

Erin Lunsford Jones & Alli Kenlan, NatureServe



# The end goal of biodiversity data...



## The end goal of biodiversity data.

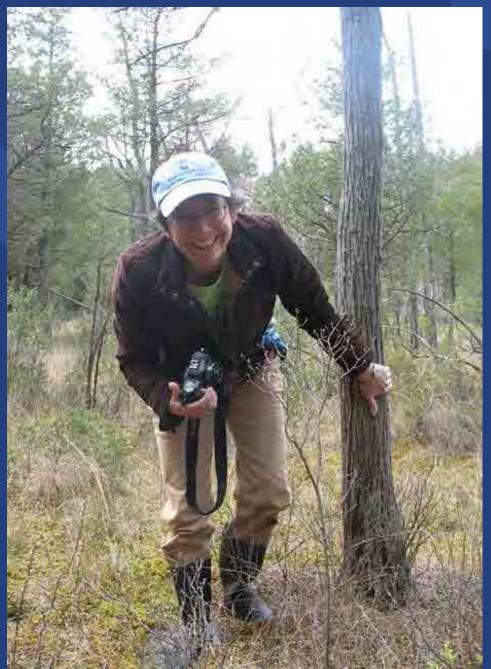




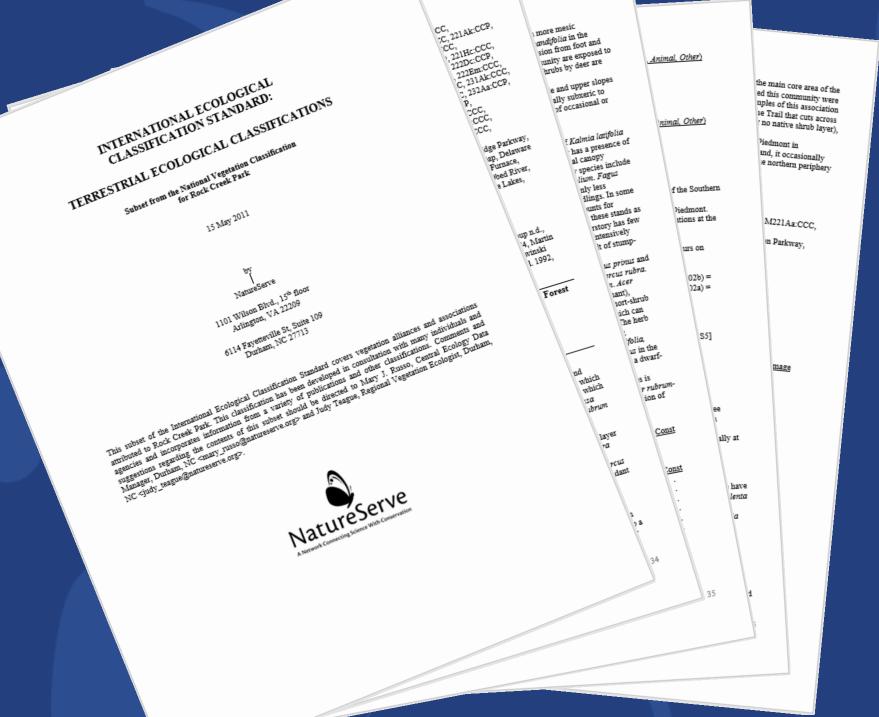
is good stewardship and conservation of biodiversity











## Another piece of conservation planning...

## Another piece of conservation planning...

is bringing along the public













INTERNATIONAL ECOLOGICAL INTERNATIONAL ECULUGICAL CLASSIFICATION STANDARD: TERRESTRIAL ECOLOGICAL CLASSIFICATIONS Subjet from the National Vegetation Classification for Rock Creek Park

15 May 2011

NatureServe 1101 Wilson Elvd., 15th floor

This subset of the International Ecological Classification has been developed in consultation with many individuals and attributed to Rock Creak Park. This classification has been developed in consultation with many individuals and attributed to Rock Creak Park. This publish for the International Ecological Classification Standard covers regretation with many individuals and comments and associations. Data developed in consultation with many individuals and according to the International Ecological Classification Standard covers regretation with many individuals and the consultations. This classification as developed in consultations and successful according to the control of the

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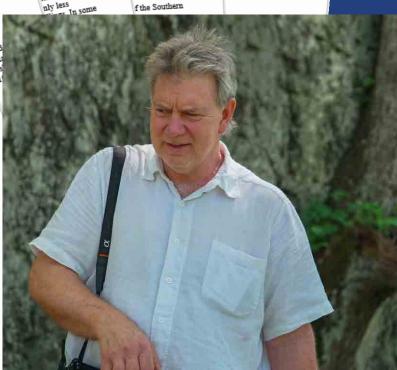
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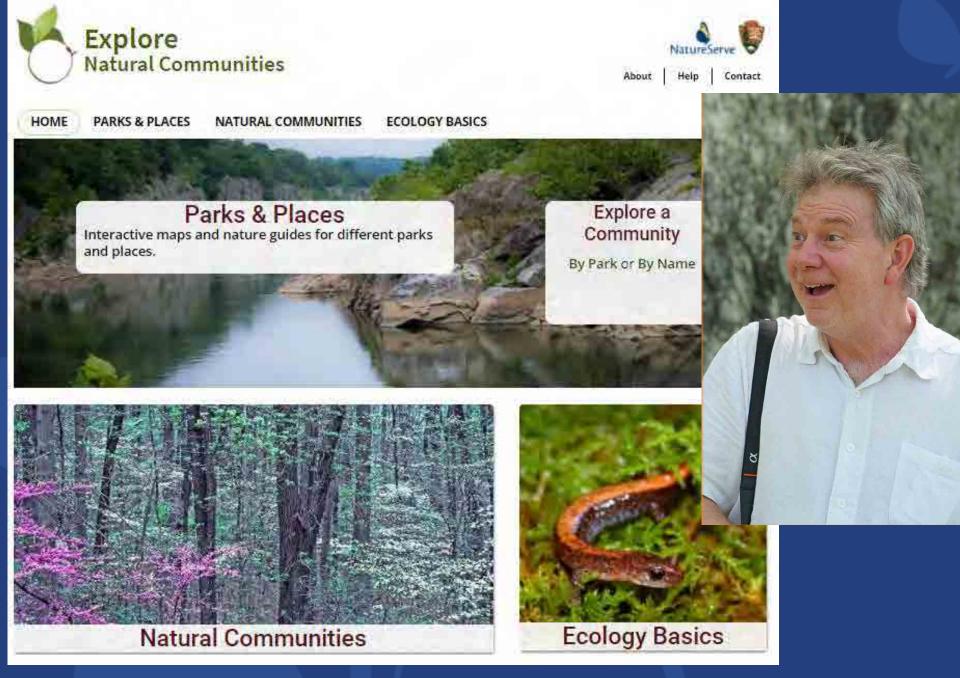
the main core area of the ed this community were nples of this association se Trail that cuts across no native shrub layer),

