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# (Southern Appalachian Rich) Cove Forest at Harpers Ferry

## Overview Page

Code: CEGL007710

**Scientific Name:** *Liriodendron tulipifera - Fraxinus americana - (Tilia americana, Aesculus flava) / Actaea racemosa - Laportea canadensis* Forest

**Translated Name:** *Liriodendron tulipifera - Fraxinus americana - (Tilia americana, Aesculus flava) / Actaea racemosa - Laportea canadensis* Forest

**Common Name:** Southern Appalachian Rich Cove Forest (Typic Type)

### At a Glance

Most of Harpers Ferry National Park is either too rocky and exposed (south-facing), or flooded too frequently, to provide habitat for the **Southern Appalachian Rich Cove Forest**. Examples are found on lower to middle slopes, in north-facing, concave sites along the Potomac and Shenandoah rivers. Sites usually face north to northwest, and are often rocky (but not rockslides or boulderfields). The soils are deep, dark and fertile, and are not acidic; they have high levels of calcium and magnesium. The sites are very productive, and may have large, tall trees and abundant Spring wildflowers. . It is one of the most species-rich communities at Harpers Ferry. If you see lots of Appalachian basswood with white ash, northern red oak, as well as tuliptree and sugar maple, then you have found a stand of Southern Appalachian Rich Cove Forest. At the right time of year, you may see Clayton's sweetroot, black bugbane, Canadian wood-nettle, maidenhair fern, and other wildflowers and ferns. Unfortunately, there are not any places at Harpers Ferry where the public is likely to encounter this community.

### Images of this Natural Community

Community image:

U:\Images\NCR\_photos\Field Guides\

[many more in this folder]

### What to Look For:

Can you find this combination of characteristic features?

* A canopy with Appalachian basswood. white ash, northern red oak, combined with tuliptree and sugar maple
* large, tall trees
* abundant Spring wildflowers, including Clayton's sweetroot, black bugbane, Canadian wood-nettle, and northern maidenhair fern
* lower to middle slopes, in north-facing, concave sites along the Potomac and Shenandoah rivers, but not subject to flooding

If so, welcome to HAFE’s **Cove Forest** Community!

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

1. Cove Forest vs. Rich cove / Mesic Slope Forest (CEGL008412)

Similarities: They are both rich forests of lower slopes, with a diverse canopy, and large tall trees (in better examples); shrub layer species include pawpaw and spicebush, either or both of which may be abundant. Both may contain Appalachian basswood. white ash, and sugar or black maple.

Tips to Distinguish:

Sugar maple is usually of greater importance in the Rich Cove / Mesic Slope Forest; and it contains a richer suite of wildflowers, including twinleaf and blue cohosh. Northern red oak is more likely to be a canopy member of the Cove Forest rather than the Rich Cove / Mesic Slope Forest.

### Notable Variations at Harpers Ferry

This community is of limited extent at Harpers Ferry, and there is not significant variation among its examples.

### Conservation Status

To be autopopulated.

### Classification

To be autopopulated

Abbreviated Common Name: Cove Forest

Common Name: Southern Appalachian Rich Cove Forest (Typic Type)

Scientific Name: *Liriodendron tulipifera - Fraxinus americana - (Tilia americana, Aesculus flava) / Actaea racemosa - Laportea canadensis* Forest

Scientific Name Translated: *Liriodendron tulipifera - Fraxinus americana - (Tilia americana, Aesculus flava) / Actaea racemosa - Laportea canadensis* Forest

Natural Community Code: CEGL007710

Associated Ecological System:

## Where to See It Page

This natural community is most extensively developed at Short Hill Mountain, but this area is not open to the public.

## Seasonal Plant Highlights Page

#### Spring Highlights

abundant Spring wildflowers, including Clayton's sweetroot, black bugbane, Canadian wood-nettle, maidenhair fern, and many others

#### Summer Highlights

Full green of summer leaves; deep shade of the tall deciduous trees; diverse canopy

#### Autumn Highlights

Change in leaf colors, purple leaves of white ash, yellow leaves of basswood,

#### Winter Highlights

Winter tree structure; opposite twigs of white ash, paired fruits of sugar/black maple

## Seasonal Animal Highlights Page

#### Spring Highlights

?

#### Summer Highlights

#### Autumn Highlights

**?**

#### Winter Highlights

## Characteristic Species Page

### Canopy Trees

Tall trees, including Appalachian basswood. white ash and northern red oak tower over other trees in the **Cove Forest**. Tuliptree and sugar maple, which can also grow very tall, are also present, but rarely abundant unless the site was disturbed in the past. Together these trees form a closed, shady canopy. This combination of trees also indicates that the soils may be enriched with calcium, potassium, and other nutrient minerals.

