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# Rich Floodplain Forest at Harpers Ferry

## Overview Page

Code: CEGL004073

**Scientific Name:** Platanus occidentalis - Acer negundo - Juglans nigra / Asimina triloba / Mertensia virginica Forest

**Translated Name:** American Sycamore - Box-elder - Black Walnut / Pawpaw / Virginia Bluebells Forest

**Common Name:** Piedmont / Central Appalachian Rich Floodplain Forest

### At A Glance

You can find long, narrow stands of the **Rich Floodplain Forest** along the banks and across the floodplains and terraces of the Potomac, Shenandoah and their larger tributaries in the park. The trees in this community do well with temporary flooding. They include tuliptree, sycamore, box-elder, black walnut, green ash, and American elm. [**Understory**](http://www.explorenaturalcommunities.org/glossary/term/227) plants include pawpaw, northern spicebush, stinging nettles (don’t touch!), and many spring wildflowers. The banks are often [**sandy**](http://www.explorenaturalcommunities.org/glossary/term/182) and rocky, and the near-level floodplains beyond have fine-textured [**soils**](http://www.explorenaturalcommunities.org/glossary/term/205) containing [**nutrients**](http://www.explorenaturalcommunities.org/glossary/term/158) deposited by floods. You may see areas from which floodwaters have removed the leaf litter, or places where the litter has piled up or been left as clumps in the branches of shrubs.

This forest may be next to the Silver Maple Floodplain Forest, where it will be further from the river on soils that are not flooded as often. On Virginius and Hall’s Islands, you may see small areas which are impacted by flood-borne debris and which do not have trees (herbaceous or shrub scour-bar vegetation, mapped as “herbaceous depositional bar”), as well as trees with large scars and wounds on the upstream side.

### Images of this Natural Community

Community image:

U:\Images\NCR\_photos\Field Guides\HAFE\HAFE-Apr2013-Milo\Virginius-island\P1000721.JPG

[many more in this folder]

### What to Look For:

Can you find this combination of characteristic features?

* Extensive areas of floodplain forest on sediments deposited by the waters of the Potomac, Shenandoah and their larger tributaries; you may see “wrack” and leaf piles deposited by flood waters
* Dominated by a mixture of trees, including tuliptree, sycamore, black walnut, green ash, and American elm in the canopy and box-elder in the understory; silver maple may be present but will not dominate the stand
* Abundant and dense wildflowers in the Spring; tall herbs in the late summer
* In areas that are subject to inundation during floods. You may see scars on the bark of trees on the upstream sides

If so, welcome to HAFE’s Rich Floodplain Community.

### Tips to distinguish this community from other similar communities:

1. Rich floodplain Forest vs. Silver Maple Floodplain Forest (6217)

Similarities: Both are found on floodplains and terraces, and are subject to inundation during floods

Tips to Distinguish: the Silver Maple Floodplain Forest will be represented by a narrow band (maybe only one tree wide!) on riverbanks and low terraces immediately adjacent to the water where active flooding is frequent. Sycamore may also be present here, with tall herbs that bloom in the summer. In contrast, the Rich Floodplain forest will usually be in more extensive bands further away from the water, on higher terraces. It will be dominated by spring wildflowers, and may have silver maple present, but not as the only tree in the canopy. Black walnut and Tuliptree are also common.

### Notable Variations at Harpers Ferry

The Rich Floodplain Forest is most extensive on islands and terraces along the Shenandoah River, and along the Potomac River below the town of Harpers Ferry, it is much less abundant on the Potomac River above the town. There must be some characteristics of the flow and flooding dynamics of the two rivers that would lead to this condition.

### Conservation Status

To be autopopulated.

### Classification

To be autopopulated

## Where to See It Page

This natural community is most extensively developed on Virginius and Hall’s Islands, where the trails go through extensive areas of it. There are large canopy trees here, as well as ruin walls and antique machinery scattered about the site. It can be accessed from the lower town at the east end, from Shenandoah Street via a footbridge across the Shenandoah Canal in the middle, or from the small parking lot below the Potomac River bridge at the west end.