iedmont in und, it occasionally e northern periphery





## What people need is...



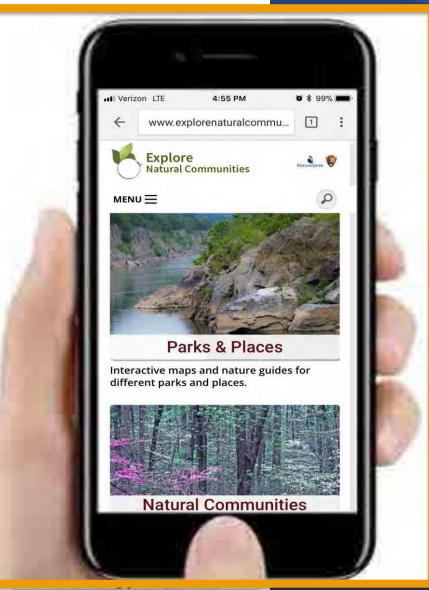
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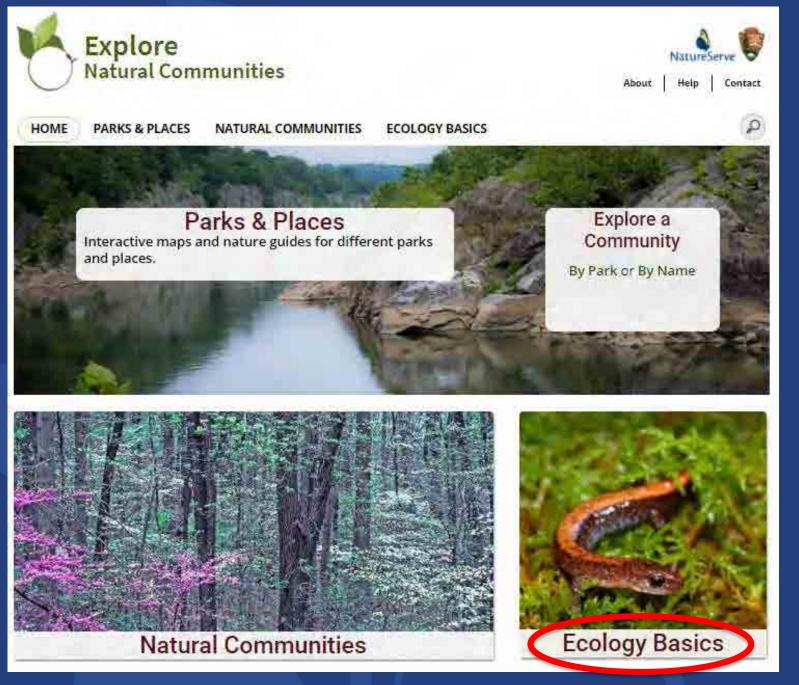












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HOME

PARKS & PLACES NATURAL COMMUNITIES ECOLOGY BASICS





#### Overview

Ecology is the science of relationships in the natural world. It is the study of how plants and animals interact with each other, with other organisms, and with their physical environment. Learn more about some of the foundational ecological concepts of this website.



#### Patterns in Nature

Ecologists see patterns in the landscape called natural communities. What's she value of naming and mapping the patterns?



#### The Role of Animals

How do animals need plants, and vice versa?



#### Secret Lives of Plants

How do the differences among plants make them great at living in community?



#### **Physical Setting**

The soils, begrock, topography, and water at a site give crues to which natural communities might live there.



#### Natural Processes

How the things that happen in nature (think floods, ice storms, falling trees, animals eating or pollinating plants, etc.) shape natural communities?



#### Stewardship and Ecological Threats

What keeps a natural community healthy? What threatens its survival?



## Digging deeper into "how things work"

#### Topography

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South north

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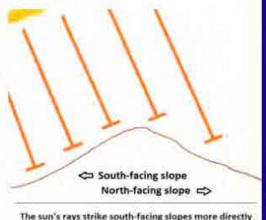
Topography refers to the form of the landscape—its steepness, shape, and slope aspect (the direction a slope faces). Even within a relatively small area, variations in topography can create variations in temperature, moisture, and exposure to sun and wind. These differences create conditions that support different natural communities.

### **How Topography Creates Microclimates**

Topography creates differences in climate across very small distances. These differences in temperature, moisture, and exposure to wind and sun are called microclimates, and they are important predictors as to where various natural communities can be found.

For example, a windy hilltop with high evaporation and transpiration will tend to have a drier microclimate than a nearby sheltered ravine. Consequently, you'll find plants on the ridge that can tolerate windy and dry conditions. In the ravine, you'll find plants that prefer less windy and more moist conditions.

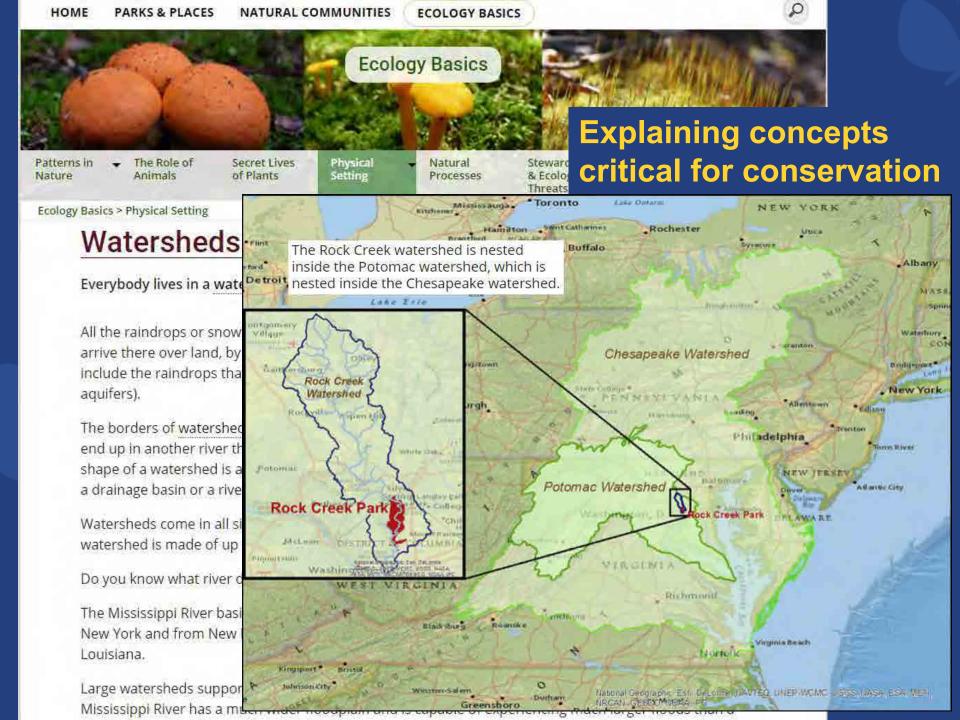
South-facing slopes will tend to be sunnier and drier than nearby north-facing slopes. That's because the sun is always in the southern sky for those of us in the northern hemisphere. The sun's rays strike a south-facing slope more directly than they strike a north-facing slope. This explains why snow melts away faster on south-facing slopes than on north-facing ones. It also explains why you'll find plants adapted to sunny, drier conditions and warmer temperatures on south-facing slopes, while nearby north-facing slopes may contain plants suited to more shade, moisture, and cooler temperatures.



back to top

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than north-facing slopes in the northern hemisphere.







