

Minnie's Island Natural History

Setting

Minnie's Island is located in the middle of the Potomac Gorge about midway between Great Falls and Roosevelt Island. The Potomac Gorge marks the transition from the Piedmont to the Coastal Plain provinces. The Gorge is a natural wildlife corridor in an area otherwise heavily developed in Virginia, Maryland, and the District.



The Potomac River is one of the rare large rivers in the eastern US that lacks major dams or development on its banks. This allows natural floods to scour the islands and riverbanks which disrupts the growth of trees and shrubs and creates new habitat for rare wildflowers and early successional species.

As of late 2025, over 220 species of native plants, birds, insects, amphibians, reptiles, mollusks, and mammals have been identified on Minnie's. These have been posted and geotagged under the "Minnie's Island Community Conservancy Biodiversity" project on iNaturalist which can be found at:

<https://www.inaturalist.org/projects/minnie-s-island-community-conservancy-biodiversity?tab=observations>

*On the outskirts of Washington, D.C., the Potomac River passes through a landscape of surprising beauty and ecological significance. Here, over many millennia, an unusual combination of natural forces has produced a unique corridor known as the Potomac Gorge. This 15-mile river stretch is one of the country's most biologically diverse areas, home to more than 1,400 plant species. Scientists have identified at least thirty distinct natural vegetation communities, several of which are globally rare and imperiled. The Gorge also supports a rich array of animal life, from rare invertebrates to the bald eagle and fish like the American shad. In total, the Potomac Gorge provides habitat to more than two hundred rare plant species and natural communities, making it one of the most important natural areas in the eastern United States. **The Nature Conservancy***

Minnie's Island Natural History



Despite being inside the Capital Beltway, Minnie's Island is one of the wildest stretches of the Potomac River, as there is not a good watercraft take-out point below Minnies. Most people who float the river take out above Minnies at Lock 10. The viewscape from Minnies Island looking to Virginia is unspoiled, as it is protected by Turkey Run Park. Plummer's Island, located upstream, and Cabin John Island, located just downstream, are both high-quality natural areas.



MICC owns 8 acres of land, primarily a main island where the cabin is located, a scour plain area closer to the middle of the Potomac, an several smaller islands opposite the Maryland shore.

Minnie's Island Natural History



MICC has developed a series of trails that allow access to different parts of the main island. The trails require regular maintenance in the late summer due to the prolific growth of the herbaceous plants.

Flood History

Minnie's is shaped by flood events. MICC uses the Little Falls Gauge to monitor the water level. According to USGS, a gauge height of 10 feet is considered a minor flood, 12 feet is a moderate flood, and 14 feet is a major flood. The 1936 flood is the greatest on record, reaching 28 feet. This flood likely reached the top of the cabin door and destroyed all structures on the island. Hurricane Agnes in 1972 reached the base of the stairs to the cabin at 22 feet.

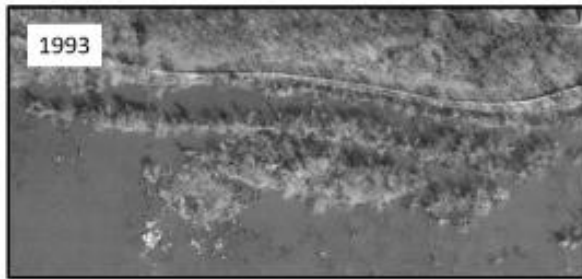
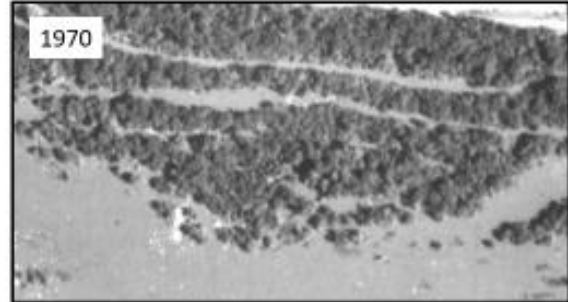
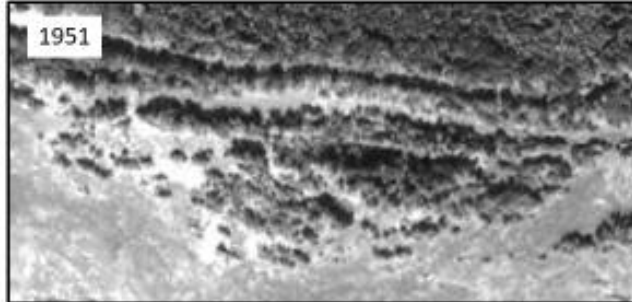


