

# **Reconnaissance Study of Potentially Eligible National Wild & Scenic Rivers in Delaware**

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Delaware Estuary Science & Environmental Summit  
Atlantic City, NJ

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Water Resources Center  
Newark, Del



R.T. Long

# The Network of Water Resources Research Institutes



# Nationwide Rivers Inventory



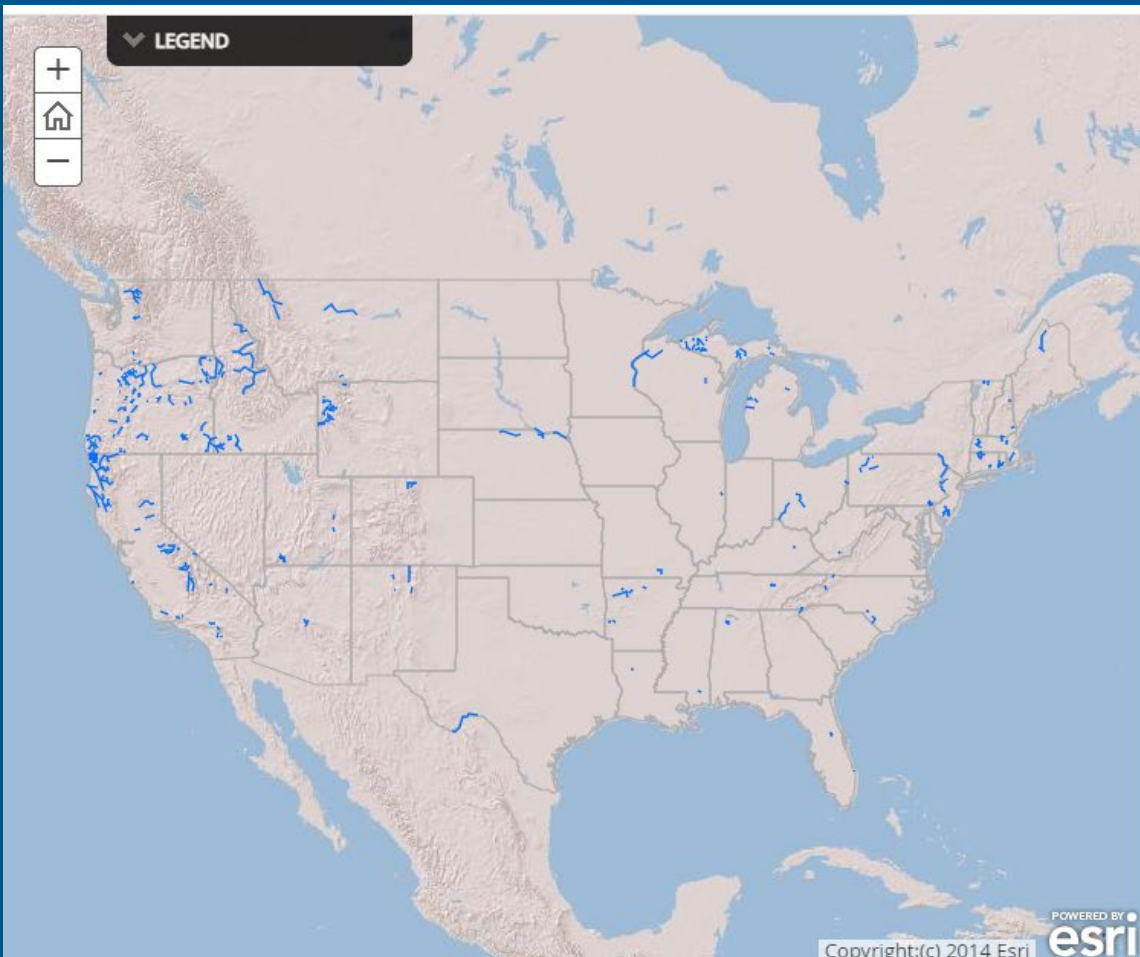
<https://www.nps.gov/subjects/rivers/nationwide-rivers-inventory.htm>



# Nationwide Rivers Inventory

This is a listing of more than 3,200 free-flowing river segments in the U.S. that are believed to possess one or more "outstandingly remarkable" values.





## National Wild and Scenic River System in the U.S.



### Wild and Scenic Rivers

There are 226 national wild and scenic rivers in 40 States and the Commonwealth of Puerto Rico, totaling more than 13,412 miles (as of April 2019). This is a little more than one-quarter of one percent of the nation's rivers.

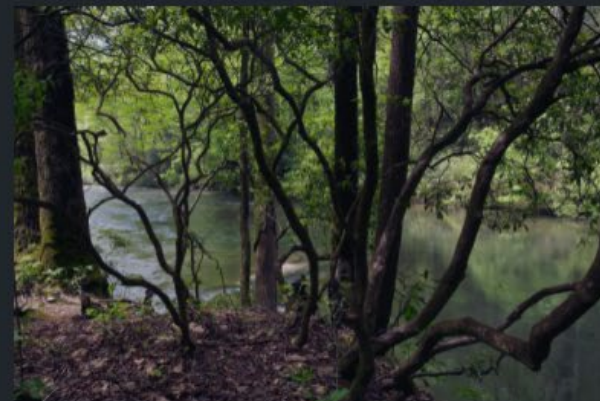


Photo (above). West Fork of the Chattooga River, Georgia and North Carolina





Territories



Languages



Treaties

Search your address, or toggle switches above to add shapes. Click around! [Think critically about this map.](#)

Search

Territories ▾

Languages ▾

Treaties ▾

Lənape Haki-nk  
(Lenni-Lenape)

Lenapewihittuck

Lənape Haki-nk  
(Lenni-Lenape)

Nentego (Nanticoke)

Susquehannock

Piscataway

Nentego (Nanticoke)

Susquehannock

Susquehannock

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Nacotchtank  
(Anacostan)