MENU =



## Is Your Property Watershed Friendly?

No matter where you live, what flows off your property matters!

What can you do to slow down and clean up stormwater runoff? Make use of nature's percolation process. Install more infiltration devices—everything from rainbarrels and rain gardens to permeable pavers and water-detention ponds.

For ideas, visit the District of Columbia's RiverSmart Homes Program, or this wikiHow website on reducing stormwater runoff at your home.



A lowered roadside swale in Washington, D.C. absorbs and naturally filters water collected from the street. Photo courtesy of Chesapeake Bay Program

Remember: What goes down a storm drain goes directly and speedily to the nearest creek, unfiltered.

# Sparking ideas people can use in their own communities



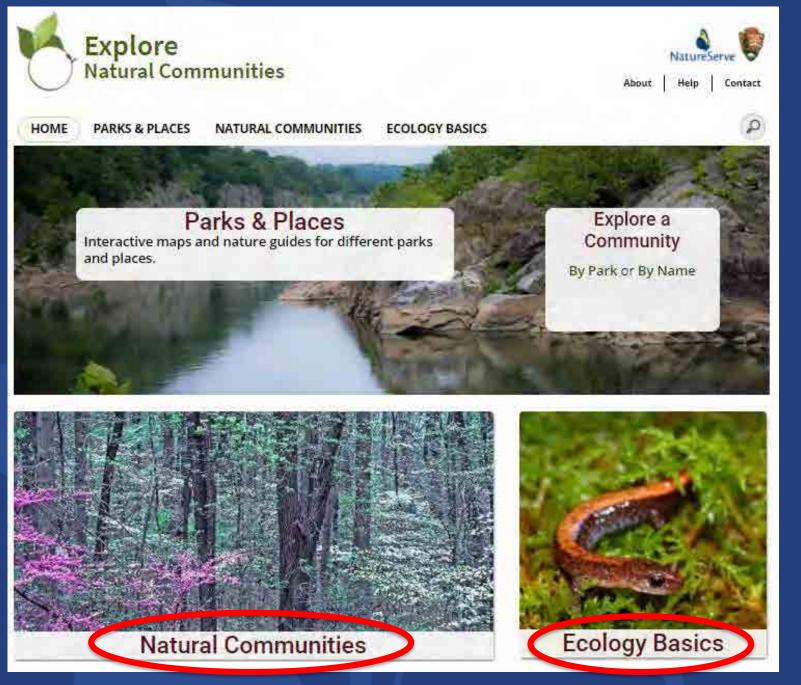
Explaining terms / concepts used in this website

### **Natural Communities**

Combinations of native plants often found together in particular settings are called natural communities. What sorts of factors influence these natural patterns?

- position in the landscape,
- type of soil or rock,
- water supply,
- protection from or exposure to sun, weather events, fire, and other natural processes.

Each natural community functions as essential habitat for various wildlife species. Many animals—such as wide-ranging deer and adaptable racoons—live and travel among different natural communities. Others are dependent on specific natural communities, like the beaver or kingfisher who live in floodplain forests.



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### Chestnut Oak Forest (Central Appalachian-Northern Piedmont)

Chestnut Oak Forest is a hardy natural community of the central Appalachian Mountains and northern Piedmont. Its most common plants – chestnut oak and mountain laurel – are well-suited to the often rocky terrain of dry hilltops and steep slopes.

#### Where to Explore It

Chestnut Oak / Mountain Laurel Forest in Rock Creek Park Chestnut Oak / Mountain Laurel Forest in Wolf Trap National Park for the Performing Arts

Chestnut Oak / Mountain Laurel Forest in Harpers Ferry National Historical Park-delete

The Chestnut Oak Forest occurs at relatively low elevations (mostly under 3,000 feet/900 meters in elevation) in the Central Appalachians and northern Piedmont.

The range map shows the states in which this natural community has been documented.



#### Explore a Community

By Park or By Name

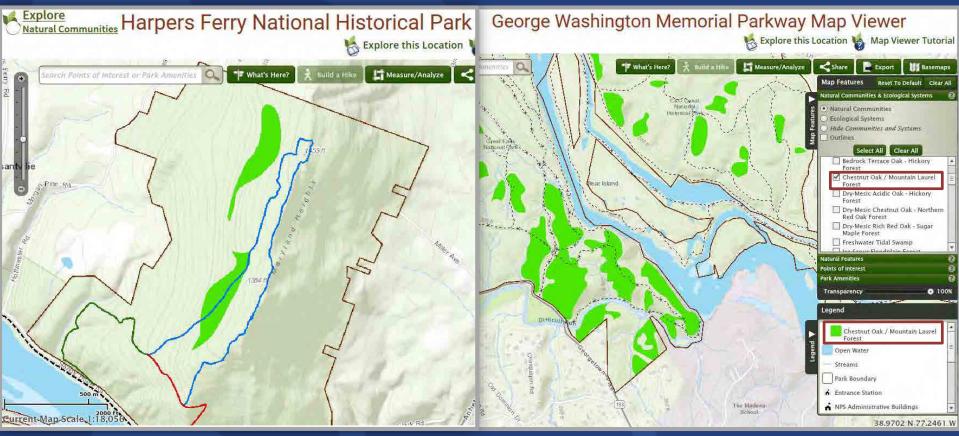
#### Learn More

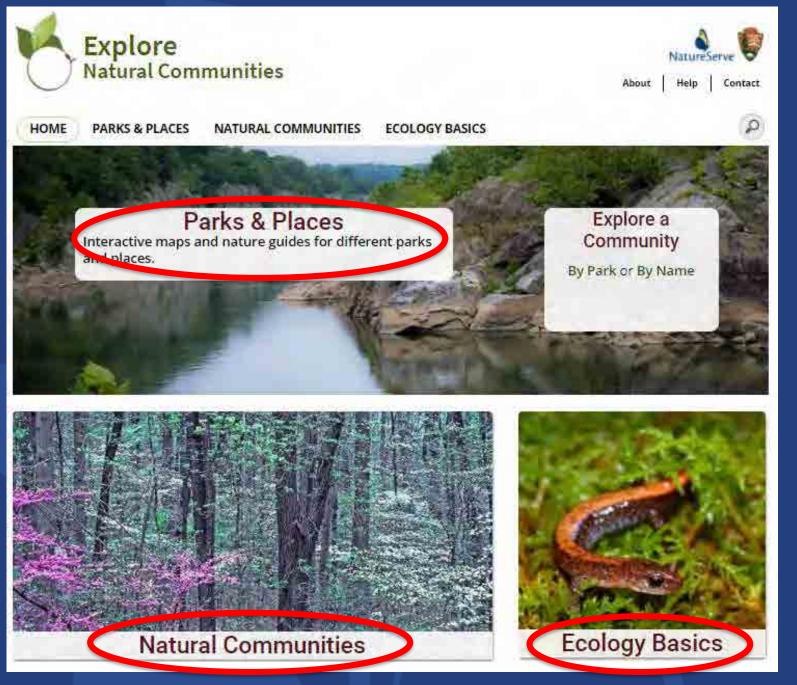
What is a Natural Community?
Parks & Places

