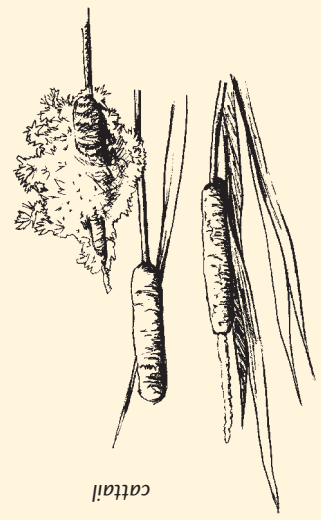
purple loosestrife



cattail

What are wetlands?

Wetlands are low-lying lands that have a natural supply of water. They are wet for a part, and often all, of the year. Wetlands are intermediaries between terrestrial (land) and aquatic (water) ecosystems.

The variety of wetlands along the trail is impressive. There are fens (shrubby-herbaceous wetlands that are fed by underground springs), deep water swamps with floating aquatic plants, and densely vegetated and wooded swamps.

A **rare wetland**, the Undermountain Fen, is located south of Undermountain Road across from the parking lot (6). This calcareous fen is a calcium-rich wetland. It supports a variety of plants, such as the regionally rare bog goldenrod and bog stars, and the uncommon shrubby cinquefoil, fringed gentian, yellow-fruited sedge and nodding ladies tresses.

fringed gentian

There is a **common wetland** south of Coleman Station between North and South Sharon Station roads (12). This is the largest wetland along the trail, with a pond as its central feature. In some years beavers inhabit this pond. Tall invasive plants such as purple loosestrife, common reed, and cattail dominate the shallow edges of the pond. This wetland is the site of a future outdoor education center.

sycamore leaf with barberry

What are vernal pools?

Vernal pools are basins in woodlands that fill with water during part of the year, but usually dry out by late summer. The drying prevents predatory fish from living in the pools, eliminating a threat to developing tadpoles and salamander larvae. Young frogs and salamanders can grow and transform into air-breathers only if water remains in the pool into early summer. If the pool dries out early the baby amphibians will die before transforming.

There is only one **vernal pond** on the west side of the rail trail, about 200 feet south of the Copake Falls Bridge (1). The vernal pool is deep enough to hold nearly two feet of water and is fairly shaded on the west side. This is a fragile community.

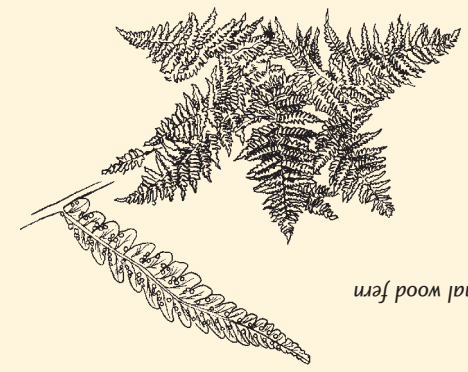
spotted touch-me-not

What are floodplains?

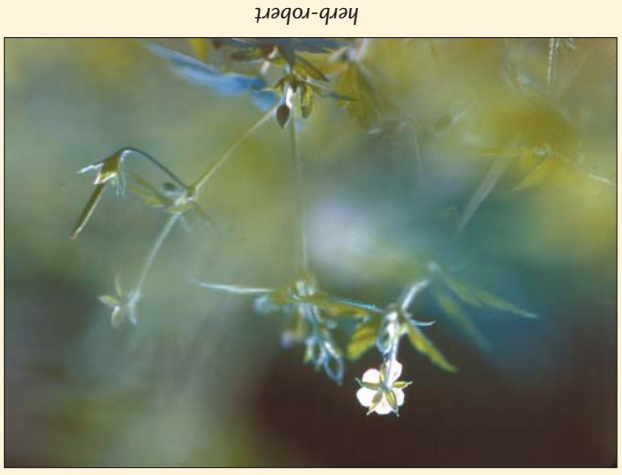
Floodplains are lowlands along streams that frequently flood. Their fertile soil can be rich in plant species. Floodplains often have especially large trees of uncommon species and support fragile habitats.

The Webatuck Creek **floodplain**, on the east side of the rail trail south of Mill Road in Millerton (7), has very rich, deep soil deposited by the stream over hundreds of years. This stretch of stream has large, old silver maples, eastern cottonwoods, and sycamores. The several-hundred-year-old trees in this floodplain make it a fine example of the floodplain habitat. This area retains its serene timelessness through a century of development. This habitat is too fragile to permit public access.

eastern cottonwood



marginal wood fern



herb-robert

The rock cuts south of Millerton are drier, with few native plants. Two of the most successful plants along the rock cut south of Downey Road (8) are herb-Robert, with lacy leaves, dainty pink flowers and candelabra-like fruit, and marginal wood fern.

skunk cabbage

What are rock cuts?