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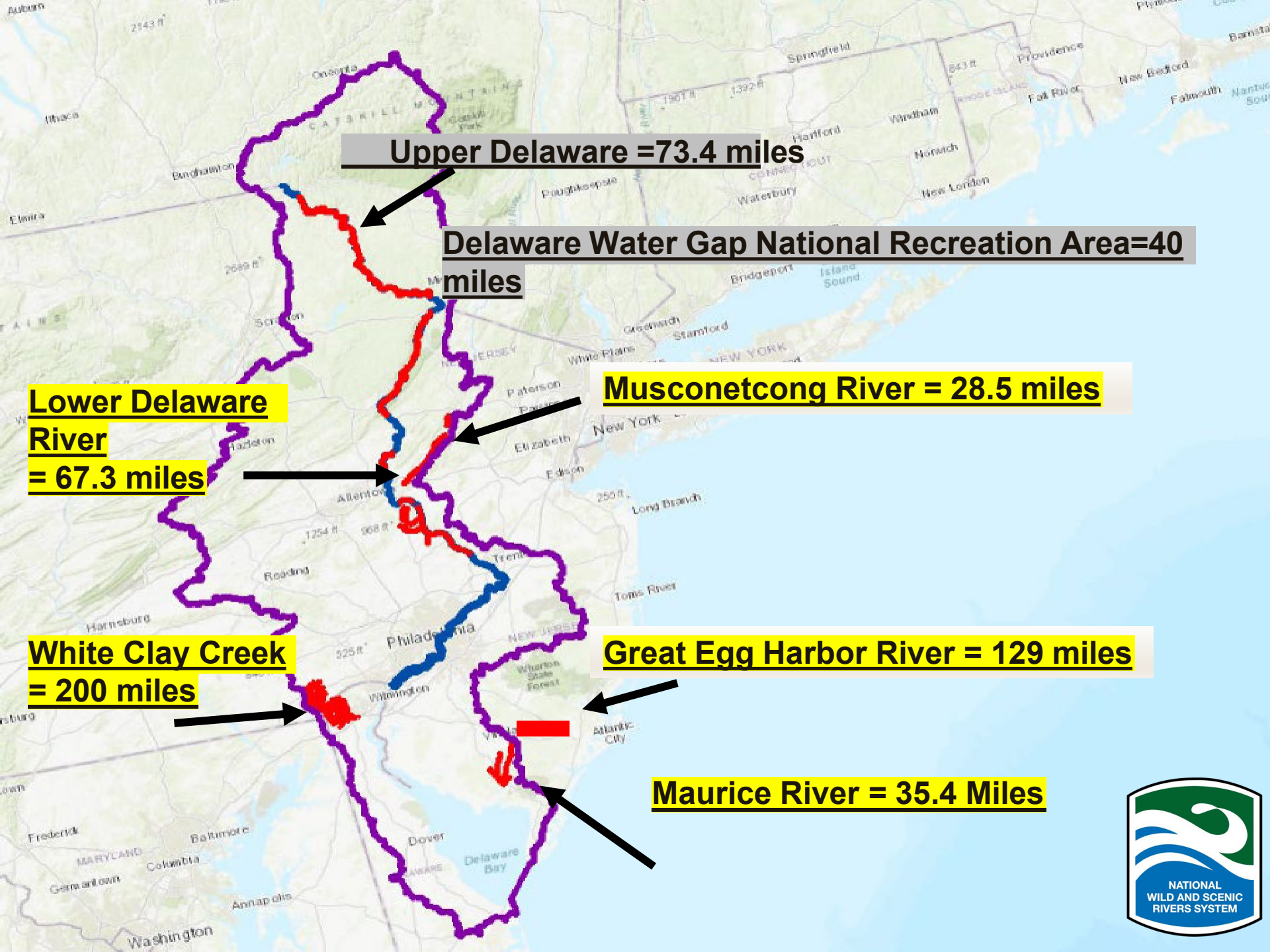
Massawomeck

Native lands in Delaware (Native Land Digital 2021)

# Indigenous Waters

- **Lenapewihittuck:** The Delaware River
- **Queonemysing:** “place where there are long fish,” was a seasonal fishing village.
- In **1778**, the Lenape (the Delaware) was the first nation to sign a treaty with the new Continental Congress.
- **Suspecough:** “at the muddy pond”. **Wawaset:** “near the winding bend”.
- **Fiskiekjilenin:** “fishkill.”
- **Brannvin:** A potato or barley liquor after the Old Barley Mill built by a 17<sup>th</sup> century Swedish surgeon near present day Market Street in Wilmington.
- **White Clay Creek – Swapecksiska:** The name comes from the indigenous Lenape name Swapecksiska which the Dutch later adapted to Hwitlerskil (Dunlap 1956).
- **Red Clay Creek - Hwiskakimensi Sippus:** Lidestrom’s Map (1654-1655) as Hwiskakimensi Sippus, a Lenape name meaning “young tree stream.”





