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# Successional Tuliptree Forest (Rich Type) at Harpers Ferry

## Overview Page

[Semi-natural] Code: CEGL007220

**Scientific Name:** *Liriodendron tulipifera* / (Cercis canadensis) / (Lindera benzoin) Forest

**Translated Name:** Tuliptree / (Eastern Redbud) / (Northern Spicebush) Forest

**Abbreviated Common Name:** Successional Tuliptree Forest (Rich Type)

### At A Glance

Although it may look like an intact natural community with its magnificently towering, straight tuliptrees, the **Successional Tuliptree Forest (Rich Type)** is a semi-natural community because it likely grew up in response to a human-induced disturbance. How do we know that? Tuliptree (also called tulip poplar or yellow poplar) doesn’t produce many [*seedlings*](http://www.explorenaturalcommunities.org/glossary/term/192) in an established forest with a closed canopy. Instead, this species germinates and grows best where disturbance has [*exposed*](http://www.explorenaturalcommunities.org/glossary/term/75) the [*mineral soil*](http://www.explorenaturalcommunities.org/glossary/term/145) and produced a large sunlit opening in the forest canopy.

After a forest has been cleared, if tuliptree seeds are present in the [*seed bank*](http://www.explorenaturalcommunities.org/glossary/term/190) or are blown in by the wind from nearby trees, they are quick to germinate. Tuliptree is often among the first trees to come back on moist soil, often shading out slower-germinating competitors for sunlight. An even-aged stand of pure tuliptree, therefore, is evidence of forest regrowth from some major disturbance in the past.

At Harpers Ferry the **Successional Tuliptree Forest (Rich Type)** grows in areas that may have been cleared and farmed long ago. The park looks so natural and picturesque today, but in the mid-nineteenth century it was a major industrial area and much of the land was cleared of trees and either planted in crops or was occupied by pastures and homesites. Upwards of a century has passed since the soil disturbance that created most examples of this semi-natural forest and the regrown forest appears quite majestic in some areas today.

### 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?

* Many tuliptrees, which will dominate the stand. In some older stands, they may be very large.
* The [*understory*](http://www.explorenaturalcommunities.org/glossary/term/227) is often lush, containing northern spicebush and various herbaceous plants.

If so, welcome to HAFE’s Successional Tuliptree Forest (Rich Type) Community.

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

1. Successional Tuliptree Forest (Rich Type) vs. Northeastern Modified Successional Forest (CEGL006599)

Similarities: These are both successional forests, that are found in areas that may have been cleared and farmed long ago. Upwards of a century has passed since the soil disturbance that created most examples of this semi-natural forest and the regrown forest appears quite majestic in some areas today.

Tips to Distinguish: Successional Tuliptree Forest (Rich Type) will have a canopy mostly (more than 50%) composed of tuliptree. The Northeastern Modified Successional Forest (mapped as SMDF – Successional Mixed Deciduous Forest) will be composed of a variable mixture of native and exotic tree species (such as box-elder, black locust, , black walnut, tree-of-heaven, with some tuliptree).

1. Successional Tuliptree Forest (Rich Type) vs. Cove Forest (Typic Montane Type) and Rich Cove/Mesic Slope Forest (CEGL008412)

Similarities: These are all “rich” forests, with tall trees on nutrient-rich sites, and a diverse understory.

Tips to Distinguish: Successional Tuliptree Forest (Rich Type) is distinguished from Appalachian cove forests (CEGL007710 and CEGL008412) by the dominance of tall, even-aged tuliptree in the canopy, and generally weedier shrub and herb layers

### Notable Variations at Harpers Ferry

Some stands have very large trees, as on the Appalachian Trail between the Potomac River Bridge and Chestnut Hill Road

### Conservation Status

To be autopopulated.

