

From June through September, Narrowleaf Mountain Mint and Virginia Mountain Mint were found in various areas of GMR. They are particularly abundant at the Restoration Area where several Virginia Mountain Mint had been planted and Narrowleaf Mountain Mint was included in a seed mix. Wild Mint (i.e. Corn Mint) was also common in the wet areas near Barbour's Pond. The Mints are especially important and of great value as a nectar plant for many species of pollinators.

### *Late Summer & Fall*

In August and September, the Bonesets and Goldenrods begin to bloom. Common Boneset was found in the Deer Exclosure and the Restoration Area, while Late Boneset was found to be thriving in many areas of both parks. White Snakeroot begins to appear, though drought has taken a toll on it this year. Flat-topped Goldenrod is found mainly in the Deer Exclosure and Restoration Area, but was seen in other places as well. Canada Goldenrod, Common Wrinkle-leaved Goldenrod, Blue-stemmed Goldenrod, and White Wood Aster were found in bloom only in the Deer Exclosure.

Meanwhile the shores of Barbour's Pond are alive and glistening with wildflowers and the humming of insect life. In August, upon a cove just north of the restoration area, a variety of interesting plants are found in bloom, including Side-flowering Skullcap, Primrose-Willow, Yellowseed False Pimpernel, Kidneyleaf Mud Plantain, Dwarf St. Johnswort, Water Forget-me-not, and Waterpepper. A large patch of Clustered Mountain Mint flourishes nearby.

From late-August through October, Purple False Foxglove (i.e. Purple Gerardia) flourishes near Barbour's Pond and is especially abundant within the wet grasses on the sunny northeast side. False Foxglove is the primary host plant for the unique Common Buckeye butterfly. Broadleaf Arrowhead can be found in the shallow edges of the pond, while the damp shoreline hosts a wide variety of plants including Arrow-leaved Tearthumb, Water Horehound, Waterpepper, Corn Mint, and various species of American Asters.

At the Restoration Area, New England Aster, Great Blue Lobelia, Gold Medallion, Black-eyed Susan, Heath Aster, Larger Bur Marigold (Bidens), Swamp Beggarticks, Boneset, Flat-topped Goldenrod, White Snakeroot, and Chickory were found in bloom.

### *October*

While many plants have completed their flowering, the Asters and Thoroughworts are just reaching their peak. White Snakeroot (which suffered losses in the summer drought) now predominates and flourishes at both parks, while Late Boneset can still be found along the sunny trails of Rifle Camp. Common Toadflax and Purple False Foxglove still flourish in many places, and Nodding Ladies Tresses can be found amongst the grasses. Along the banks of Barbour's Pond, Beggarticks, Bur-Marigold, and a plethora of small white asters (Heath, Bushy, Panicked, and Small White) can be found. And along a partly-shaded forest path, a single Blue Wood Aster was found in bloom.



Black-eyed Susan



Prickly Pear Cactus



Canada Goldenrod



Poke Milkweed





Common Boneset



Purple False Foxglove



Clustered Mountain Mint



Narrowleaf Mountain Mint



## SHRUBS AND FLOWERING TREES

Small flowering trees can be found throughout Garret Mountain, including Serviceberry, Dogwood, Magnolia, Eastern Redbud, Crabapples, and flowering Cherry trees. Many of these are ornamental varieties which were planted in the parks at some time.

A variety of native flowering-shrubs were found. Blackhaw Viburnum is common within the forest understory. In May, the Pinxter Flower blooms along the Slippery Rock Brook and along the west side of Barbour's Pond. A few Lilac bushes were also in bloom, just off the trail above the Slippery Rock Brook. Other shrubs found included Spicebush, Winterberry, Highbush Blueberry, Witch Hazel, Hawthorn, and Buttonbush (by the pond at RCP).

Along the sunny, dry reaches of RCP, an area of Sweetfern, Lowbush Blueberry, Huckleberry, and Carolina Rose were found. A single Maple Leaf Viburnum plant was found growing within a rocky area not far from the RCP pond. Striped Wintergreen (a subshrub) were found in both parks.

Allegheny Blackberry and Dewberry, were found growing within in the Deer Exclosure. Although not officially part of this survey, it should be noted that several shrubs had been planted in the wet areas of the exclosure, including Carolina Sweetshrub, Buttonbush, Winterberry, Pussy Willow, and Witch Hazel. A variety of shrubs had also been planted at the Riparian Restoration Area at Barbour's Pond. These included Bayberry, Black Chokeberry, Buttonbush, Arrowwood, Redosier Dogwood, Sweet Pepperbush, Spicebush, Witch Hazel, Winterberry, Serviceberry, and Pussy Willow. Unfortunately, any shrubs which were not protected with fences have disappeared.

## VINES

Thickets of Greenbrier were found in various areas of both parks. Virginia Creeper was found in a few places, but mainly in the deer exclosure. Other vines seen included Poison ivy, Wild Grape, Bittersweet Nightshade and Hedge Bindweed. Invasives including Oriental Bittersweet, Mile a minute Weed, Japanese Honeysuckle, and Porcelainberry were also found. Trumpet Vine, which was planted by the Restoration Area, was observed in flower.

Berries on vines (such as the Greenbrier, Wild Grape, and Virginia Creeper), and on shrubs and trees (such as Winterberry, Dogwood, and Crabapple) provide an important food source for migrating and wintering birds.