**Upper Delaware = 73.4 miles**

**Delaware Water Gap National Recreation Area = 40 miles**

**Lower Delaware River = 67.3 miles**

**Musconetcong River = 28.5 miles**

**White Clay Creek = 200 miles**

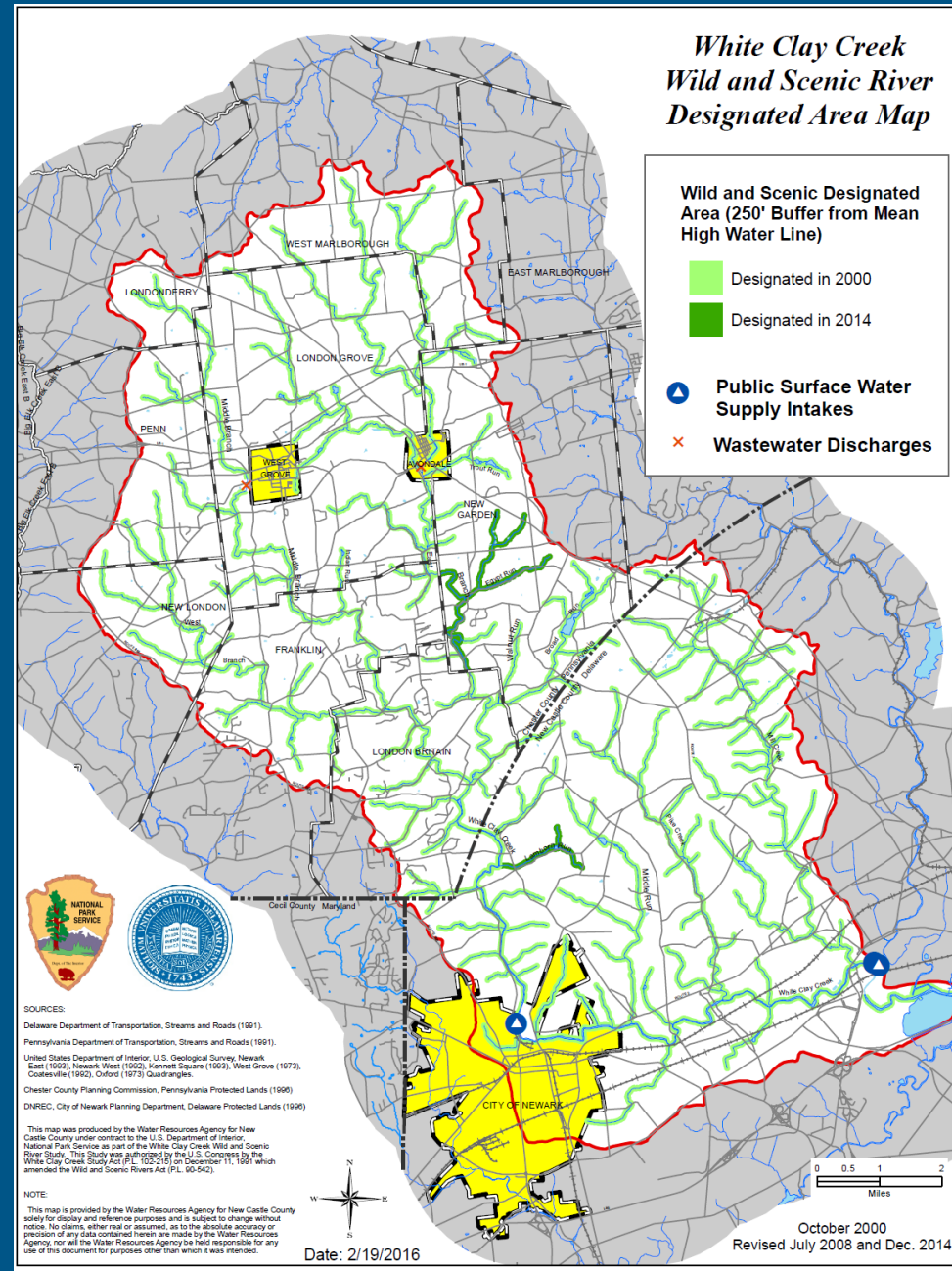
**Great Egg Harbor River = 129 miles**

**Maurice River = 35.4 Miles**



# White Clay Creek Wild & Scenic

- \* Bi-state partnership
- \* Only W&S river on a watershed basis
- \* Designated areas (250' from bank)





# Methodology

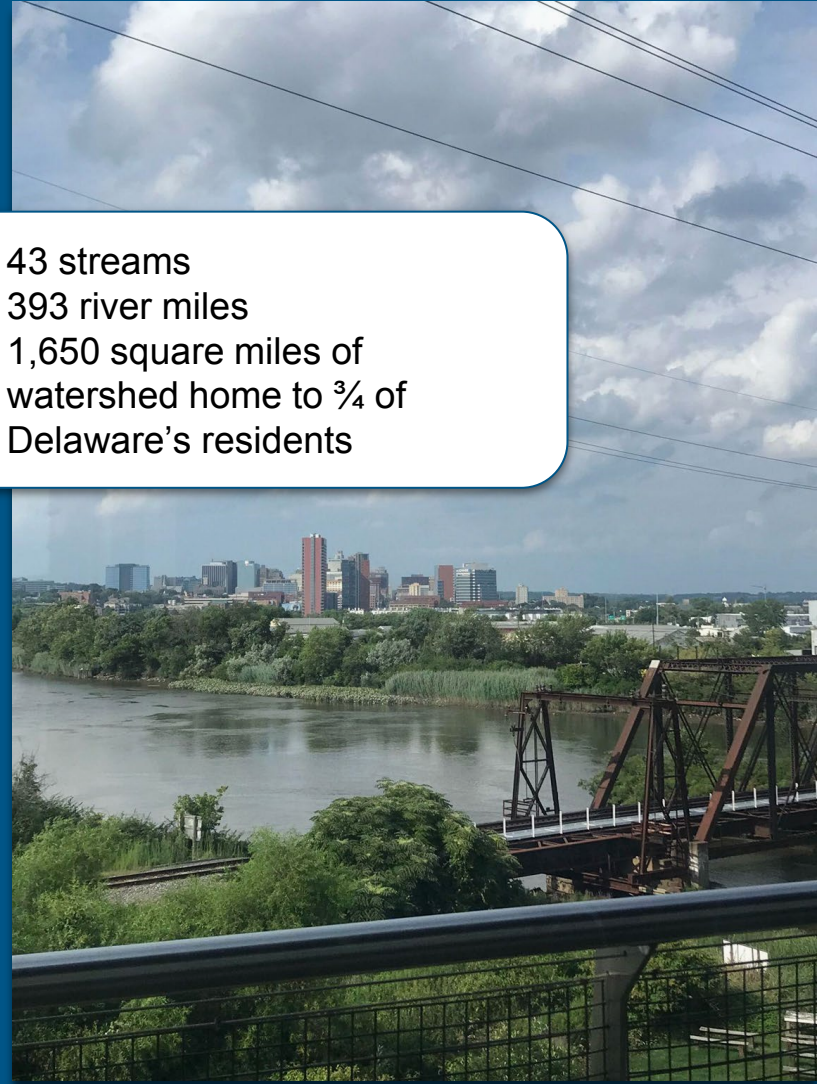
*Eligibility and Suitability*  
evaluations for NRI  
listings

- Analyze and record  
*ORVs*
- Identify local partners

Make *recommendations*

Prepare *report* for NPS

- 43 streams
- 393 river miles
- 1,650 square miles of  
watershed home to  $\frac{3}{4}$  of  
Delaware's residents





# Methodology

## Eligibility and Suitability evaluations for NRI listings

- Analyze and record ORVs
- Identify local partners

Make *recommendations*

Prepare *report* for NPS

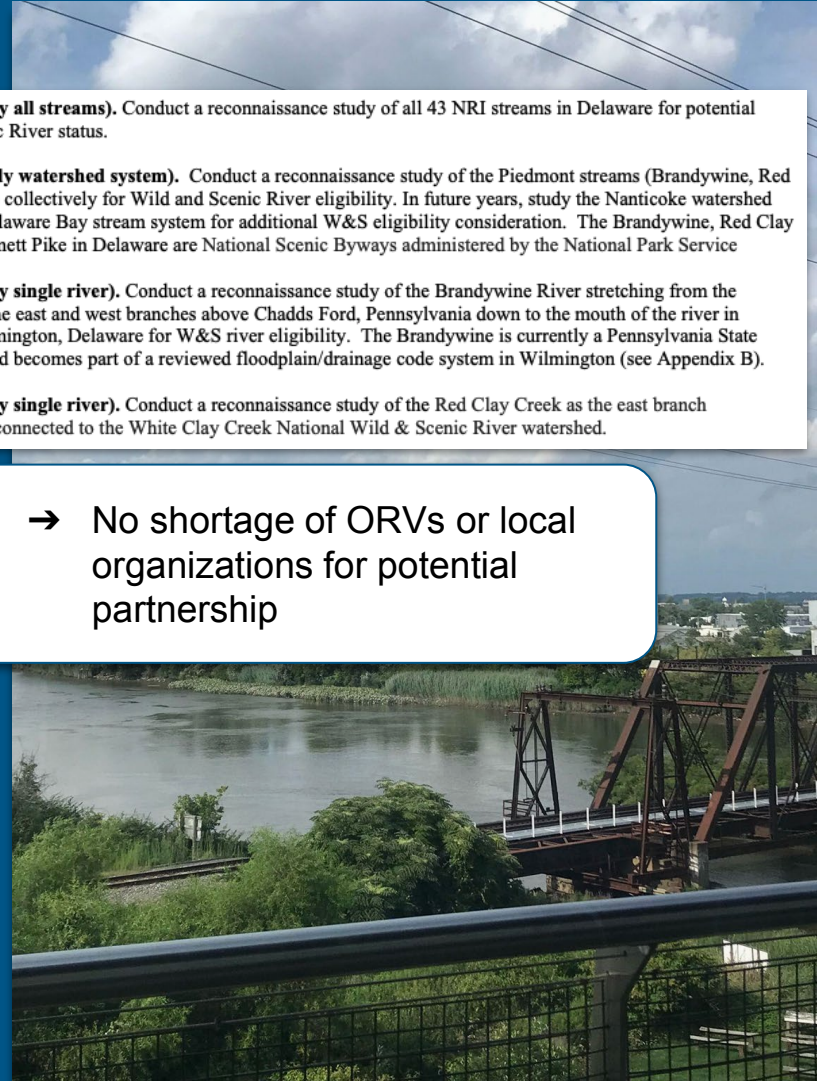
**Option 1 (Study all streams).** Conduct a reconnaissance study of all 43 NRI streams in Delaware for potential Wild and Scenic River status.