### Classification

To be autopopulated

## Where to See It Page

This tuliptree-dominated community can be found occasionally throughout the park on somewhat moist, well-developed [*soils*](http://www.explorenaturalcommunities.org/glossary/term/205). This natural community is most extensively developed in several areas, particularly on the Appalachian Trail between the Potomac River Bridge and Chestnut Hill Road, where it is occurs with Northeastern Modified Successional Forest (CEGL006599), which is mapped as “Successional Mixed Deciduous Forest” (SMDF).

## Seasonal Plant Highlights Page

#### Spring Highlights

#### Summer Highlights

#### Autumn Highlights

#### Winter Highlights

## Seasonal Animal Highlights Page

#### Spring Highlights

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#### Summer Highlights

#### Autumn Highlights

**?**

#### Winter Highlights

## Characteristic Species Page

### Canopy Trees

Majestic tuliptrees, extraordinarily straight and tall, tower above most other trees in the more mature examples of the **Successional Tuliptree Forest (Rich Type)**. Some examples of this community arose when land went out of cultivation or pasturing in the early twentieth century, and now contain old and impressively large trees.

### Understory Trees

Among understory trees, you may see redbud (another good clue to nutrient-rich soils), with its pinkish-purple pea-like flowers, and hop hornbeam trees, which are distinctive for their finely shaggy bark.

### Shrubs, Saplings, & Vines

The **Successional Tuliptree Forest (Rich Type)** may contain northern spicebush (smell its spicy citrus-scented crushed leaves) and pawpaw (whose long leaves emit the smell of kerosene when crushed); both can 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 are out.

### Low Plants (Field Layer)

### 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  | tuliptree |
| Trees – Understory  | redbud, hop hornbeam |
| Shrubs, Saplings & Vines | Northern spicebush, pawpaw |
| Low Plants (Field Layer) | Christmas fern, Solomon’s plume, jumpseed |

|  |  |
| --- | --- |
| Layer | Occasional Species |
| Trees – Canopy  | white ash, bitternut hickory, sugar maple, black walnut,  |
| Trees – Understory  | n/a red maple, black locust, sweetgum |
| Shrubs, Saplings & Vines | Poison-ivy, Virginia creeper, American strawberry-bush |
| Low Plants (Field Layer) | Jack-in-the-pulpit, broadleaf enchanter's-nightshade |

|  |  |
| --- | --- |
| Layer | Invasive & Non-native Species |
| Trees – Canopy  | n/a |
| Trees – Understory  | tree-of-heaven |
| Shrubs, Saplings & Vines | bush honeysuckle, Japanese honeysuckle |
| Herbs/Ground layer | Garlic mustard, Japanese stiltgrass |

### Non-native invasive plants:

(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).

[Ecobit: Maple Tree Mystery](http://www.explorenaturalcommunities.org/content/maple-tree-mystery-rock-creek-park) The **Successional Tuliptree Forest (Rich Type)** in Harpers Ferry can include [Norway maple](http://www.explorenaturalcommunities.org/species/ELEMENT_GLOBAL.2.140646), which looks similar to sugar maple but is a non-native, aggressively invasive species. Norway maple leaves are wider than long, and have milky sap. In fall, its leaf undersides reveal dark brown veins against the yellow leaf color.

### In brief:

### Plant Life

Some younger examples are heavily invaded by [*non-native*](http://www.explorenaturalcommunities.org/glossary/term/156) plant species.

### Animal Life

## Physical Setting: Successional Tuliptree Forest (Rich Type) at Harpers Ferry

### Indicator Plants:

tuliptree, northern spicebush, Christmas fern

### Stand Size:

Stands range in size from 4 hectares (10 ac.) to 28 hectares (70 ac.).

### Landscape Position

### Soils

Because of the presence of nutrient-demanding species (e.g., northern spicebush, sugar maple, redbud), it is hypothesized that this community occupies soils of moderate to high fertility. Soil fertility may be the result of soils weathered from base-rich substrates, enrichment by agricultural activities, or both.

### Geology

In some sites, [*groundwater*](http://www.explorenaturalcommunities.org/glossary/term/99) may supply extra base minerals.

### 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