Rock cuts were made so that trains could pass through the area on a level grade. Trail users appreciate the flatness and the coolness of these rock cuts. Rock cuts tend to have less developed plant communities than natural cliffs.

The **rock cut** about 300 feet north of Undermountain Road (5) is wet most of the year. This "spring seep" is one of the few places where skunk cabbage, which is usually found on flat ground, grows on a rocky cliff along with an abundance of ferns, including marginal wood fern.

The rail trail offers visitors an intimate journey through the Harlem Valley landscape. From lush wetlands and wooded swamps, through verdant forests and cool rock cuts, to rolling meadows and cedar shrub lands, the full spectrum of natural features is wonderfully accessible. The plant and animal communities that border the trail are largely a result of the soil types, exposures, slopes, and microclimates in which they grow. Human activities have also played a great role in shaping the landscape. Fields, shrub lands, and immature forests along the trail illustrate the impact of land conversion, and the effects of the railroad industry can be seen in the non-native plant communities on the cinder foundation of the rail bed.

The railroad industry also served as a carrier of exotic plant species — species introduced in historic times — by depositing seeds picked up by the trains or contained in their cargo. Exotic species can sometimes displace native ones — plants that have existed in the area since prehistoric times — but usually grow alongside native plants without replacing them.

As one travels along the rail trail, it is interesting to imagine what the landscape might have looked like before the disruptions of industry and agriculture, and to consider the positive and negative impacts that humans continue to cause today. It is the hope of the Rail Trail Association that this brochure may help in these musings, and also enable a more thorough appreciation of the botanical wealth of the Harlem Valley landscape.

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Sharon Audubon Society, Sharon, CT
860-364-0520
www.audubon.org/local/sanctuary/sharon

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Eco-USA Flora Index:
http://www.eco-usa.net/flora/index.shtml
Photos and species profiles of United States plants.

Flora of New York State
http://www.nysm.nysed.gov/bionyflora.html
New York State Museum project documenting all plant species in NYS.

Rensselaer Taconic Land Conservancy
http://www.rtlc.org
The botany project involves the complete production of botanical surveys of a county just north of the HVRT.

New York Flora Association http://www.nyflora.org/

Virtual Herbarium of the New York Botanical Garden:
http://www.nybg.org/bsci/hcol/
Search NYBG's vast archive of collections from New York and around the world