#### Look for It in These National Parks

- Appalachian Trail
- Blue Ridge Parkway
- Catoctin Mountain Park
- · Chesapeake and Ohio Canal National Historical Park
- George Washington Memorial Parkway
- Harpers Ferry National Historical Park
- National Capital Parks East
- Rock Creek Park
- Shenandoah National Park
- · Wolf Trap National Park for the Performing Arts

## Shared Goals Across Managed Areas





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HOME

PARKS & PLACES

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**ECOLOGY BASICS** 





#### Parks and Places

Get to know a park through the eyes of a naturalist! This website contains field guides and interactive maps about nature—especially natural communities—in national parks and other places. It currently focuses on National Capital Region parks, which are located in Washington, D.C., or within a two-hour drive. More content is on the way.

#### Featured Park

Explore a park's natural comm and their patterns in the landscape—through stories, interactive maps, photos, podcasts and m



Rock Creek Park





Explore Park Park Map

#### **Explore Parks**

Explore the parks below. More complete nature guides for these parks are on the way!



George Washington Memorial Parkway







Harpers Ferry National Historical Park





Sneak Peek, Park Map



Manassas National Battlefield Park



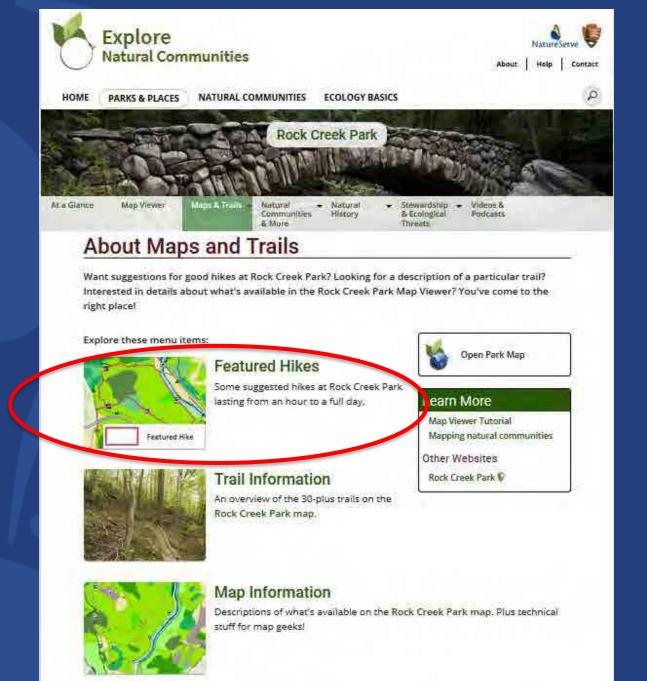
Sneak Peek



Prince William Forest Park



Sneak Peek



## **Featured Hikes**



#### Floodplain Forest Hike

This loop hike skirts Rock Creek's broadest floodplain forest, follows a gentle slope up the narrowing Rock Creek Valley wall, crosses a footbridge over Rock Creek, and winds through a forested valley and rolling hills.

Length: 2.60 mi; 4.18 km

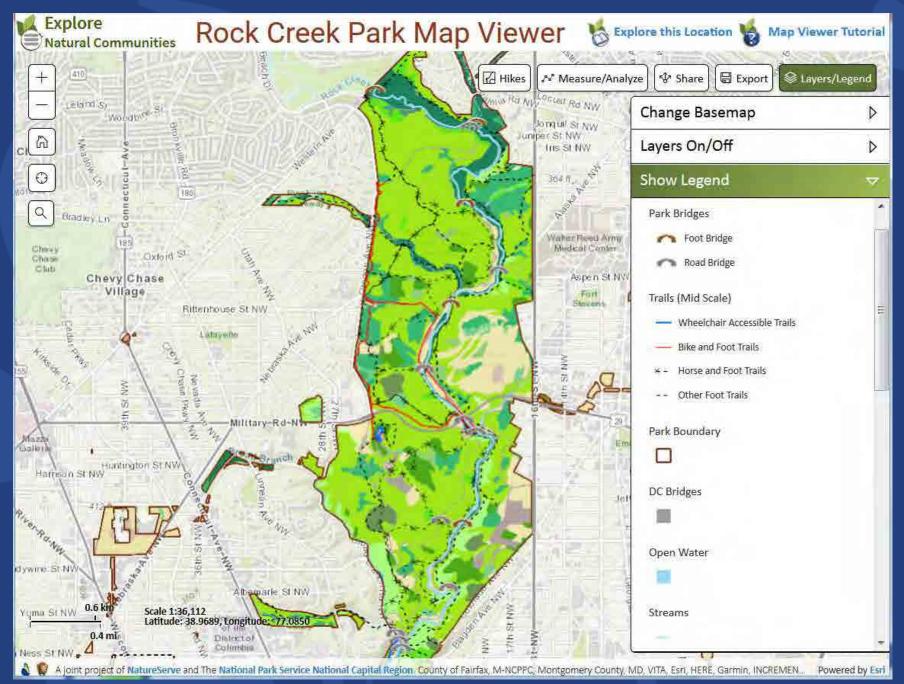
Difficulty: Moderate, with slopes. Bring water.