Major flood events have had significant impacts to Minnie's. The change in tree cover on some of the outlying islands can be seen by looking at aerial photos taken since 1951. This regular flooding is part of the "secret sauce" in the Potomac Gorge, as flood events bring in new seeds and create new habitat for plants.

Minnie's Island Natural History

The soil on Minnies is also shaped by flooding. The soil is a sandy loam that was likely deposited in high water events behind the rock outcrops. The soil throughout Minnies dries out quickly and is high in carbonate from shell fragments.

Tree cover on outlying islands has varied over time, likely due to flooding events

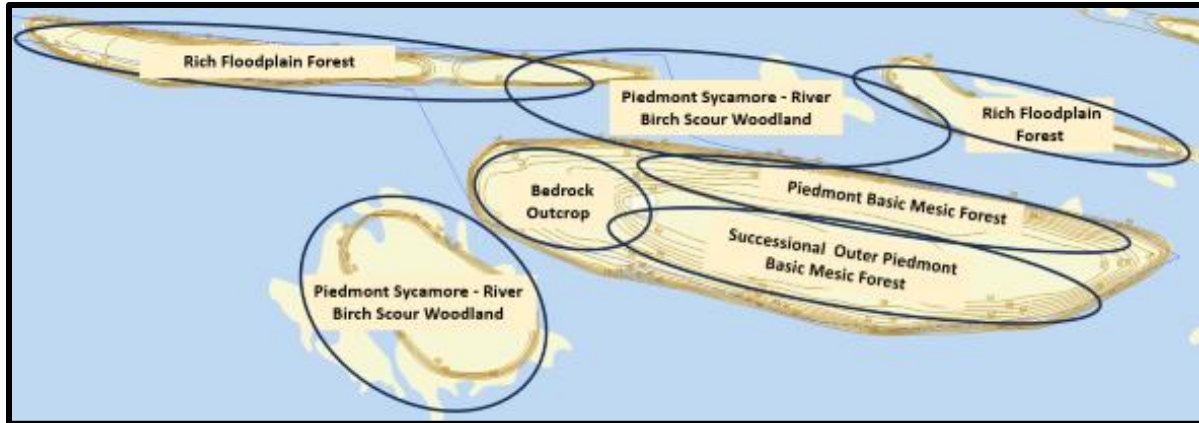


Natural Communities

Variations in elevation, flooding frequency, soil types and sun exposure on Minnies Island provide a variety of plant communities called "Natural Communities". While some plants (such as Paw Paw trees) are widely distributed across Minnies, many other plants are found only in specific natural communities. For example, the Basswood Trees shown in the accompanying photo are found only on the south facing side of the island in the Piedmont Basic Mesic Community. The following diagram provides a mapping of the natural communities at Minnies:



Minnie's Island Natural History



The following table summarizes the features of the different natural communities on Minnie's. Most of the rare plants are found in the Rock Outcrop area.