## Seasonal Plant Highlights Page

#### Spring Highlights

In the Spring, before the deciduous trees completely leaf out, the ground is carpeted with abundant spring ephemeral wildflowers, including Virginia bluebells, Dutchman’s breeches, and squirrel-corn. The elongated flower clusters of the cottonwood look like long caterpillars.

#### Summer Highlights

In the late summer, tall herbs take the stage, including wingstem, stinging nettles, and poison hemlock.

#### Autumn Highlights

The leaves of the trees will change color and drift to the ground. The leaves of sycamore are relatively large and cover the ground like brown handkerchiefs!

#### Winter Highlights

In the winter, this area is exposed and can be cold and windy.

## Seasonal Animal Highlights Page

#### Spring Highlights

Numerous butterflies, moths, and other flying pollinators come to visit the many wildflowers in the spring.

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#### Summer Highlights

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#### Autumn Highlights

****?****

#### Winter Highlights

**This area is likely to have windy weather in winter due to its exposed location.** Look for ducks, geese, herons, and smaller birds such as sparrows seeking out oases from the open water in or near the vegetation of this community.

## Characteristic Species Page

### Characteristic Species

(Tag by season, common/occasional/invasive & non-native, and canopy/understory/ shrubs,saplings&vines/ herbs & ground layer)

|  |  |
| --- | --- |
| Layer | Common Species |
| Trees – Canopy  | sycamore, black walnut, tuliptree, bitternut hickory, cottonwood, and Shumard oak |
| Trees – Understory  | Box-elder |
| Shrubs, Saplings & Vines | pawpaw, northern spicebush, Virginia creeper, grapes, poison-ivy, and trumpet-creeper |
| Low Plants (Field Layer) | Spring: Virginia bluebells, Dutchman’s breeches, squirrel-corn, Virginia spring-beauty, Canada waterleaf; summer: wood nettle, wingstem, |

|  |  |
| --- | --- |
| Layer | Occasional Species |
| Trees – Canopy  | green ash, silver maple, sugarberry, American elm |
| Trees – Understory  | American elm |
| Shrubs, Saplings & Vines | ironwood |
| Low Plants (Field Layer) | sessile trillium, wild blue phlox |

|  |  |
| --- | --- |
| Layer | Invasive & Non-native Species |
| Trees – Canopy  | Paulownia, tree-of-heaven |
| Trees – Understory  | white mulberry |
| Shrubs, Saplings & Vines | oriental bittersweet |
| Herbs/Ground layer | chickweed, stinging nettle, ground-ivy, garlic-mustard, ivy-leaved speedwell, poison hemlock, beefsteak plant, Nepalese browntop |

### Non-native invasive plants:

The frequent soil disturbance and the moisture and fertility in the soils of this community are great for native spring wildflowers, but also for annual and biennial invasive plants and weeds. This community can have a weedy look to the field layer, but it can also have shifting populations of beautiful spring wildflowers like Virginia bluebells and Dutchman’s breeches. In particular, exotic plants like Chickweed, stinging nettle, ground-ivy, garlic-mustard, ivy-leaved speedwell, beefsteak plant may be abundant and compete with the natives. Garlic-mustard is particularly bad; if you don't pull up that white-flowering plant before it goes to seed this year, be prepared to welcome hundreds more next spring! (see [**http://www.fs.fed.us/invasivespecies/speciesprofiles/documents/garlic\_mustard.pdf**](http://www.fs.fed.us/invasivespecies/speciesprofiles/documents/garlic_mustard.pdf) for more info).

### In brief:

The **Rich Floodplain Forest** can have a lush look, especially in the spring, when carpets of beautiful spring wildflowers like Virginia bluebells, squirrel-corn, Virginia spring-beauty, Canada waterleaf, Dutchman’s breeches, and wild blue phlox cover the ground. You will see large (and probably old) individuals of sycamore, cottonwood, tuliptree, and black walnut, with abundant box-elder in the understory.