**Option 2. (Study watershed system).** Conduct a reconnaissance study of the Piedmont streams (Brandywine, Red Clay, Christina) collectively for Wild and Scenic River eligibility. In future years, study the Nanticoke watershed and then the Delaware Bay stream system for additional W&S eligibility consideration. The Brandywine, Red Clay Creek, and Kennett Pike in Delaware are National Scenic Byways administered by the National Park Service

**Option 3 (Study single river).** Conduct a reconnaissance study of the Brandywine River stretching from the confluence of the east and west branches above Chadds Ford, Pennsylvania down to the mouth of the river in downtown Wilmington, Delaware for W&S river eligibility. The Brandywine is currently a Pennsylvania State Scenic River and becomes part of a reviewed floodplain/drainage code system in Wilmington (see Appendix B).

**Option 4 (Study single river).** Conduct a reconnaissance study of the Red Clay Creek as the east branch hydrologically connected to the White Clay Creek National Wild & Scenic River watershed.

→ No shortage of ORVs or local organizations for potential partnership



# Methodology

*Eligibility and Suitability*  
evaluations for NRI  
listings

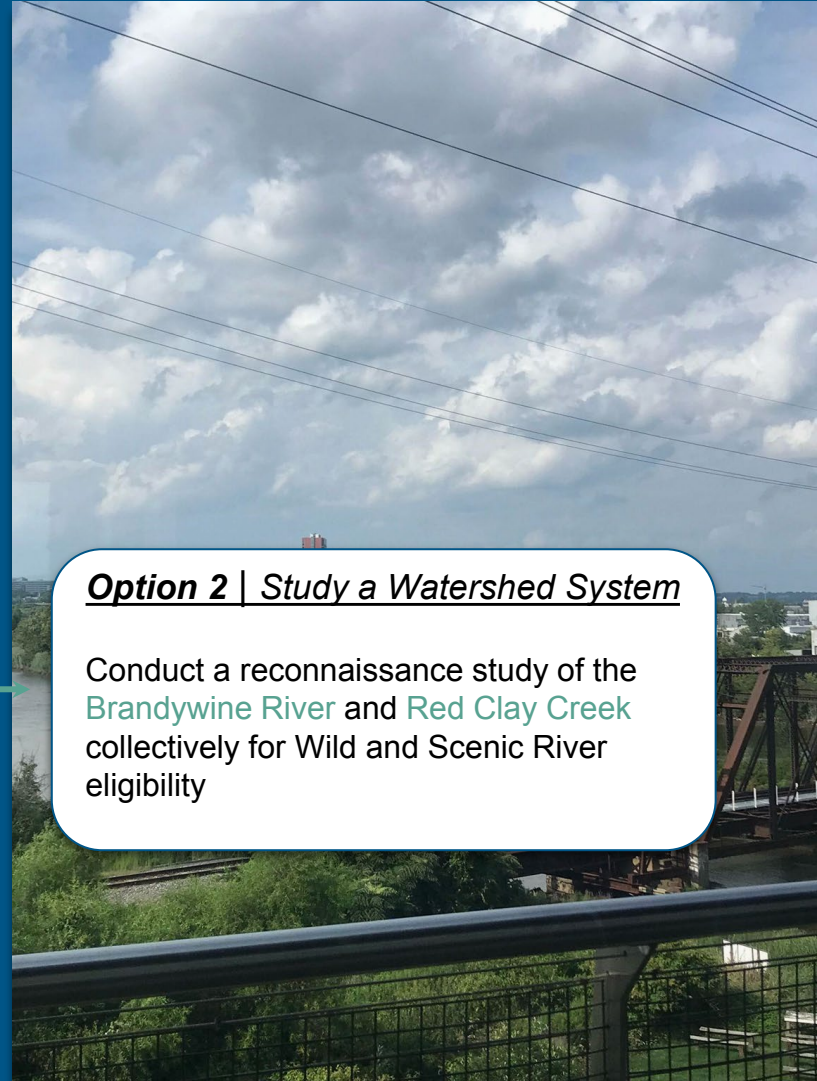
- Analyze and record ORVs
- Identify local partners

Make *recommendations*

Prepare *report* for NPS

## **Option 2 | Study a Watershed System**

Conduct a reconnaissance study of the **Brandywine River** and **Red Clay Creek** collectively for Wild and Scenic River eligibility