Natural Community	Elevation, Flood History, Soil	Trees	Understory and Shrubs
Piedmont – River Birch Scour Woodland	<ul style="list-style-type: none"> • <48 feet, frequently flooded, bedrock and gravel 	<ul style="list-style-type: none"> • Sycamore, River Birch, Persimmon, Silver Maple 	<ul style="list-style-type: none"> • Black Willow, Silky Dogwood, American Hornbeam, Buttonbush
Rich Flood Plain	<ul style="list-style-type: none"> • <52 feet, flooded every couple of years, aluvium, sand and gravel 	<ul style="list-style-type: none"> • Persimmon, Catalpa, Red Maple, Silver Maple 	<ul style="list-style-type: none"> • Paw Paw, Hop Tree, Osage Orange
Piedmont Basic Mesic Forest	<ul style="list-style-type: none"> • <60 feet, flooded every 10 to 20 years, aluvium soil, northern exposure 	<ul style="list-style-type: none"> • Basswood, Bitternut Hickory, American Elm 	<ul style="list-style-type: none"> • Paw Paw, Bladdernut
Successional Piedmont Basic Mesic Forest	<ul style="list-style-type: none"> • <60 feet, last flood likely Agnes in 1972, aluvium soil, southern exposure 	<ul style="list-style-type: none"> • Beech, Black Walnut, American Elm, Tulip, Black Locust 	<ul style="list-style-type: none"> • Paw Paw, Spicebush, Bladdernut
Bedrock Outcrop	<ul style="list-style-type: none"> • >60 feet, last flood likely Agnes in 1972, bedrock 	<ul style="list-style-type: none"> • Cherry, White and Red Oak 	<ul style="list-style-type: none"> • Fringe Tree, Hop Tree, American Strawberry Bush, Blackhaw Viburnum, Shad Bush

Wildflowers

The different natural communities on Minnie's provides the appropriate habitat for a wide variety of flowering plants. Spring ephemerals such as Bluebells, Phlox, and Spring Beauties grow on the forest floor and complete their flowering before the trees and shrubs leaf out and deprive them of sunlight. The most common plants on the island are shown in bold text in the tables below. Plants listed as rare, threatened, or endangered (such as the Whitemouth Dayflower in the accompanying photo) are underlined. Plants are listed in the month when they first start blooming.



Minnie's Island Natural History

Mar	Apr	May	Jun
<ul style="list-style-type: none"> • Trout Lilly • Toad shade Trillium • Virginia Saxifrage • Blue Phlox • Virginia Bluebell • Star Chickweed • Dutchman's Breeches • Golden Ragwort • Small-flowered Buttercup • Bloodroot • Cut-leaved Toothwort • Virginia Spring Beauty • Common Blue Violet • Smooth Rockcress 	<ul style="list-style-type: none"> • <u>Golden Alexander</u> • Yellow Corydalis • Canadian Wild Ginger • Wood Anemone • Anise Root • Wild Geranium • Downy Yellow Violet • <u>Coville's Phacelia</u> • Virginia Spiderwort • Early Meadow Rue • Star-flowered lily of the valley • Lyre leaf Sage • Philadelphia Fleabane • Little Sweet Betsy • Squirrel Corn 	<ul style="list-style-type: none"> • Common cinquefoil • Claspig Venus's looking glass • Slender yellow woodsorrel • Canadian Meadow Garlic • Blue eyed grass • Ruellia sp. • <u>Vase-vine</u> • <u>Leatherflower</u> • Black cohosh 	<ul style="list-style-type: none"> • American waterwillow • Annual fleabane • Hemp dogbane • Broadleaf enchanter's nightshade • Blue mistflower • <u>Climbing dogbane</u> • Carolina horsenettle • Common milkweed • <u>Whitemouth dayflower</u> • American germander

Summer and fall bring a show of tall yellow flowers to the island, especially the Bear's Foot that is common and can grow over eight feet tall. Flower displays can also be impressive in the scour plain areas in summers when the river conditions are conducive. The accompanying photo shows a Blue Vervain from the summer of 2023.