Start Here: Parking Lot at Boundary Bridge (Beach Dr. NW at D.C. / MD boundary)

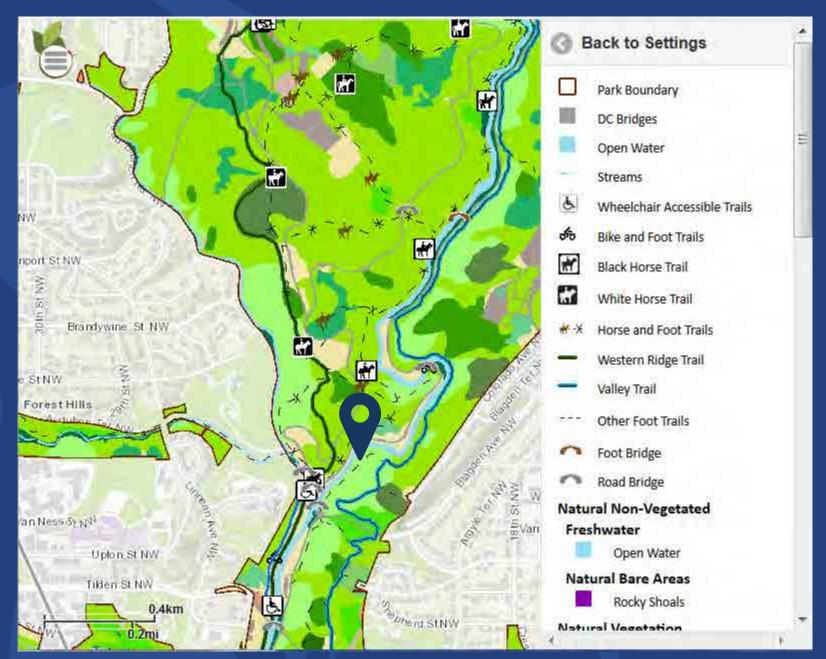
**Tips:** All trail segments shared with horses. No restrooms on this route or at trailhead.

Street Crossings: Beach Dr.

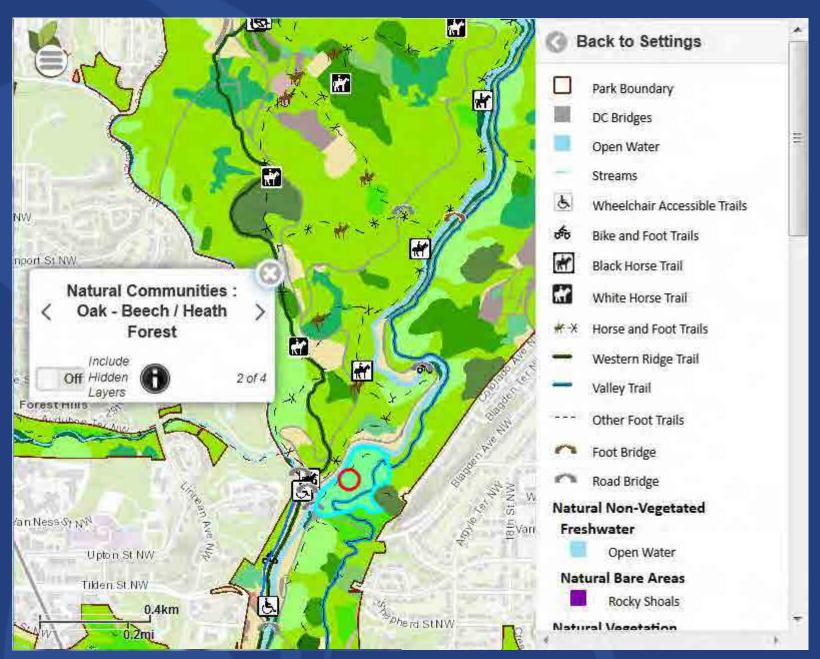
Highlights: The Tuliptree Small-Stream Floodplain
Forest; a Red Maple Seepage Swamp where the Valley
Trail starts climbing the Rock Creek Valley wall; transition
zones between a mix of natural communities on the
meandering trail above Rock Creek; Riley Spring
footbridge; large outcrops of Laurel Formation bedrock
surrounded by mature Mesic Mixed Hardwood Forest
and a patch of Basic Mesic Hardwood Forest in the wide
lower section of a ravine; acres of rolling Mesic Mixed
Hardwood Forest.



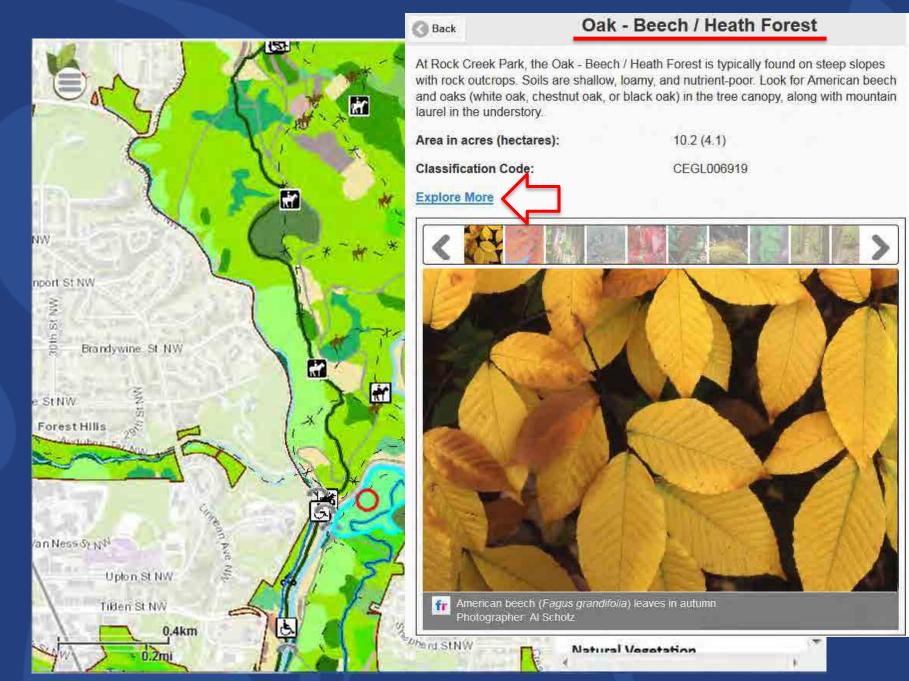
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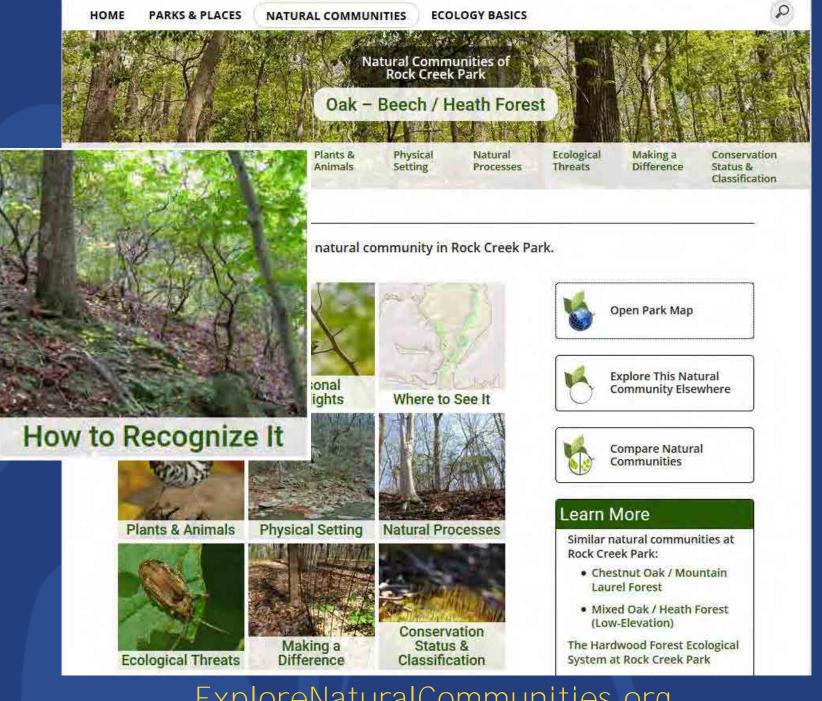


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Natural Communities of **Rock Creek Park** 

Beech / Heath Forest

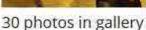
Natural Processes Ecological Threats

Making a Difference

Conservation Status & Classification

How to Recognize It





easily.