If you visit the brick walls of the ruins, you will see tenacious ferns and some unusual wildflowers rooted in the mortar between the bricks. The exotic little viney wildflower Kenilworth-ivy will only be found in these kinds of places.

### Plant Life

### Animal Life

## Physical Setting: Rich Floodplain Forest at Harpers Ferry

### Indicator Plants

tuliptree, sycamore, box-elder, black walnut, green ash, and American elm; pawpaw, northern spicebush, Dutchman’s breeches, squirrel-corn, Virginia bluebells

### Stand Size

Large to small linear patches along Shenandoah River, narrow bands along Potomac River. Some stands are one hectare (2.5 acres) or less. Others are as much as seven or eight hectares (20-25 acres). Some of the smaller stands are portions of larger natural stands that are divided by roads, trails, or railroad tracks.

### Landscape Position

The **Rich Floodplain Forest** is the principal alluvial forest at Harpers Ferry, occupying slightly elevated floodplains along the Shenandoah and Potomac rivers. Many of these habitats are quite narrow, or even locally absent where cliffs and steep bluffs bound the river.

### Soils

The majority of soils are sandy loams, and all have moderately high to high calcium levels, indicative of very high fertility.

### Geology

The areas where this community is found are composed of recently deposited alluvium, which is continually being removed, reworked, and redeposited in other places. Floodplain soils are not strongly influenced by the underlying [*bedrock*](http://www.explorenaturalcommunities.org/glossary/term/38) because of the constant introduction of new minerals and [*organic matter*](http://www.explorenaturalcommunities.org/glossary/term/162) during floods. Moisture conditions fluctuate between floods and droughts.

### Physical Setting Full Description

### Natural Processes

On the floodplain terraces where this vegetation is foune, the [*soils*](http://www.explorenaturalcommunities.org/glossary/term/205) are [*silt loams*](http://www.explorenaturalcommunities.org/glossary/term/199), that is, made of a mixture of [*silt*](http://www.explorenaturalcommunities.org/glossary/term/198), [*sand*](http://www.explorenaturalcommunities.org/glossary/term/182), and [*clay*](http://www.explorenaturalcommunities.org/glossary/term/45) with silt predominating. The soils are fertile because they are regularly enriched with fine-textured, often nutrient-rich [*sediment*](http://www.explorenaturalcommunities.org/glossary/term/187) from upstream that settles out of slowly receding floodwaters. They are deep because flood sediments are added regularly, and they drain slowly because they are fine textured and the landscape is flat. Floodplain soils are not strongly influenced by the underlying [*bedrock*](http://www.explorenaturalcommunities.org/glossary/term/38) because of the constant introduction of new minerals and [*organic matter*](http://www.explorenaturalcommunities.org/glossary/term/162) during floods. Moisture conditions fluctuate between floods and droughts.

Along the side of the terrace closest to the river, deposits of coarser material, including sand, may form natural [*levees*](http://www.explorenaturalcommunities.org/glossary/term/129) along the banks, which can alter the water’s path. Some of the levees may have trees on them and others are so flood-battered that the plant growth is composed of shrubs and tall herbs, without a tree canopy.

### Large-Scale Natural Processes and Ecological Systems

Leave this section for Mary or someone else.

### Explore this Ecological System

Leave this section for Mary or someone else.

### List of Threats

Generated list?

### List of Non-native invasive plant species

Generated list?

### Stewardship

The principal area where this community is found at Harpers Ferry was a major industrial site and village for people who worked at the factories, until well into the twentieth century. The trees are large, but they grow fast in this nutrient rich environment! There is an extensive trail network, and many ruins of the antique buildings. Exotic species control is difficult in this dynamic area. Trees fall over, and their tops may break off, and debris is deposited by floods. This makes trail maintenance difficult in this area.