

MOUNTAIN TOP ARBORETUM

Education Center Rain Gardens Guide



Buttonbush
Cephalanthus occidentalis



Rosehell Azalea
Rhododendron prinophyllum



Water Avens
Geum rivale



Blue Vervain
Verbena hastata



Swamp Milkweed
Asclepias incarnata



Bottle Gentian
Gentiana andrewsii



Golden Alexander
Zizia aurea



Slender Mountain Mint
Pycnanthemum tenuifolium



Blue flag
Iris versicolor



Gray's sedge
Carex grayi



Great Blue Lobelia
Lobelia siphilitica



Monkey flower
Mimulus ringens

Let it Rain by Jamie Purinton, Landscape Architect

The design of the landscape around the Education Center is directly inspired by the native plant communities of the Catskill Mountains. Habitats such as wet meadows and seeps, woodland edges, and bedrock alpine communities guided the style and content of the plantings and the stonework. The landscaped areas around the Education Center fall into three primary plant communities: **rain gardens, woodland edges, and bedrock outcrops.**

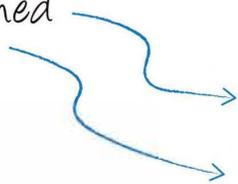
The **rain gardens** are a vital component of the landscape, providing unique wet habitats and special planting opportunities. Their key function is to hold back, absorb and filter stormwater-- even providing biofiltering of pollutants. After heavy rains, water gathers in the garden depressions and flows from one rain garden to another, following the contours of the land. The plants in these depressions take up the water through their root systems and return it to the atmosphere through transpiration. The largest rain garden features an American larch, an alder and native azaleas as well as the wet-loving buttonbush that provide pops of mid-summer white blooms. The smaller rain gardens contain trees and shrubs that thrive in wet conditions, such as muscledwood and nannyberry; their branches will someday shade visitors' cars. Beneath the trees and shrubs are a wonderful variety of flowering, water-loving plants, including cardinal flower, blue lobelia, bottle gentians, monkey flower, water avens, swamp milkweed, blue flag iris, blue vervain, swamp candle, golden alexander and turtlehead. Masses of native sedges and rushes provide a full, dense ground cover and beautiful summer and fall seed heads. Frogs and salamanders will find places to hide and keep cool. We hope visitors and student groups will see the beauty and purpose of these rain gardens and be inspired to create these habitats in their home landscapes

For the **woodland edges**, we planted an understory of eastern hop-hornbeam, paper birch, striped maple and numerous Catskill native viburnums. At the shady outer edge are American spikenard, woodland aster, columbine, and wreath goldenrod, as well as native marginal wood fern and the nearly evergreen christmas fern. Wavy hair grass, Pennsylvania sedge and Appalachian sedge form an underlying integrated groundcover that will reduce maintenance needs and create a natural woodland layering of plants. All of these plantings soften the border where the landscaped area meets the existing woodland edge arching around the south-side of the building.

The **bedrock outcrop** landscapes of the Catskill mountaintops are the main inspiration for the sunny open spaces around the Education Center. Some of the unique native plants now living in the nearby thin dry soil of the West Meadow's exposed bedrock include pussytoes, bluets, three toothed cinquefoil, and poverty oat grass. These are the perfect plants to live alongside the Education Center's stone paths and to create a low "tapestry lawn" of native vegetation. Encircling the mowed section of the circular space are taller sun loving meadow plants including *Monarda*, *Penstemon*, narrowleaf mountain mint, and downy and white goldenrods. They provide blooms throughout the season as well as wonderful opportunities for local pollinating insects.

The overall design and plantings of this new landscape complement the grace of the timber frame building and celebrate the unique local plants that give the Catskills its wonderful sense of place.