This natural community has a distinctive look with evergreen mountain laurel shrubs under a canopy of oaks and American beech. Look for the Oak - Beech / Heath Forest at Rock Creek Park on steep, convex slopes and bluffs above streams. You may see patches of moss on the thin, highly acidic soils. Outcrops of metamorphic bedrock jut out of the steep hillsides, along with the occasional white quartz vein. Because of the steepness, rainwater runs off quickly and soils do not accumulate



Open Park Map



**Explore This Natural** Community Elsewhere



Compare Natural Communities

#### Learn More

Similar natural communities at Rock Creek Park:

- Chestnut Oak / Mountain Laurel Forest
- · Mixed Oak / Heath Forest











### Seasonal Highlights









4 photos in gallery

- · Pink or pinkish blooms of mountain laurel (early summer)
- · Red blooms of black huckleberry
- · White blooms of striped prince's-pine, partridgeberry—low to the ground
- Dark berries of hillside blueberry, black huckleberry
- · Red berries of common serviceberry
- Nesting birds actively collecting food for young birds. Baby birds learning to fly and following their parents around, begging for food

## Natural Communities of Rock Creek Park

#### Oak - Beech / Heath Forest

	How to Recognize It	Seasonal Highlights	Wher See It			
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Plants & Animals

Setting

Processes

Ecological Threats

Making a Difference

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invasive species, introduced from Europe. The caterpillars are especially destructive, feeding on many species of trees and

- Photographer: Flickr user Dennis Wilkinson

   English ivy\* (vine)
- Japanese stiltgrass\* (herb)
- linden arrow-wood\* (shrub) Norway maple\* (tree)
- oriental bittersweet\* (vine)

· Population dynamics of white-tailed deer at Rock Creek Park

t Rock Creek

· Fire at Rock Creek Park

Other Websites







# Don't Let Your Ivy Climb

Did you know that English ivy (*Hedera helix*) that is never allowed to climb upwards won't reproduce by making flowers and seeds? Once it grows vertically for some time, however, an internal switch seems to flip. Thereafter, even if the tree it was climbing falls, English ivy is capable of producing fleshy blue berries.

Birds help native AND non-native plants spread by eating their beautiful plump berries and flying away. When nature calls, so to speak, a bird deposits seeds that are ready to grow. By that time, the bird could be in the middle of a pristine forest.



English ivy fruit grows on vines that climb. (That's why you don't see fruit in manicured container plantings of ivy.) Photographer: Flickr user happy days photos and art

**Moral of the story for gardeners:** Don't let your ivy climb! If you garden with other ornamental non-native plants that have berries, harvest the berries for **indoor** decorations.



How to Recognize

Seasonal Highlights

## Low Plants (Fi

Plants growing low to

#### Photo album fr

- green moss
- partridgeberry
- striped prince's
- white wood-ast

The field layer, which usually sparse in the dense root mats of hi expose mineral soil.

## Non-Native Inv

Read about the handl **Ecological Threats** pa

## partridgeberry

Scientific Name: Mitchella repens

Common Name: partridgeberry

Global Conservation Status: G5 - Secure

Find out more on

NatureServe Explorer ()



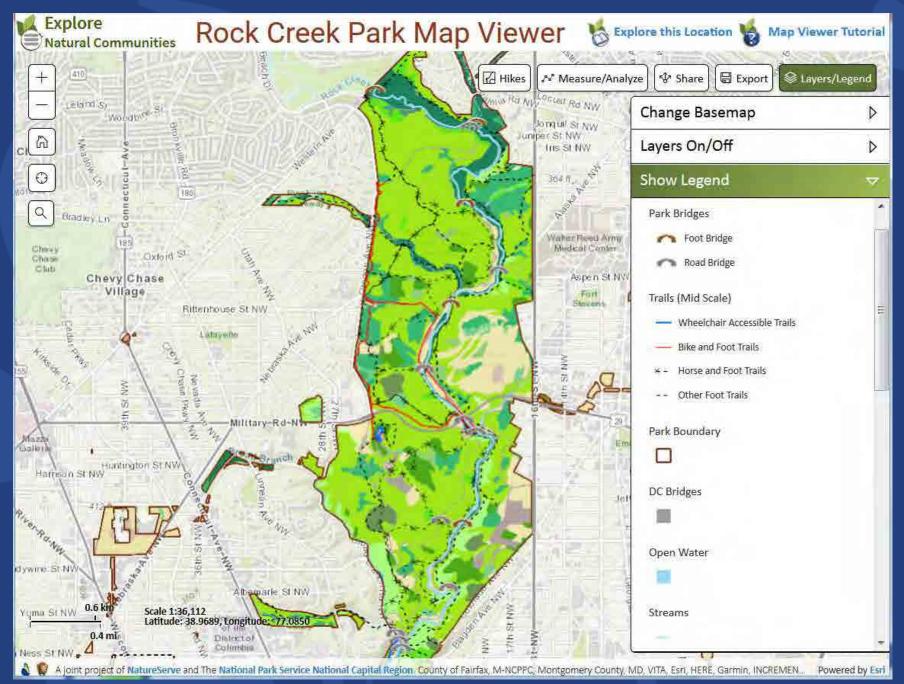
Search for photos of this species within the NatureServe Flickr photo stream, fr