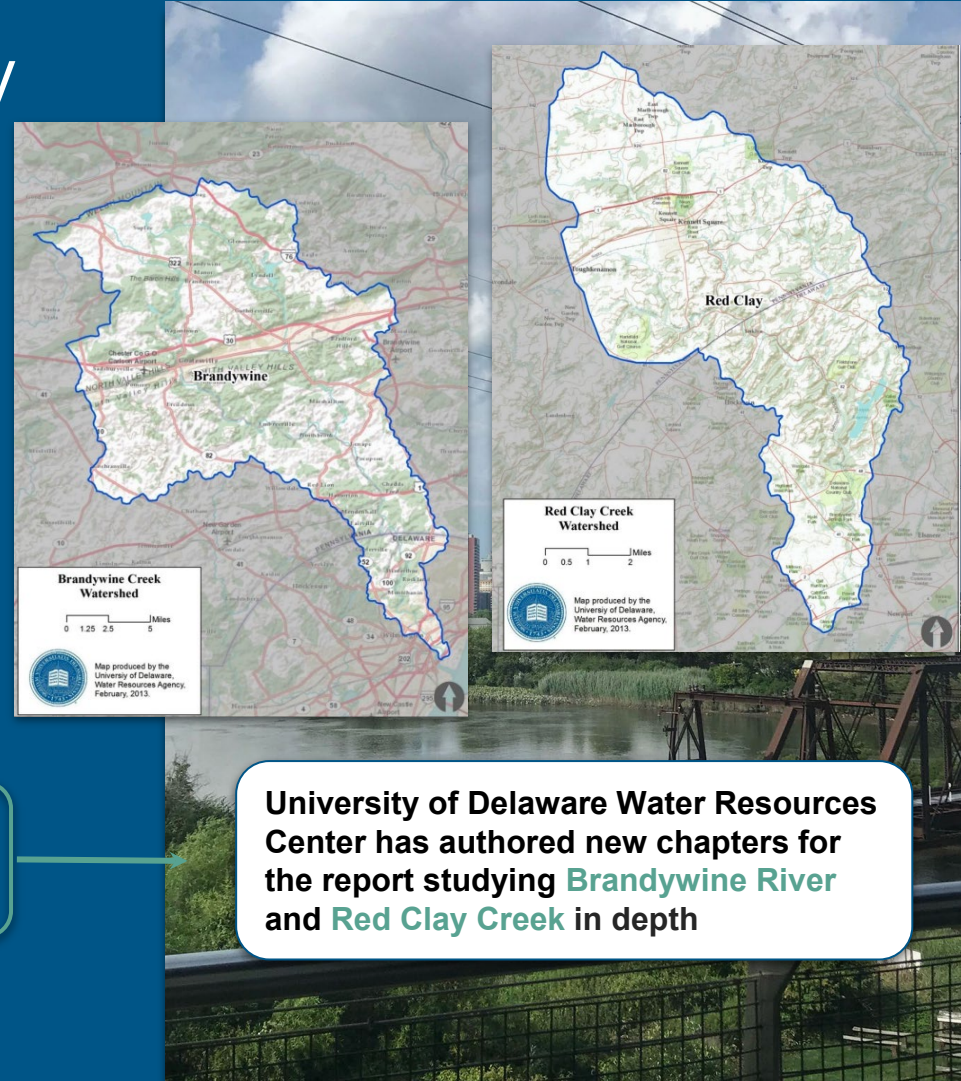
# Methodology in the Red Clay & Brandywine

Eligibility and Suitability  
evaluations for NRI  
listings

- Analyze and record  
ORVs  
Identify local partners

Make *recommendations*

Prepare *report* for NPS



University of Delaware Water Resources  
Center has authored new chapters for  
the report studying **Brandywine River**  
and **Red Clay Creek** in depth

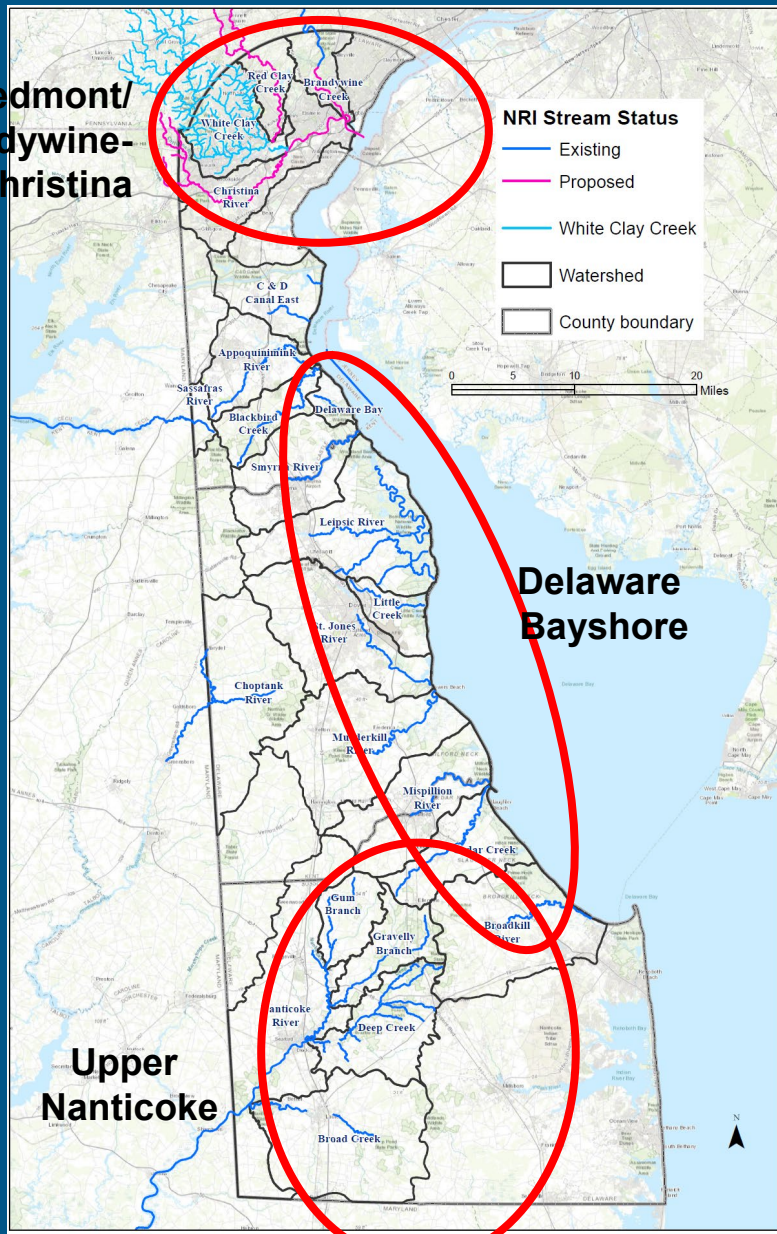


# Methodology

View the report [here](#)