Surrounding Watershed



Plan View of Six Interconnected Rain Gardens

**Mountain Top Arboretum
Education Center Rain Gardens**

Rain Garden 1				
Common Name	Latin Name	Height	moisture	Flower Color
Wild Columbine	<i>Aquilegia canadensis</i>	to 18"	dry to moist	red to yellow
Swamp Milkweed	<i>Asclepias incarnata</i>	to 48"	moist to wet	pink
Gray's Sedge	<i>Carex grayi</i>	16-36"	moist to wet	--
Rosy Sedge	<i>Carex rosea</i>	12-24"	dry to wet	--
Fox Sedge	<i>Carex vulpinoidea</i>	24-36"	moist to wet	--
Turtlehead	<i>Chelone glabra</i>	to 36"	wet	white
Blueflag	<i>Iris versicolor</i>	to 32"	wet	blue purple
Soft Rush	<i>Juncus effuses</i>	to 36"	moist to wet	--
Cardinal Flower	<i>Lobelia cardinalis</i>	to 48"	moist to wet	red
Blue Lobelia	<i>Lobelia siphilitica</i>	to 48"	moist to wet	blue
Swamp Candles	<i>Lysimachia terrestris</i>	to 32"	wet	yellow
Slender Mountain Mint	<i>Pycnanthemum tenuifolium</i>	to 32"	dry to moist	white
Green Bulrush	<i>Scirpus atrovirens</i>	to 48"	moist to wet	--
Wool Grass	<i>Scirpus cyperinus</i>	to 72"	moist to wet	white to brown
Blue Vervain	<i>Verbena hastata</i>	to 48"	moist	blue
Golden Alexander	<i>Zizia aurea</i>	to 32"	moist	yellow
Rain Garden 2				
Musclewood (tree)	<i>Carpinus caroliniana</i>	to 40'	moist	yellow-green
Gray's Sedge	<i>Carex grayi</i>	16-36"	moist to wet	--
Rosy Sedge	<i>Carex rosea</i>	12-24"	dry to wet	--
Fox Sedge	<i>Carex vulpinoidea</i>	24-36"	moist to wet	--
Turtlehead	<i>Chelone glabra</i>	to 36"	wet	white
Bottle Gentian	<i>Gentiana andrewsii</i>	to 36"	moist to wet	blue
Water Avens	<i>Geum rivale</i>	9-18"	moist to wet	cream to purple-red
Soft Rush	<i>Juncus effuses</i>	to 36"	moist to wet	--
Cardinal Flower	<i>Lobelia cardinalis</i>	to 48"	moist to wet	red
Blue Lobelia	<i>Lobelia siphilitica</i>	to 48"	moist to wet	blue
Rain Garden 3 & 4				
Gray's Sedge	<i>Carex grayi</i>	16-36"	moist to wet	--
Rosy Sedge	<i>Carex rosea</i>	12-24"	dry to wet	--
Fox Sedge	<i>Carex vulpinoidea</i>	24-36"	moist to wet	--
Bottle Gentian	<i>Gentiana andrewsii</i>	to 36"	moist to wet	blue
Water Avens	<i>Geum rivale</i>	9-18"	moist to wet	cream to purple-red
Bluets	<i>Houstonia caerulea</i>	to 3"	dry to wet	blue, white & yellow
Soft Rush	<i>Juncus effuses</i>	to 36"	moist to wet	--
Cardinal Flower	<i>Lobelia cardinalis</i>	to 48"	moist to wet	red
Blue Lobelia	<i>Lobelia siphilitica</i>	to 48"	moist to wet	blue
Monkey Flower	<i>Mimulus ringens</i>	to 36"	wet	pink-purple
Three-toothed Cinquefoil	<i>Sibbaldiopsis tridentata</i>	2-4"	dry	white
Green Bulrush	<i>Scirpus atrovirens</i>	to 48"	moist to wet	--

Rain Garden 5				
Nannyberry (shrub)	<i>Viburnum lentago</i>	to 30'	moist	white
Gray's Sedge	<i>Carex grayi</i>	16-36"	moist to wet	--
Rosy Sedge	<i>Carex rosea</i>	12-24"	dry to wet	--
Fox Sedge	<i>Carex vulpinoidea</i>	24-36"	moist to wet	--
Turtlehead	<i>Chelone glabra</i>	to 36"	wet	white
Blueflag	<i>Iris versicolor</i>	to 32"	wet	blue purple
Soft Rush	<i>Juncus effusus</i>	to 36"	moist to wet	--
Cardinal Flower	<i>Lobelia cardinalis</i>	to 48"	moist to wet	red
Blue Lobelia	<i>Lobelia siphilitica</i>	to 48"	moist to wet	blue
Swamp Candles	<i>Lysimachia terrestris</i>	to 32"	wet	yellow
Monkey Flower	<i>Mimulus ringens</i>	to 36"	wet	pink-purple
Slender Mountain Mint	<i>Pycnanthemum tenuifolium</i>	to 32"	dry to moist	white
Green Bulrush	<i>Scirpus atrovirens</i>	to 48"	moist to wet	--
Wool Grass	<i>Scirpus cyperinus</i>	to 72"	moist to wet	white to brown
Golden Alexander	<i>Zizia aurea</i>	to 32"	moist	yellow
Rain Garden 6				
Speckled Alder (shrub)	<i>Alnus incana</i> subsp. <i>rugosa</i>	15-25'	moist to wet	yellow catkins
Black Chokeberry (shrub) 'Low Scape Mound'	<i>Aronia melanocarpa</i> 'Low Scape Mound'	to 2'	moist to wet	white
Buttonbush (shrub)	<i>Cephalanthus occidentalis</i>	to 12'	wet	white, ball-shaped
Roseshell Azalea (shrub)	<i>Rhododendron prinophyllum</i>	to 9'	moist	pink to purple
Swamp Milkweed	<i>Asclepias incarnata</i>	to 48"	moist to wet	pink
Gray's Sedge	<i>Carex grayi</i>	16-36"	moist to wet	--
Rosy Sedge	<i>Carex rosea</i>	12-24"	dry to wet	--
Fox Sedge	<i>Carex vulpinoidea</i>	24-36"	moist to wet	--
Turtlehead	<i>Chelone glabra</i>	to 36"	wet	white
Water Avens	<i>Geum rivale</i>	9-18"	moist to wet	cream to purple-red
Blueflag	<i>Iris versicolor</i>	to 32"	wet	blue purple
Soft Rush	<i>Juncus effusus</i>	to 36"	moist to wet	--
Cardinal Flower	<i>Lobelia cardinalis</i>	to 48"	moist to wet	red
Blue Lobelia	<i>Lobelia siphilitica</i>	to 48"	moist to wet	blue
Swamp Candles	<i>Lysimachia terrestris</i>	to 32"	wet	yellow
Hairy Beardtongue	<i>Penstemon hirsutus</i>	to 32"	dry	white and purplish
Slender Mountain Mint	<i>Pycnanthemum tenuifolium</i>	to 32"	dry to moist	white
Green Bulrush	<i>Scirpus atrovirens</i>	to 48"	moist to wet	--
Wool Grass	<i>Scirpus cyperinus</i>	to 72"	moist to wet	white to brown
Blue Vervain	<i>Verbena hastata</i>	to 48"	moist	blue
Golden Alexander	<i>Zizia aurea</i>	to 32"	moist	yellow

All plants do well in full sun.

Photos by Jamie Purinton, Laura Vitale, Marc Wolf