Jul		Aug	Sep/Oct
<ul style="list-style-type: none"> • Bear's Foot • Spotted St. John's Wort • Late Figwort • Virginia dayflower • White vervain • Blue vervain • Fall phlox • Sharpwing monkeyflower • Fringed Loosestrife • Obedient Plant • American Jump seed • False Sunflower • New York Ironweed 	<ul style="list-style-type: none"> • Culver's Root • Evening Primrose • Cardinal Flower • New York Ironweed • Giant Goldenrod • Early Goldenrod • Pale Sunflower • Wingstem • White Snakeroot • Water smartweed • <u>Halberd-leaf Rosemallow</u> • False pimpernel • Lanceleaf frogfruit 	<ul style="list-style-type: none"> • Spotted Joe Pye Weed • Wild Mint • White wood aster • Swamp rose mallow • <u>Racemose Goldenrod</u> • Panicked ticktreefoil • Horseweed • Hairy ground cherry • American burnweed • Late boneset • False daisy • Pale smartweed • Broad-leaf goldenrod 	<ul style="list-style-type: none"> • Burnweed • Yellow crownbeard • Common Sneezeweed • White Heath Aster • Purplestem Beggarticks • Nodding Beggarticks • Panicked aster • Bluestem goldenrod • Eastern black nightshade ***** • Common blue wood aster

Minnie's Island Natural History

Invasive Species Control

Since 2021, MICC volunteers have spent 1,000s of hours of effort in controlling non-native invasive plants on the island. Our goal is remove/control all non-native plants on the island so it is a model of a pristine Potomac Gorge island. Most effort to date has been spent on control of Oriental Bittersweet, Porcelain Berry, and Bush Honesuckle. Our most common control approach for vines and woody plants is cut stump treatment, where the plant is cut at the ground level and herbicide selectively applied to just the cut area.

Minnie's Island was seriously impacted by the Emerald Ash Borer. Multiple (over a dozen) very large (greater 36 inch DBH) ash trees were killed by the Borer, opening up the tree canopy and creating conditions that promoted invasive plants. Re-establishing the tree canopy is a priority, and we have planted a large number of native tree saplings and use wire fencing for deer protection.

Invasive Species	Abundant – Control Focus	Present – Under Control	
Grasses	<ul style="list-style-type: none"> • Stilt grass 	<ul style="list-style-type: none"> • Reed canary grass 	<ul style="list-style-type: none"> • Pennisetum
Forbs		<ul style="list-style-type: none"> • Lesser celandine • Star of Bethlehem • Dames Rocket • Incised Fumewort 	<ul style="list-style-type: none"> • Beefsteak Plant • Garlic mustard • Poison hemlock
Shrubs		<ul style="list-style-type: none"> • Autumn Olive • Winged burning bush • Privet sp. 	<ul style="list-style-type: none"> • Multiflora Rose • Wineberry • Hardy Orange • Bush Honeysuckle
Trees		<ul style="list-style-type: none"> • Tree of heaven • Mimosa/Silktree 	<ul style="list-style-type: none"> • White mulberry
Vines	<ul style="list-style-type: none"> • Oriental bittersweet • Common periwinkle • Japanese honeysuckle • Porcelain berry 	<ul style="list-style-type: none"> • Japanese hops • English Ivy 	<ul style="list-style-type: none"> • Wintercreeper • Sweet autumn clematis

Birdlife

A wide variety of birds can be found on and around Minnies. Recent nesting highlights include the 14 Common Mergansers that were born on the island in 2024 and the Black Vultures that have nested on the high rock outcrop the last several years. A year-round highlight is hearing or seeing the peregrine falcons that have nested on the Legion Bridge in recent years. The eBird website that has recent bird sitings in the Lock 8 and 9 area can be found at