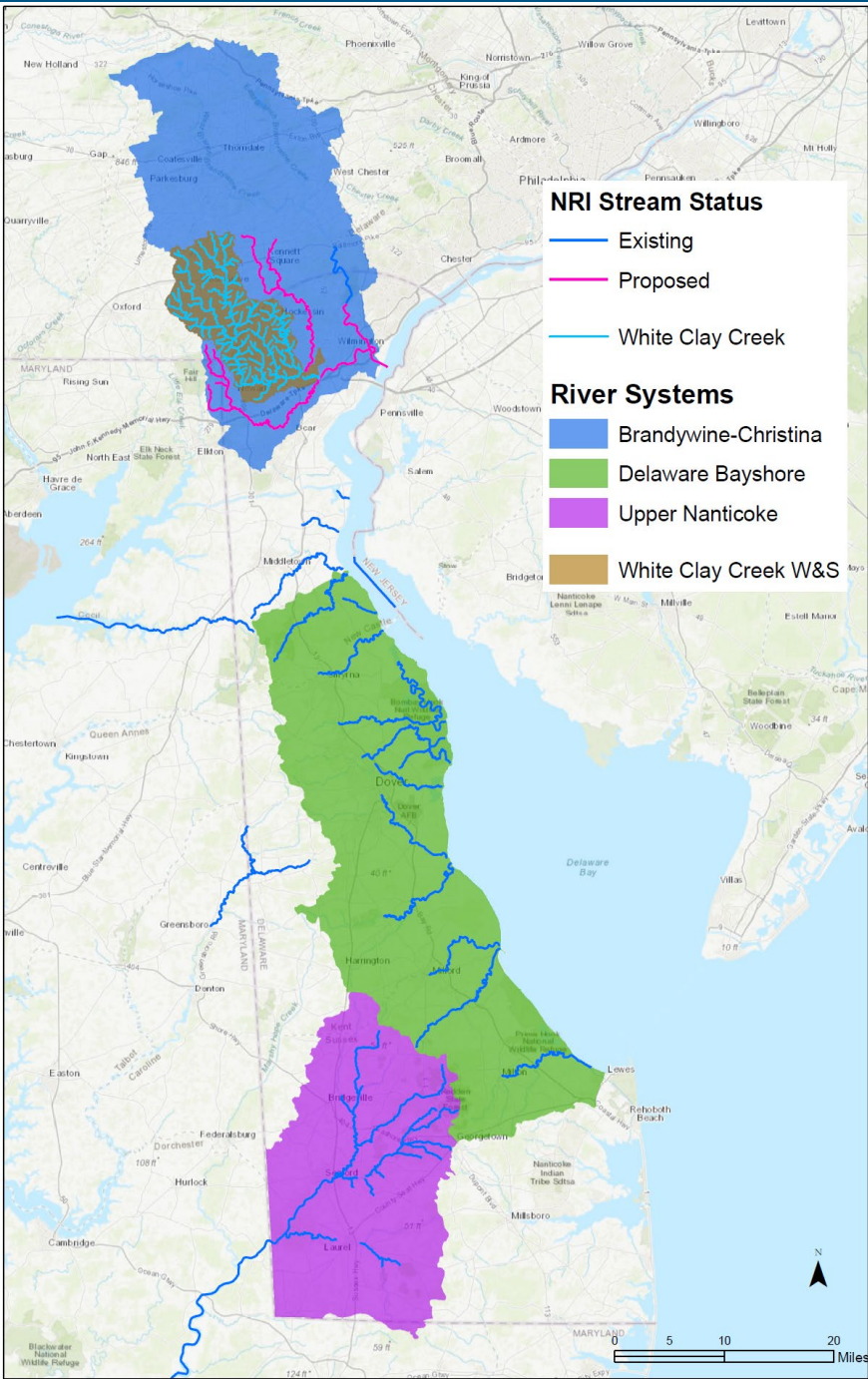


Piedmont/  
Brandywine-  
Christina



UD looked at watersheds w/:

- 41 NRIs + 2 = 43
- 393 river miles
- 1,650 sq mi
- 755,000 pop.



## Brandywine-Christina System (Piedmont)

- Brandywine Creek
- Red Clay Creek
- Christina River
- (White Clay Creek)