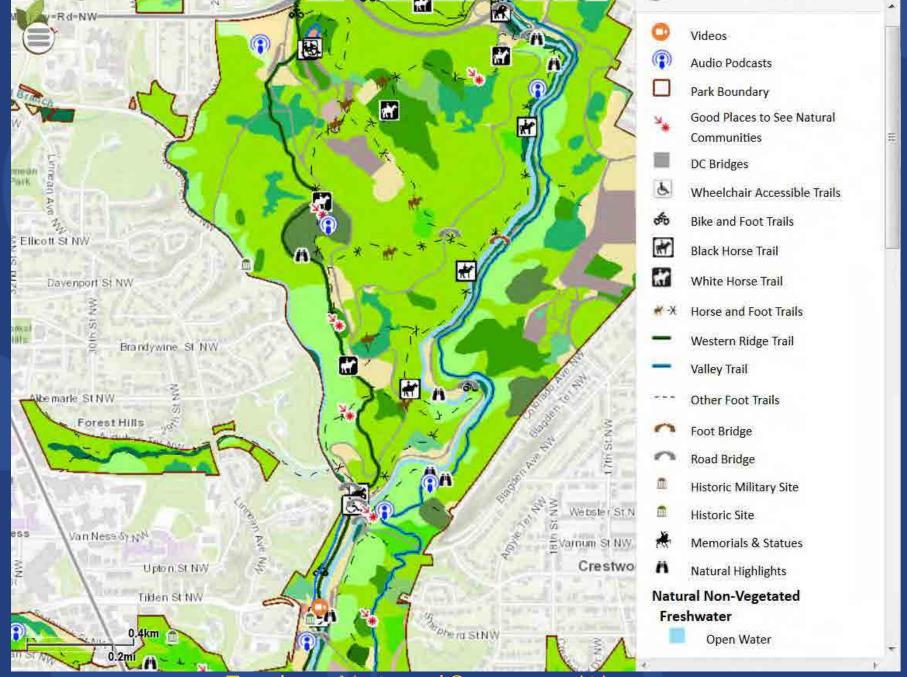
Twin flowers, fused at the base and producing a single red berry, help identify this sprawling groundcover. Photographers: Matt & Erin Jones

† The conservation status of a species is designated by a number from 1 (critically imperiled) to 5 (secure), preceded by a letter reflecting the geographic scale of the assessment (G = Global, S = Subnational). More information is available through NatureServe Explorer.

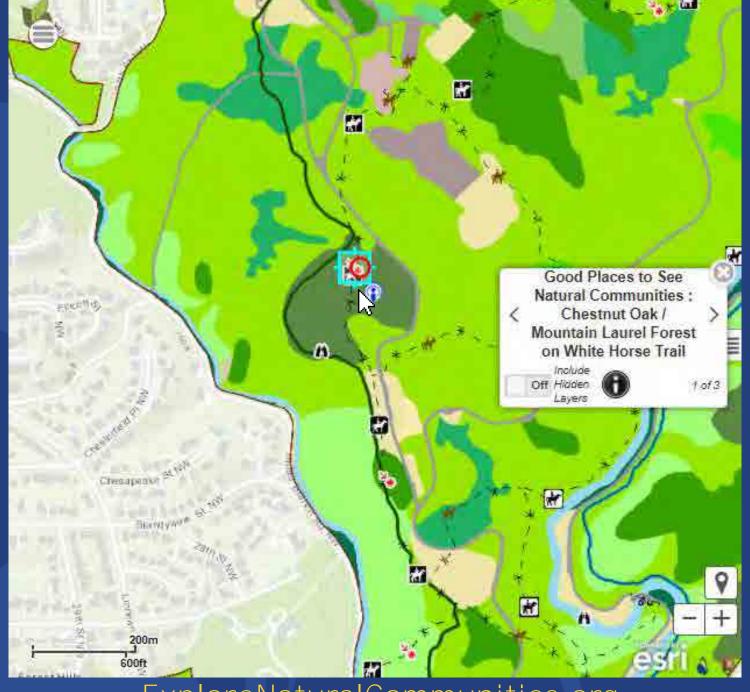




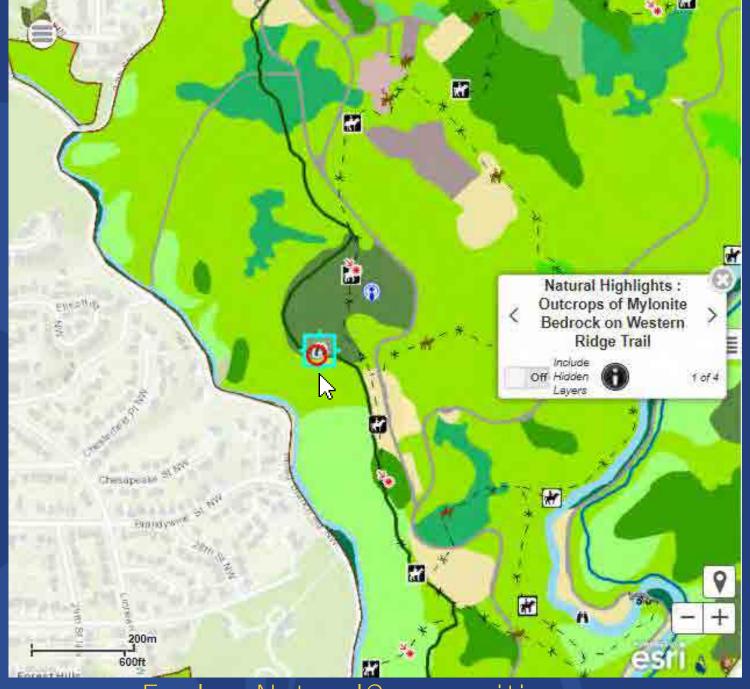
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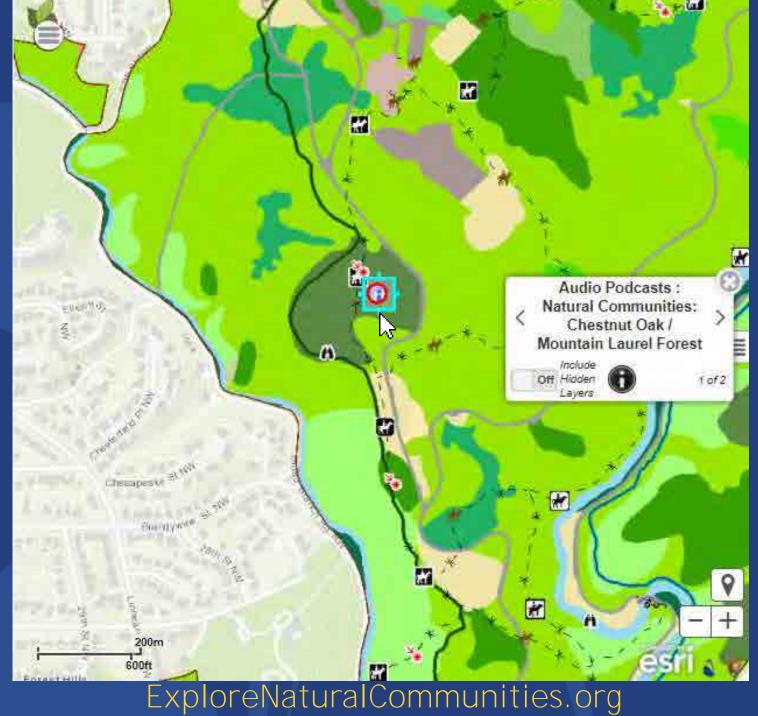
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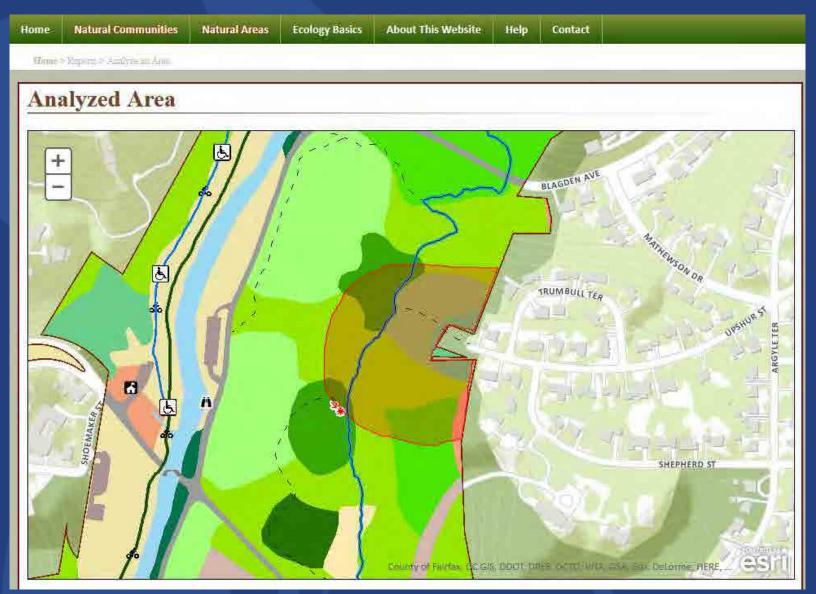
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# Analyze - An - Area