<https://ebird.org/region/L761179>



Minnie's Island Natural History

Year-Round Residents		Summer Breeding Visitors	Winter Visitors
<ul style="list-style-type: none"> • Canada Goose * • Mallard * • Common Merganser * • Mourning Dove • Great Blue Heron • Double-Crested Cormorant • Red-shouldered hawk • Peregrine Falcon • Bald Eagle • Black Vulture * • Turkey Vulture • Barred Owl • Belted Kingfisher • Red-bellied Woodpecker • Downy Woodpecker * • Pileated Woodpecker • Northern Flicker 	<ul style="list-style-type: none"> • Blue Jay • American Crow • Fish Crow • Carolina Chickadee • Tufted Titmouse • White-breasted Nuthatch • Carolina Wren * • American Goldfinch • American Robin • Song Sparrow • Red-winged Blackbird * • Brown-headed Cowbird * • Common Grackle • Northern Cardinal 	<ul style="list-style-type: none"> • Wood Duck * • Green Heron * • Yellow-billed Cuckoo • Chimney Swift • Osprey • Eastern Wood Peewee • Eastern Phoebe * • Great Crested Flycatcher * • Eastern Kingbird * • Warbling Vireo • Red-eyed Vireo • Tree Swallow • Blue-gray Gnatcatcher * • Gray Catbird • Eastern Bluebird * • Orchard Oriole • Baltimore Oriole • Northern Parula Warbler • Indigo Bunting * 	<ul style="list-style-type: none"> • American Black Duck • Hooded Merganser • Bufflehead • Ring-billed Gull • Yellow-belly sapsucker • Ruby-crowned Kinglet • Golden-crowned Kinglet • Brown Creeper • Dark-eyed Junco • White-throated Sparrow • Yellow-rumped Warbler • Winter Wren

Evidence of nesting on or in the immediate vicinity of Minnies *

Animals

Whitetail deer are regularly seen on Minnies, as are Eastern Gray Squirrels. Beaver sign and Racoon tracks are frequently seen close to the waterline, and foxes are occasionally seen.

It is very common for turtles to lay their eggs on open, sandy soil on Minnies. Red-bellied cooters (shown in photo) are the most common. You can frequently see where racoons have dug up and eaten turtle eggs.

Fowlers Toads are very common in the spring and early summer, as are Five Lined Skinks. Garter and Water Snakes are frequently seen, and Copperheads are occasionally seen.



Fishing for Smallmouth Bass around the island is good, especially when the river level is between three and four feet.



Prepared by Joe Saliunas, February 2025

Minnie's Island Natural History

References

- Rare Flora and Natural Communities of Plummer's Island, Simmons et al, 2020.

<https://wbfc.science/wp-content/uploads/2021/02/Rare-Flora-and-Natural-Communities-of-Plummers-Island-Montgomery-County-Maryland.pdf>

- Natural Communities of Plummers Island, Simmons et al, 2016

<https://mdflora.org/resources/Documents/Maps/Plummers%20Island%20Natural%20Communities%20Map%202016%20-%20v1.3.pdf>

- Vegetation Ecology of the Potomac Gorge, Gary Fleming, 2006. Notes for the images in the PowerPoint briefing below.

<https://www.dcr.virginia.gov/natural-heritage/document/pogotext3.pdf>

- Vegetation Ecology of the Potomac Gorge, Gary Fleming, 2006. PowerPoint briefing with great photos. Notes at above link

<https://www.dcr.virginia.gov/natural-heritage/document/pogovegecol3.pdf>

- Explore Natural Communities. Website that links to fact sheets on National Capital Area natural communities managed by the NPS

<https://www.explorenaturalcommunities.org/natural-communities>

- Natural Communities of Maryland, 2016

https://dnr.maryland.gov/wildlife/Documents/Natural_Communities%20_Maryland_2016_Framework.pdf

- Identification and Protection of Reference Wetland Natural Communities in MD, Potomac Watershed Floodplain Forests, Thompson et al, 1999. Includes descriptions of plants found at nearby Cabin John and Bear Island.

https://dnr.maryland.gov/wildlife/Documents/Potomac_Floodplain_Forests-Thomson-et-al-1999_EPA.pdf

- Elizabeth's Wildflower Blog. A great resource for plants in the Potomac Gorge

<https://elizabethswildflowerblog.com>