To become a rail trail member contact us at:
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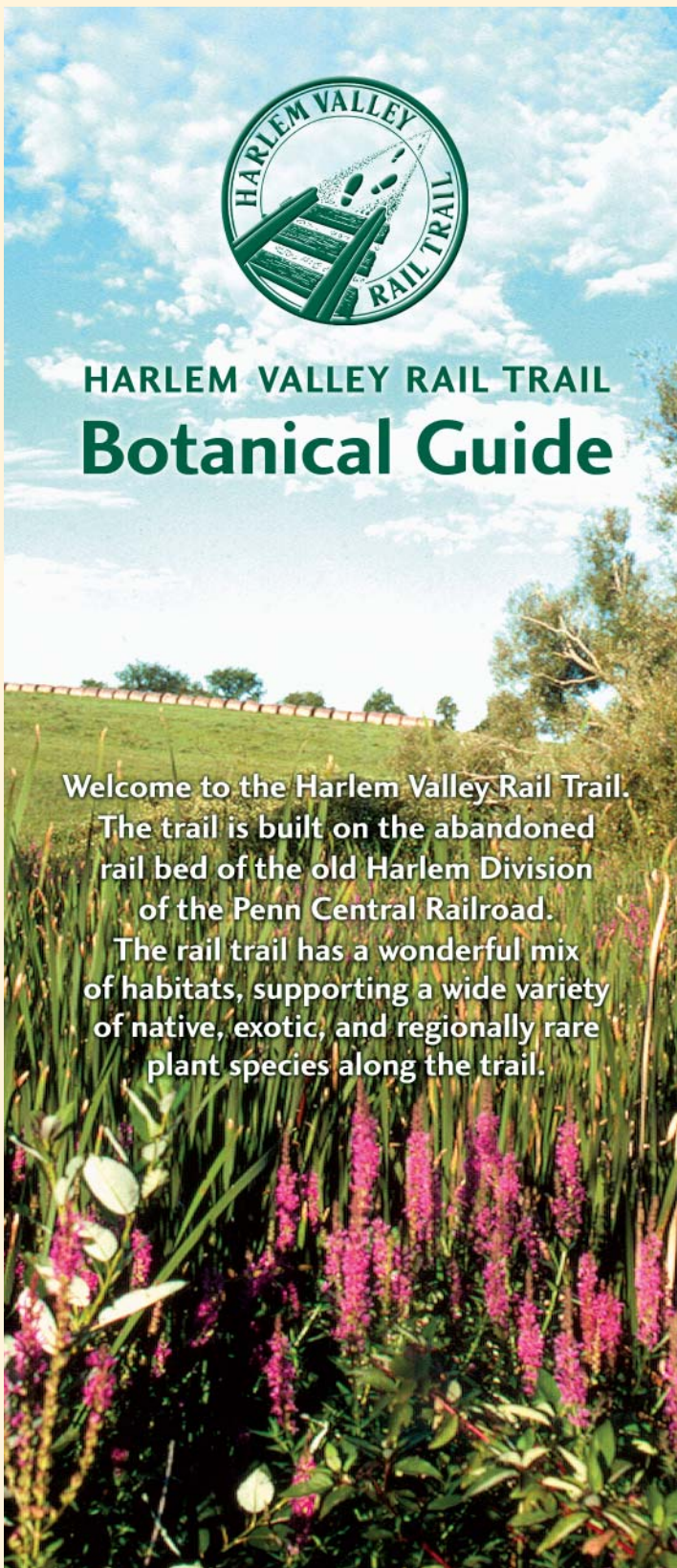
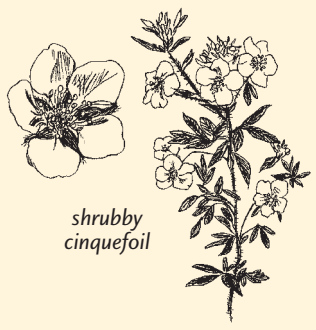


What are uplands?

Forests, shrublands, fields and meadows are examples of upland communities. Many areas along the trail are a mixture of these, and are evolving from pasture and cropland to woodland. There is no old growth forest along the trail, some mature forest, and abundant young forest. Young forests, usually established on abandoned farmland, are more common because of the history of farming along the trail. These forests consist of small and medium sized trees (2-8 inches in diameter at breast height). An unusual upland community is a cinder flora, composed of plants that thrive in the dry cinder soils of the rail bed. The cinder flora is a mix of native and exotic species, unique in its dependence on an artificial soil.

red cedar with ruby meadowfly

A **red cedar shrubland** extends along much of the trail between Millerton and Amenia, and the best example lies west of the trail between Amenia and South Sharon Station Road (13). Characterized by eastern red cedar and the near absence of tall trees, the shrubland reflects the high calcium content of soils. Two regionally rare plants are located in the cedar shrubland: common juniper, the squatter and pricklier relative of the red cedar, and the yellow-flowering shrubby cinquefoil. The shrubby cinquefoil also grows in fens along the trail.



shrubby cinquefoil

phragmites

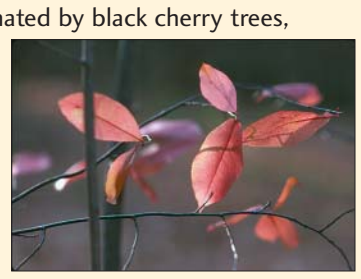
"Shady Maple Grove" is the most accessible mature forest along the trail. It is located about 1-3 miles south of the southern intersection with Valley View Road on either side of the rail fence (2). This forest is 90% sugar maple plus other hardwoods and white pine. Most of the trail's **mature forests** grow on steep slopes descending to small valleys 15 to 20 feet lower than the rail bed. One such forest is in a low valley east of the first rail trail fence south of Coleman Station (11).

sugar maple in the fall

The mossy-cup oak, or bur oak, is common in **young forests** along the trail, but rare statewide. This tree is found mainly between Downey Road and Coleman Station (9). The scales of the tree's acorn caps are elongated to form curly fibers reminiscent of moss. The mossy-cup oak indicates calcium-rich soils along the trail.

mossy cup oak

Another young forest is located on an upward slope north of Undermountain Road, on the east side of the trail (4). It is dominated by black cherry trees, and also includes mountain paper birch, a regionally rare tree.



black cherry tree in the fall

The trail runs along many areas of **farmland**. Much of the abundant farmland is changing from pasture to shrubland. Agricultural lands south of Copake Falls are bucolic examples of the rural landscape.