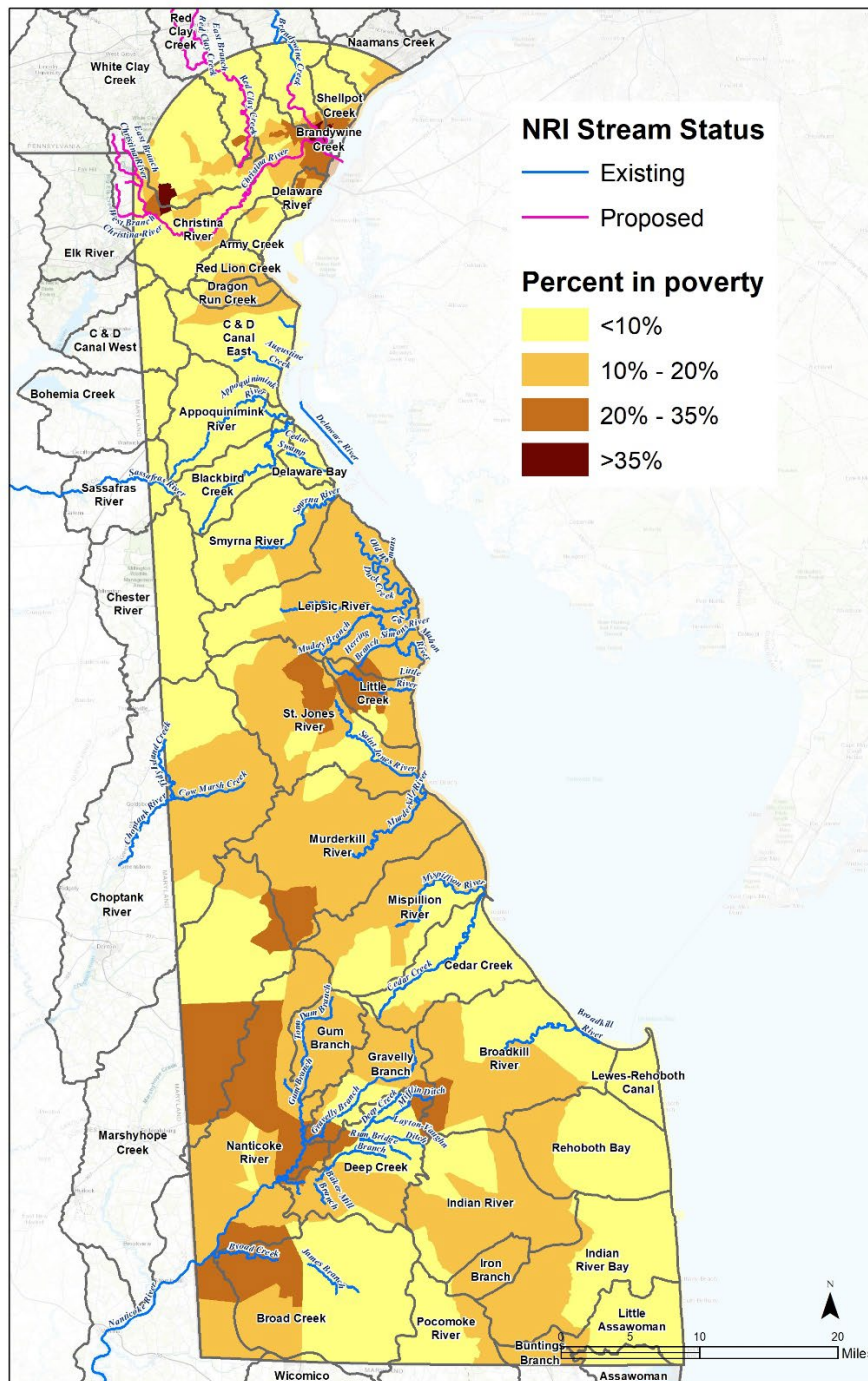
## Delaware Bayshore System

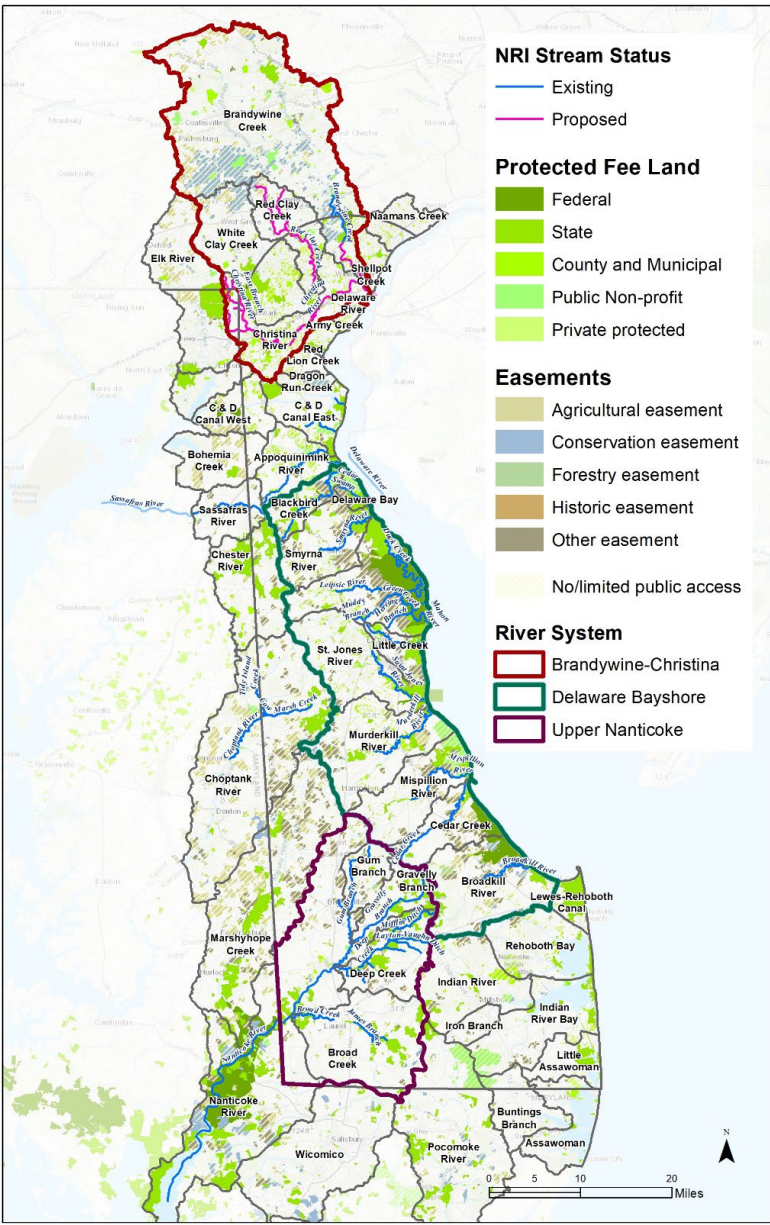
- Blackbird Creek
- Delaware Bay
- Smyrna River
- Leipsic River
- Little Creek
- St. Jones River
- Murderkill River
- Mispillion River
- Cedar Creek
- Broadkill River

## Upper Nanticoke System

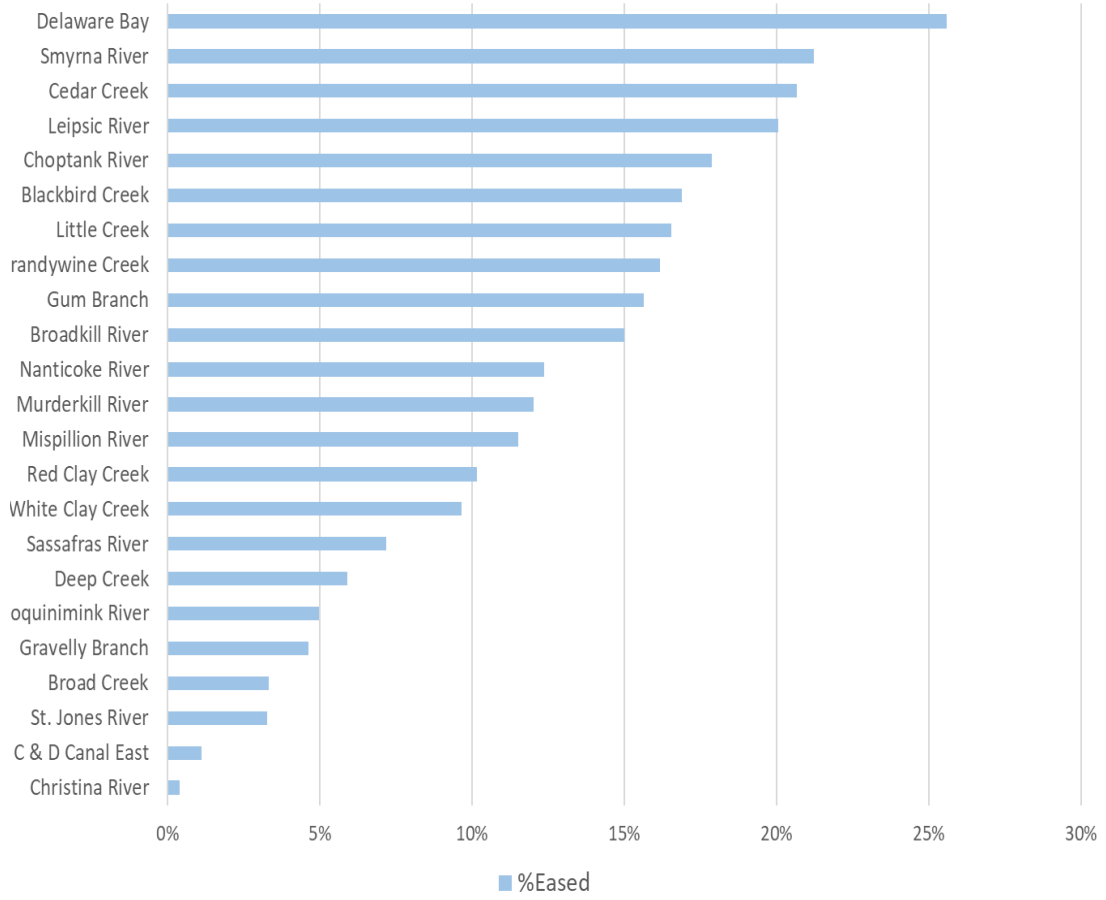
- Gum Branch
- Gravelley Branch
- Deep Creek
- Broad Creek
- Nanticoke River



