakeroot)
- Asclepias incarnata* (Swamp Milkweed)
- Asclepias purpurascens* (Purple Milkweed)
- Asclepias tuberosa* (Butterfly Milkweed)
- Chelone glabra* (Turtlehead)
- Clematis virginiana* (Virgin's Bower)
- Conoclinium coelestinum* (Mistflower)
- Coreopsis tripteris* (Tall Coreopsis)
- Eupatorium perfoliatum* (Boneset)
- Eupatorium purpureum* (Joe-Pye Weed)
- Eupatorium fistulosum* (Hollow-stemmed Joe-Pye)
- Helenium autumnale* (Yellow Sneezeweed)
- Helianthus decapetalus* (Thin-leaved Sunflower)
- Helianthus giganteus* (Tall Sunflower)
- Helianthus tuberosus* (Jerusalem Artichoke)
- Heliopsis helianthoides* (Ox-eye)
- Liatris spicata* (Blazing Star)
- Lobelia cardinalis* (Cardinal Flower)
- Lobelia siphilitica* (Great Blue Lobelia)
- Monarda didyma* (Bee Balm)
- Monarda fistulosa* (Wild Bergamot)
- Oenothera biennis* (Evening Primrose)
- Penstemon digitalis* (Beard Tongue)
- Phlox paniculata* (Summer Phlox)
- Physostegia virginiana* (False Dragonhead)
- Phytolacca americana* (Pokeweed)
- Pycnanthemum incanum* (Hoary Mountain-mint)
- Pycnanthemum tenuifolium* (Narrow-leaved Mountain-mint)
- Pycnanthemum virginianum* (Virginia Mountain-mint)
- Rudbeckia hirta* (Black-eyed Susan)
- Rudbeckia lanciniata* (Green-headed Coneflower)
- Scutellaria incana* (Downy Skullcap)
- Solidago gigantea* (Late Goldenrod)
- Solidago juncea* (Early Goldenrod)
- Solidago odora* (Sweet Goldenrod)
- Solidago rugosa* (Rough-stemmed Goldenrod)
- Symphotrichum ericoides* (Heath Aster)
- Symphotrichum lanceolatum* (Panicked Aster)
- Symphotrichum lateriflorum* (Calico Aster)
- Symphotrichum novae-angliae* (New England Aster)
- Symphotrichum puniceum* (Purple-stemmed Aster)
- Verbena hastata* (Blue Vervain)
- Vernonia glauca* (Upland Ironweed)
- Vernonia noveboracensis* (New York Ironweed)
- Veronicastrum virginicum* (Culver's Root)

Garden-worthy Native Grasses

Andropogon gerardii (Big Bluestem)
Andropogon glomeratus (Broomsedge)
Chasmanthium latifolium (Wild Oats)
Elymus riparius (Riverbank Wild Rye)
Elymus virginicus (Virginia Wild Rye)
Eragrostis spectabilis (Purple Love-grass)
Panicum virgatum (Switch Grass)
Schizachyrium scoparium (Little Bluestem)
Sorghastrum nutans (Indian Grass)
Tridens purpurea (Purple-top)
Tripsacum dactyloides (Gamma Grass)

Garden meadows increase the biodiversity of our local communities by providing habitats and food for wildlife. To see how our guide Mike and his wife Jan built a miniature meadow in their front yard, our group drove to their home in Mohnton, Pennsylvania.



Monarda fistulosum
Seed Heads

Mike and Jan were already talented and well-known rock gardeners when the native plant bug started chewing away at them. Their meadow began with an Asian miscanthus, given to them by a friend, and a few native plants chosen to attract birds and butterflies. Then, like so many Hardy Planters, Mike obsessed about his latest passion. To accommodate the native plants he simply had to have, he turned his front yard into a meadow about 25' by 50'.

Creating a front yard meadow is different from starting one in a cornfield well acquainted with herbicides. Jan and Mike began their 'Tall Meadow' by digging up the existing sod and composting it. They did not amend the soil because many meadow species prefer leaner conditions. Instead of using seed, as Tim Draude did at the Muhlenberg Meadow, the Slaters used plants. Unfortunately, they didn't mulch their 'Tall Meadow' and weeding became a regular chore.

The Slaters tackled the next meadow area, their 'Short Grass Prairie', with Roundup®, applying it three separate times before eradicating all of the sod. To establish the prairie, they chose two grasses Mike particularly likes, the side-oats gramma grass (*Bouteloua curtipendula*) and prairie dropseed (*Sporobolus heterolepis*). Both grow on serpentine barrens in southeastern Pennsylvania. For color, they added Randi's goldenrod (*Solidago simplex* ssp. *randii* var. *racemosa*), gray-stemmed goldenrod (*Solidago nemoralis*), and the rare, white-flowered *Asclepias verticillata*.

This time Jan and Mike mulched heavily after planting. They now have a steady supply of mulch because they make their own. Each spring, just after the Philadelphia Flower Show, Mike takes a chain saw and cuts down last year's meadow plants. He puts them through a chipper shredder, and then uses the shredded debris as mulch, laying it thickly between the plants. He passes along this tip, "Use the top edge of the chain saw, instead of the bottom edge.