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## Build a Hike

## **Natural Communities**

Name	Code	Notes		
Mixed Oak / Heath (Low Elevation) Forest	CEGL008521	At Rock Creek Park, the Low-Elevation Mixed Oak / Heath Forest is usually found on flat and rolling hilltops, on infertile, coarse to loamy soils. A mixture of oaks including white, black, chestnut, and scarlet oak dominate the tree canopy. Several species of low growing blueberries and huckleberries may be scattered throughout the stand.		
Oak - Beech / Heath Forest		At Rock Creek Park, the Oak - Beech / Heath Forest is usually found on steep slopes with rock outcrops on loamy, infertile soils. Look for American beech, white oak, chestnut oak, and black oak in the tree canopy, along with mountain laurel in the understory.		

#### Good Places to See Natural Communities

Name	Location	Notes
Mixed Oak / Heath Forest on Meadow Link Trail	North end of Meadow Link Trail, on	You can find multiple distinct shapes of oak leaves in the leaf litter of this level hilltop forest. Deer nibble the low, shrubby blueberry bushes.

#### Trails

Segment Number	Name	Painted Trail Blaze	Difficulty	Length in miles (km)	Notes	Accessibility Notes	Wheelchair accessible?	Bikes allowed?	Horses allowed?
1	Valley Trai segment	Blue	м	0.15 (0.24 <b>)</b>	This section of Valley Trail north of Park Rd climbs a long, moderate slope. It passes a meadow mowed occasionally by the Park to maintain habitat for critters such as butterflies. Meadowlink Trail (a short loop trail) meets Valley Trail at the north and south end of this segment. The top of the hill (north end) is a good place to see Mixed Oak / Heath Forest, with cobble stones.		No	No	No







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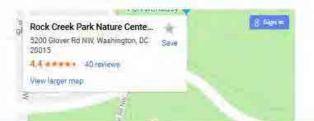
**ECOLOGY BASICS** 





#### stretch of rapids;

- · patches of flat, fertile floodplains with infrequent seasonal pools and groundwater seeps;
- · valley walls that rise dramatically with jagged rock outcrops to high ridges and bluffs;
- · moist, fern-laden ravines;
- hillsides cloaked with American beech :
- · cobblestone-sprinkled dry hilltops dense with oak trees and mountain laurel ...



#### Learn More

Hit the Trails!

Policies of Rock Creek Park

Plants of Rock Creek Park

Non-Native Invasive Plants of Rock Creek Park

Animals of Rock Creek Park

The Rock Creek Watershed

Other Websites

Rock Creek Park V

Getting There





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#### Parks and Places

Get to know a park through the eyes of a naturalist! This website contains field guides and interactive maps about nature—especially natural communities—in national parks and other places. It currently focuses on National Capital Region parks, which are located in Washington, D.C., or within a two-hour drive. More content is on the way.

#### **Featured Park**

Explore a park's natural communities and their patterns in the landscape—through stories, interactive maps, photos, podcasts and more.



Rock Creek Park







Explore Park Park Map

#### **Explore Parks**

Explore the parks below. More complete nature guides for these parks are on the way!



George Washington Memorial Parkway









Sneak Peek Park Map



Harpers Ferry National Historical Park







Manassas National **Battlefield Park** 







Prince William Forest Park





Wolf Trap National Park for the Performing Arts





Sneak Peek Park Map

# Designed for Expansion

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# Building stewardship on several levels

- Visitors cultivating mindset
- Interpretive Staff (and educators) coaching
- Natural Resource Managers facilitating sharing
- Natural and Cultural Resource
   Managers helping work together

# Explore Natural Communities Summer Internship



# Short, Informative Podcasts





## **Videos and Podcasts**

Listen to audio podcasts about Prince William Forest Park!

#### **Podcasts**



Natural Community: Mesic Mixed Hardwood Forest in Prince William Forest Park

Meet the beautiful Mesic Mixed Hardwood Forest, a widespread natural community in Prince William Forest Park.



Natural Community: Mixed Oak / Heath Forest in Prince William Forest Park

The Mixed Oak / Heath Forest is naturally good at recovering from forest fires, like the one that raged in Prince William Forest Park for nine days in 2006.

# Short, Informative Podcasts





How do plants attract the insects and other animals that spread pollen from flower to flower?









HOME PARKS & PLACES NATURAL COMMUNITIES ECOLOGY BASICS





Ecology Basics

#### Features



Welcome See the world as a naturalist does!



Rock Creek Park

Learn about the natural
history of Rock Creek Park.



Interactive Map Explore Rock Creek Park's natural communities, hiking trails, and more.



Videos and Podcasts Watch a video or listen to podcasts about Rock Creek Park!



Meet a Community
Oak - Beech / Heath
Forest in Rock Creek Park



A Peek at the Plants Commonly seen native plants in Rock Creek Park

# Join us!

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HOME PARKS

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# The Team

NatureServe ENC team (current): Judy Teague, Dave Hauver, Todd Parks, Allen Anselmo, Erin Lunsford Jones, Jianyu Wu, and contracted science writer Mary-Russell Roberson; Summer Interns 2015 – 2017; with help from many others!

National Park Service ENC champion: Diane Pavek