Meadows, dominated by common weeds, line much of the length of the rail trail. These meadows sustain creeping plants such as birdsfoot trefoil, common bedstraw, spotted knapweed, and bouncing bet. These exotic weeds settle quickly into disturbed areas, and creep onto the paved surface.

bouncing bet

birdsfoot trefoil

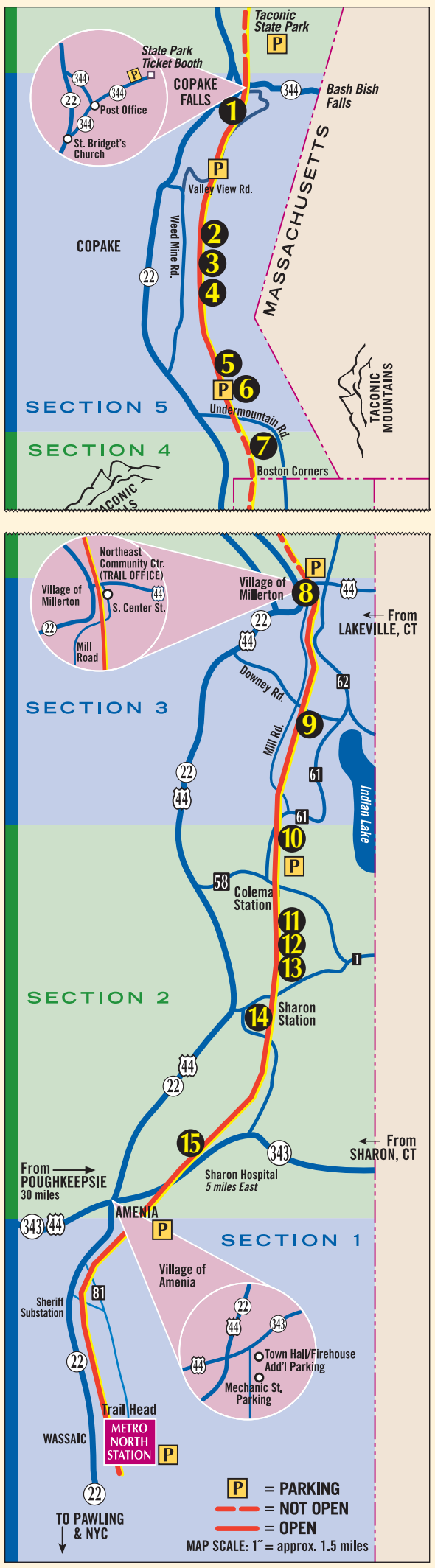
A few native plants such as common milkweed, wild bergamot, goldenrod, and butterfly weed also grow in this meadow habitat. Insects including butterflies, moths, and hummingbirds gather in the "weed gardens" along the trail. The best example of a weed garden is where the trail passes through farmland south of Copake Falls (3).

wild bergamot

Just south of Coleman Station on the west side of the trail (10) is an example of **cinder flora**. The tallest grass, big bluestem, survives in the nutrient-poor soil. This prairie grass species is regionally rare, and may have been transported by trains from the Midwest.

butterfly weed

early goldenrod



Wetland

angelica, purple-stem	*Angelica atropurpurea*
ash, black	*Fraxinus nigra*
aster, purple-stemmed	*Aster puniceus*
bog-stars	*Parnassa glauca*
butttonbush	*Cephalanthus ocidentalis*
cardinal-flower	*Labelia cardinalis*
cattail, broad-leaf	*Typha latifolia*
dogwood, red osier	*Cornus sericea*
fern, marsh	*Thelipteris palustrix*
flag, blue	*Iris versicolor*
gentian, fringed	*Gentianopsis crinita*
goldenrod, bog	*Solidago uliginosa*
ladies-tresses	*Spiranthes cernua*
lily, yellow pond	*Nuphar advena*
loosestrife, purple	*Lynthrum salicaria*
maple, red	*Acer rubrum*
milkweed, swamp	*Ascelpias incarnata*
reedgrass	*Phragmites australis*
rose, swamp	*Rosa palustris*
rush, Canada	*Juncus canadensis*
sedge, lakeside	*Carex lacustris*
sedge, tussock	*Carex stricta*
skunk-cabbage	*Symplocarpus foetidus*
sweetflag	*Acorus americanus*
water-pepper, large	*Polygonum hydropiper*
willow, silky	*Salix sericea*