It pushes the vegetation away from you, and doesn't jam the saw." When I asked how he and Jan maintain their meadow, the answer was, "We weed a little and mulch." That's all.

Since reading Doug Tallamy's book, *Bringing Nature Home* (See Beverly Fitts, "Book Review *Bringing Nature Home: How Native Plants Sustain Wildlife in Our Garden*", *HPS/MAG Newsletter*, XXII, March 2008, 7.) Mike says, "I'm happy to see holes in my plants

because I know they're doing their job of feeding our wildlife." He also points out that "Native plants are disappearing fast, and the more natives you plant, the less room there is for invasive aliens."

Slater offers this advice to anyone planning a meadow. "First recognize that a meadow is not going to be as tidy as a regular planting. Check out the weed laws in your township to make sure you're not in violation, and keep a mowed area around the edge. A path mowed through the meadow, with maybe a bench, is a good idea, too. It lets people know the meadow is planned and managed."



Jan Slater at Muhlenberg Meadow



The Slater Tall Meadow

Now completely obsessed, Mike and Jan run a small wholesale nursery featuring native plants grown from the

seed of Pennsylvania ecotypes. Many of these plants become the foundation of meadow restoration projects around Berks County.

Before leaving the Slaters' garden, Native SIG members purchased some of his hard-to-find natives. I bought *Doellingeria umbellata*, a flat-topped white aster rated highly in the Mt. Cuba aster trials, and one that I admire

in the Longwood Idea Garden. It's a good garden-worthy native and practically impossible to find in the trade. *Solidago odora*, *Vernonia glauca*, and *Pycnanthemum tenuifolium* also traveled home with me.

I'm unlikely to plant a meadow in my suburban front yard, but after spending a day in Lancaster County, I'll plant more natives from southeastern

Pennsylvanian in my traditional borders. Even this small step adds to the biodiversity and beauty of our local landscape.



Beverly Fitts is a garden lecturer, writer, design consultant, and former President of the HPS/MAG. She has lectured from Connecticut to Virginia for such organizations as the Maryland Horticultural Society, the Pennsylvania Horticultural Society, Green Springs Arboretum in Alexandria, VA, the Hardy Plant Society of New England, and the Master Gardeners. Her articles and photographs have appeared in Horticulture magazine and Green Scene. She is currently the leader of the HPS/MAG Native Plant SIG.

Ed Note: The pictures in this article are courtesy of Beverly. She is an avid photographer as well as plantswoman.

Butterfly Host Plants

Big Bluestem	<i>Andropogon</i>	Crossline, Delaware, and Swarthy Skippers
Columbine	<i>Aquilegia</i>	Wild Indigo Duskywing
Milkweed, Butterfly Weed ...	<i>Asclepias</i>	Monarch
Asters	<i>Aster</i>	American Lady, Pearl Crescent
False Indigo	<i>Baptisia</i>	Hoary Edge, Orange Sulphur, Wild Indigo Duskywing
Purple Poppy Mallow	<i>Callirhoe</i>	Common Checkered Skipper
Sedge	<i>Carex</i>	Appalachian Brown, Black Dash, Long Dash, Broad-winged and Dun Skippers, Eyed Brown, Mulberry Wing
Northern Sea Oats	<i>Chasmanthium</i>	Northern Pearly Eye
Black Cohosh	<i>Actaea</i>	Appalachian Azure
Rattlesnake Master	<i>Eryngium</i>	Black Swallowtail
False Sunflower	<i>Helianthus</i>	Painted Lady
Golden Ragwort	<i>Packera</i>	American Lady, Painted Lady
Switchgrass	<i>Panicum</i>	Delaware, Hobomok, Indian, Least, Leonard's, Ocola, & Tawny-edge Skippers, Northern Broken Dash, Northern Pearly Eye
Penstemon	<i>Penstemon</i>	Common Buckeye
May-apple	<i>Podophyllum</i>	Variegated Fritillary
Little Bluestem	<i>Schizachyrium</i>	Cobweb, Crossline, Indian, & Swarthy Skippers
Stonecrop	<i>Sedum</i>	Common Buckeye, Variegated Fritillary
False Lupine	<i>Thermopsis</i>	Orange Sulphur, Wild Indigo Duskywing
Verbena, Vervain	<i>Verbena</i>	Common Buckeye
Violet	<i>Viola</i>	Aphrodite, Great Spangled, & Variegated Fritillaries

Butterfly Nectar Plants

Milkweeds (Asclepias incarnata and A. syriaca)
Butterfly Weed (Asclepias tuberosa)
Asters (Aster)
Coneflowers (Echinacea)
Joe-Pye (Eupatorium)
Blazing Star/Gayfeather (Liatris)
Cardinal Flower (Lobelia cardinalis)
Bee Balm (Monarda didyma)
Wild Bergamot (Monarda fistulosa)
Phlox (Phlox)
Mountain Mint (Pycnanthemum)
Black-Eyed Susans (Rudbeckia)
Goldenrod (Solidago)
Verbena (Verbena)
Ironweed (Vernonia)

The lists of Butterfly Host and Nectar Plants are provided by Ann-Marie McMahon, Sugarbush Nursery, 4272 Morgantown Rd, Mohnton, PA 19540, 610-856-0998. www.sugarbushnursery.com