### Understory Trees

Among understory trees, you may see white ash, tuliptree, sugar maple, flowering dogwood, and pawpaw. In fall, sugar maple’s foliage contributes orange hues to the understory of this mesic [natural community](http://www.explorenaturalcommunities.org/glossary/term/23).

### Shrubs, Saplings, & Vines

The most common shrubs here are northern spicebush (smell its spicy citrus-scented crushed leaves) and pawpaw (whose long leaves emit the smell of kerosene when crushed); both can be abundant and may be found in dense patches. Northern spicebush can be showy in the early spring with many tiny yellow flowers clustered along the stems before the leaves come out. Pawpaw can occur in large patches or colonies, and can get to be quite tall.

### Low Plants (Field Layer)

Spring wildflowers, including Clayton's sweetroot, black bugbane, Canadian wood-nettle, maidenhair fern carpet the forest floor. Another common wildflower is mayapple, whose leaves resemble little pale-green umbrellas scattered across the forest floor. Mature plants with twin umbrella-leaves bloom white in April or May. In summer, a green lime-like fruit may hang from the plant. Jack-in-the-pulpit is another easily identified plant, with its three leaflets and unique three-inch green-and-white (and sometimes purple or brown) striped hooded flower that blooms in late spring. Bright scarlet berries persist atop the Jack-in-the-pulpit stems through the fall.

### Characteristic Species Table

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

|  |  |
| --- | --- |
| Layer | Common Species |
| Trees – Canopy  | Appalachian basswood. white ash, northern red oak,  |
| Trees – Understory  | white ash, tuliptree, sugar maple, flowering dogwood, pawpaw  |
| Shrubs, Saplings & Vines | pawpaw, spicebush |
| Low Plants (Field Layer) | Clayton's sweetroot, black bugbane, Canadian wood-nettle, Jack-in-the-pulpit, may-apple, maidenhair fern |

|  |  |
| --- | --- |
| Layer | Occasional Species |
| Trees – Canopy  | tuliptree, sugar maple |
| Trees – Understory  | n/a |
| Shrubs, Saplings & Vines | n/a |
| Low Plants (Field Layer) |  |

|  |  |
| --- | --- |
| Layer | Invasive & Non-native Species |
| Trees – Canopy  | Tree-of-heaven |
| Trees – Understory  | Tree-of-heaven |
| Shrubs, Saplings & Vines | Black jetbead |
| Herbs/Ground layer | Stiltgrass, garlic mustard, ivyleaf speedwell |

### Non-native invasive plants:

Location, location, location! Several non-native invasives are liable to move into this desirable natural community where the soils and water supply are favorable to them. Read more about them under [Stewardship and Ecological Threats](http://www.explorenaturalcommunities.org/natural-communities/cegl006055/rock-creek-park/stewardship-and-ecological-threats).

One tidbit: Both sugar maple and black maple have been observed in the park and are assumed to be native there. [Ecobit: Maple Tree Mystery](http://www.explorenaturalcommunities.org/content/maple-tree-mystery-rock-creek-park) Several communities at Harpers Ferry, including the Southern Appalachian Rich Cove Forest, may contain [Norway maple\*](http://www.explorenaturalcommunities.org/species/ELEMENT_GLOBAL.2.140646), which looks similar to sugar maple and black maple but is a non-native, aggressively invasive species (\* indicates non-native). Norway maple leaves are wider than long, and have milky sap visible in their broken leaf-stems. In fall, its leaf undersides reveal dark brown veins against the yellow leaf color.

(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).

<http://www.invasivespeciesinfo.gov/plants/stiltgrass.shtml>

<http://www.na.fs.fed.us/fhp/invasive_plants/weeds/black-jetbead.pdf>

### In brief:

Examples of the **Cove Forest** are beautiful, especially in the Spring, when it has a lush look, especially in the shrub layer and field layer. Here one can see plants, particularly some ferns and wildflowers, found nowhere else at Rock Creek Park, growing alongside more commonly encountered plants. Thanks to the relatively fertile, well-drained soils—somewhat rare at the park—the **Cove Forest** has a greater diversity of native plants than almost any other upland community at Rock Creek Park.

### Plant Life

### Animal Life

## Physical Setting: Cove Forest at Harpers Ferry

### Indicator Plants

Appalachian basswood, white ash, northern red oak, combined with tuliptree and sugar maple in canopy; Spring wildflowers, including Clayton's sweetroot, black bugbane, Canadian wood-nettle, Jack-in-the-pulpit, may-apple, maidenhair fern, and many others.

### Stand Size

Stands of Rich Cove / Mesic Slope Forest at Harpers Ferry vary from 3 to 55 hectares in size.

### Landscape Position

lower to middle slopes, in north-facing, concave sites along the Potomac and Shenandoah rivers

### Soils

The soils are deep, dark and fertile, and are not acidic; they have high levels of calcium and magnesium.

### Geology

### Physical Setting Full Description

### Natural Processes

### 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