Floodplain

alexanders, golden	*Zizia aurea*
basswood	*Tilia americana*
cottonwood, eastern	*Populus deltoides*
cucumber, prickly	*Echinocystus lobata*
dogbane, intermediate	*Apocynum androsaemifolium*
grape, summer	*Vitis aestivalis*
maple, silver	*Acer saccharinum*
sedge, droop-flowered	*Carex laxiflorus*
sycamore	*Plantanus occidentalis*

Shrubland

blackberry, common	*Rubus allegheniensis*
blueberry, lowbush	*Vaccinium angustifolium*
cedar, eastern red	*Juniperus virginianus*
hazel, American	*Corylus americana*
oak, scrub	*Quercus ilicifolia*
sedge, Pennsylvania	*Carex pensylvanica*

Mature forest

bloodroot	*Sanguinaria canadensis*
elm, American	*Ulmus americana*
ginger, wild	*Asarum canadense*
hemlock, eastern	*Tsuga canadensis*
hickory, pignut	*Carya glabra*
Indian-pipes	*Monotropa uniflora*
maple, sugar	*Acer saccharum*
oak, black	*Quercus velutina*
rue-anemone	*Thalictrum thalictroides*
sedge, small stellate	*Carex radiata*
sedge, broad-leaf	*Carex platyphilla*
viburnum, maple-leaf	*Viburnum acerifolium*

Young forest

aspen, quaking	*Populus tremuloides*
birch, gray	*Betula populifolia*
cherry, black	*Prunus serotina*
fern, hayscented	*Dennstaedia punctiloba*
locust, black	*Robinia pseudoacacia*
maple, Norway	*Acer platanoides*
mustard, garlic	*Alliaria petiolata*
poison-ivy	*Toxicodenron radicans*
snakeroot, white	*Eupatorium rugosum*
sumac, staghorn	*Rhus hirta*
woodbine	*Parthenocissus quinquefolia*

Farm field

bedstraw, common	*Galium mollugo*
butter-and-eggs	*Linaria vulgaris*
cinquefoil, dwarf	*Potentilla cadadensis*
horse-nettle	*Solanum carolinense*
marjoram, wild	*Origanum vulgare*
nettles, stinging	*Urtica dioica*
pink, Deptford	*Dianthus armeria*
sheep-sorrel	*Rumex acetosella*
strawberry, field or wild	*Fragaria virginiana*
trefoil, birdfoot	*Lotus corniculatus*
vetch, cow	*Vicia cracca*

Meadow

aster, crooked-stemmed	*Aster prenanthoides*
beardtongue, hairy	*Penstemon hirsutus*
bergamot, wild	*Monarda fistulosa*
black-eyed-susan	*Rudbeckia hirta*
bluestem, big	*Andropogon gerardii*
bluestem, little	*Schizachirium scoparius*
butterfly, weed	*Asclepias tuberosa*
catchfly, sleepy	*Silene antirhinium*
cinquefoil, shrubby	*Potentilla fruticosa*
daisy, ox-eye	*Leucanthemum vulgare*
Queen-anne's lace	*Daucus carota*

Vernal pool

hop sedge	*Carex lupulina*
moneywort	*Lysimachia nummularia*
touch-me-not, spotted	*Impatiens capensis*
water-purslane	*Ludwigia palustris*

Disturbed ground

alyssum, hoary	*Berteroa incana*
barberry, Japanese	*Berberis thunbergii*
bittercress, bushy	*Cardamine impatiens*
bluecurls	*Trichostema setacea*
bouncing-bet	*Saponaria officinalis*
campion, bladder	*Silene vulgaris*
damesrocket	*Hesperis matronalis*
honeysuckle, Morrow	*Lonicera morrowi*
knapweed, spotted	*Centaurea maculosa*
mullein, common	*Verbascum thaspus*
umbrella-wort	*Mirabilis nyctaginea*

Rock cuts

fern, bulblet bladder	*Cystopteris bulbifera*
honeysuckle, limber	*Lonicera dioica*
polypody, common	*Polypodium virginianum*
rock-cress, lyre-leaved	*Arabis lyrata*
saxifrage, early	*Saxifraga virginica*
solomon-seal, two-flowered	*Polygonatum biflorum*
spleenwort, ebony	*Asplenium platyneuron*

Plant photos: Spider and Anita Barbour • **Cover photo:** Heyward Cohen • **Plant illustrations:** Anita Barbour • **Text and pamphlet design:** Rhianon DeLeeuw • **Special thank you:** Spider Barbour, botanist; Dr. Alan Berkowitz, Institute of Ecosystem Studies; Craig Holdrege, The Nature Institute; David Shufelt, HVRTA executive director; and Professor Hank Art, Williams College