Pinxter Flower



Buttonbush



Sweetfern



### Invasive Species

A number of non-native invasive plant species are found in the parks. Among the most widespread and problematic are Japanese Stiltgrass, Mile-a-Minute Vine, and Japanese Barberry. By Summer, Japanese Stiltgrass covers much of the forest floor, including areas inside the deer enclosure, which presents a major obstacle to restoration efforts. Water Chestnut is becoming a problem along the southern portion of the pond. Other “invasive” species observed in the parks include Garlic Mustard, Japanese Knotweed, Wineberry, Multiflora Rose, Porcelainberry, and Oriental Bittersweet.

### Areas of Significance

The results of this study suggest certain areas and habitats are of particular importance. Further studies focusing on these places are highly recommended.

#### *Barbour’s Pond*

The shoreline and areas surrounding Barbour’s Pond were found to have both the greatest variety and greatest abundance of flora. All areas adjacent to the pond were significant. The Restoration Area (see below) and the wet grassy area at the northeast section were of particular significance. It is highly recommended that the vegetation and rich plant life surrounding Barbour’s Pond be encouraged and preserved.

#### *Wetlands*

As expected, the wetland areas of both parks were significant. At GMR there is a large wetland near Rifle Camp Road, where Skunk Cabbage, Jack in the Pulpit, and New York Fern can be found. The wet areas to the north and south of Barbour’s Pond are also highly significant. Winterberry, Highbush Blueberry, Greenbrier, Cattails, and Reeds can be found in the wet area north of the pond. Another large wetland area can be found in the north-west valley of GMR, and another inside the deer enclosure. A large vernal pool is found near the stables and other potential vernal pools are found elsewhere in the park. At RCP, the shoreline and wetlands surrounding the pond support several large Buttonbush. There are also wetlands where Skunk Cabbage flourishes, and several potential vernal pools scattered throughout the lowlands. A large vernal pool can be found atop the mountain south of the pond. Although wetland habitat abounds within the parks, there are a limited number of plants growing here. It would be advantageous to plant additional species, (especially those that provide value for birds and wildlife); however plantings would require protective fencing. In addition, a large quantity of gravel has washed into the wetlands at the north end of Barbour’s Pond. Restoration of this area (including removal of the gravel and additional plantings) would be of great value.

#### *Rock Outcrop & Traprock Glade Communities*

From mid-spring through summer, Virginia Dwarf Dandelion blooms abundantly upon the rocky outcrop ridges. Blue Toadflax was also found to thrive here, along with a few plants of Rock Harlequin. The rock outcrop/ridgetop habitat has very shallow soil where few plants can survive. It is primarily characterized by Little Bluestem Grass and various mosses and lichens. At Rifle Camp Park, several Prickly Pear cactus were found to be flourishing. It is highly recommended for follow-

up studies to focus on the flora of the rock outcrop/traprock glade and ridgetop communities, at both parks.

#### *Riparian Zone Habitat Restoration Area*

The Restoration Area (at the southeast corner of Barbour's Pond) supports a wide variety of native grasses, rushes, sedges, and wildflowers. Following the dredging of Barbour's Pond, the Friends of Garret Mountain began a restoration of the site. The area was seeded in Fall 2018 and Spring 2019, and plants and shrubs were planted in 2019, 2020, and 2022. The area is now mainly covered with native grasses and rushes. A variety of wildflowers, including a large patch of Common Milkweed, can be found amongst the tall grasses. Some of these flowers were included in the original seed mix and/or planted, while others have grown voluntarily. This area is left natural and is not actively maintained.

#### *Deer Exclosure*

The deer exclosure is a 15.5-acre section of forest, surrounded by an 8-foot high fence. It was installed by the County in 2019. A few visits were made inside the exclosure for the purpose of this study. A variety of native wildflowers were found, including several species not found elsewhere at GMR. These include Rue Anemone, Whorled Loosestrife, Wild Columbine, Solomon's Seal, Solomon's Plume, Partridgeberry, White Wood Aster, and Blue-stemmed, Wrinkle-leaved, and Canada Goldenrods.

Although a variety of herbaceous plants (plus many tree seedlings and young saplings) were observed, there is a notable lack of a shrub layer or consistent ground cover. Additional plantings of shrubs, subshrubs, ferns, mayapples, and spring ephemerals would be highly recommended. A comprehensive study of the flora inside the exclosure is also recommended.

#### *Rifle Camp Park "Natural Area"*

When Rifle Camp Park was first created in the early 1970s, a large area (in the southern section of the park) had been dedicated as a natural area for Geological Formations, Horticultural Varieties, Wildlife, and Hiking. A great diversity of native flora can still be found in this relatively remote section of the park. Some species growing here are not found anywhere else on Garret Mountain. Upon a fragile rocky slope bordering the pond, a variety of plants still thrive, including the Wild Mountain Pink, Solomon's Seals, Dwarf Cinquefoil, and Wood Aster. Along the narrow "panhandle" section, which lies between Quarry Drive and Great Notch Reservoir, an abundance of wildflowers flourish in summer and fall. Widespread fields of Common Milkweed, Boneset, Sweet Fern, Blueberry, and Huckleberry bushes can be found here. Within a small glade just off the trail, Poke Milkweed, Mountain Mint, Wild Rose, and other plants are found. Many of the wildflowers growing here are key pollinator species as well. Preservation of this natural area, and protection of these unique and fragile habitats, are of highest importance, and essential to the core ecology of Garret Mountain. Further studies focusing on these areas and habitats are highly recommended.

## CONCLUSION

Although many native wildflowers have disappeared, it is encouraging to know that some species are still present and thriving on Garret Mountain. It is vital to preserve and protect the areas where the Mountain's flora is still flourishing. It is also important to protect the areas and fragile habitats where vulnerable plants can still be found, if they are to survive in the future. Additional studies, focusing on the areas of significance, are highly recommended.



Blue Wood Aster



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