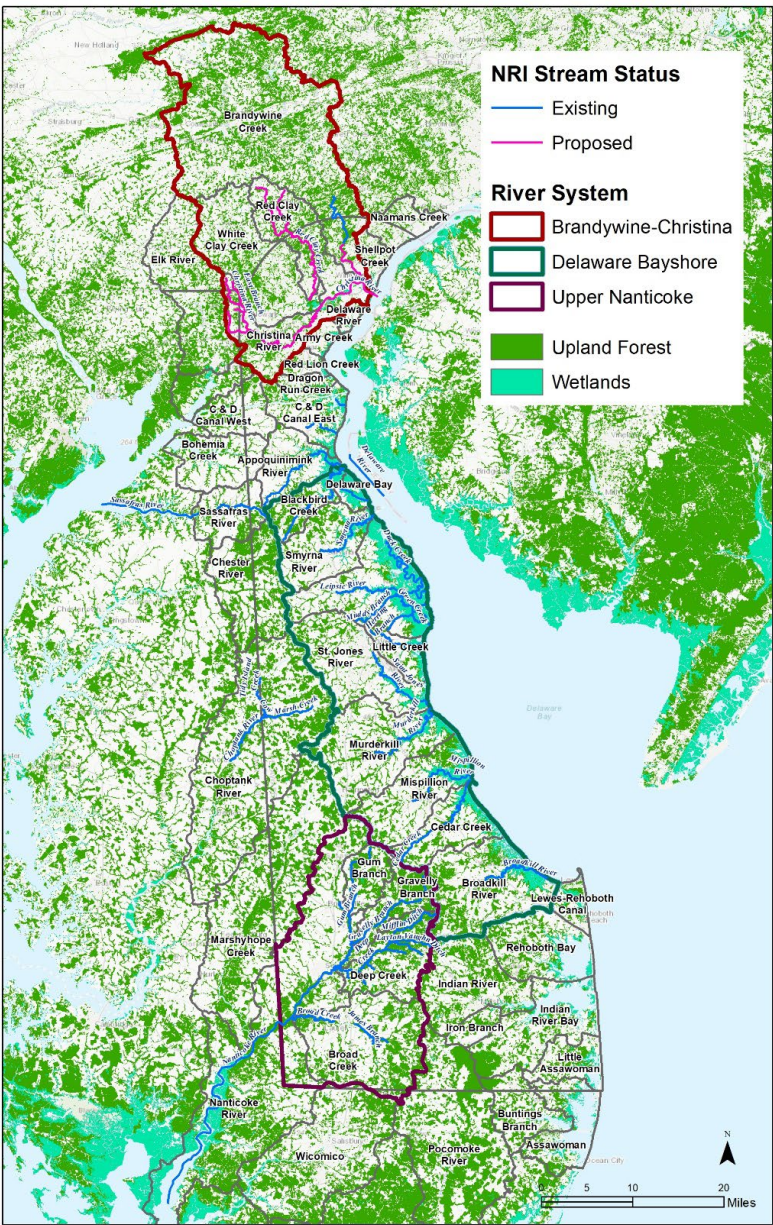




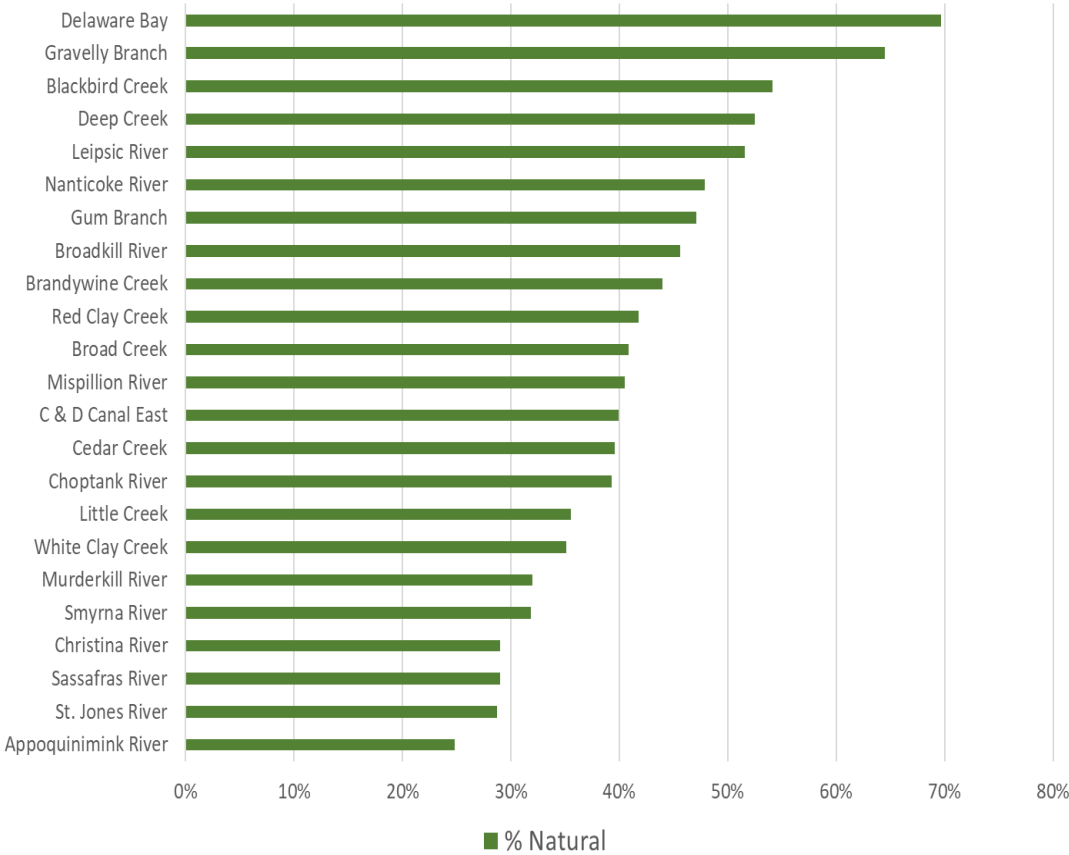
Eased % by Watershed





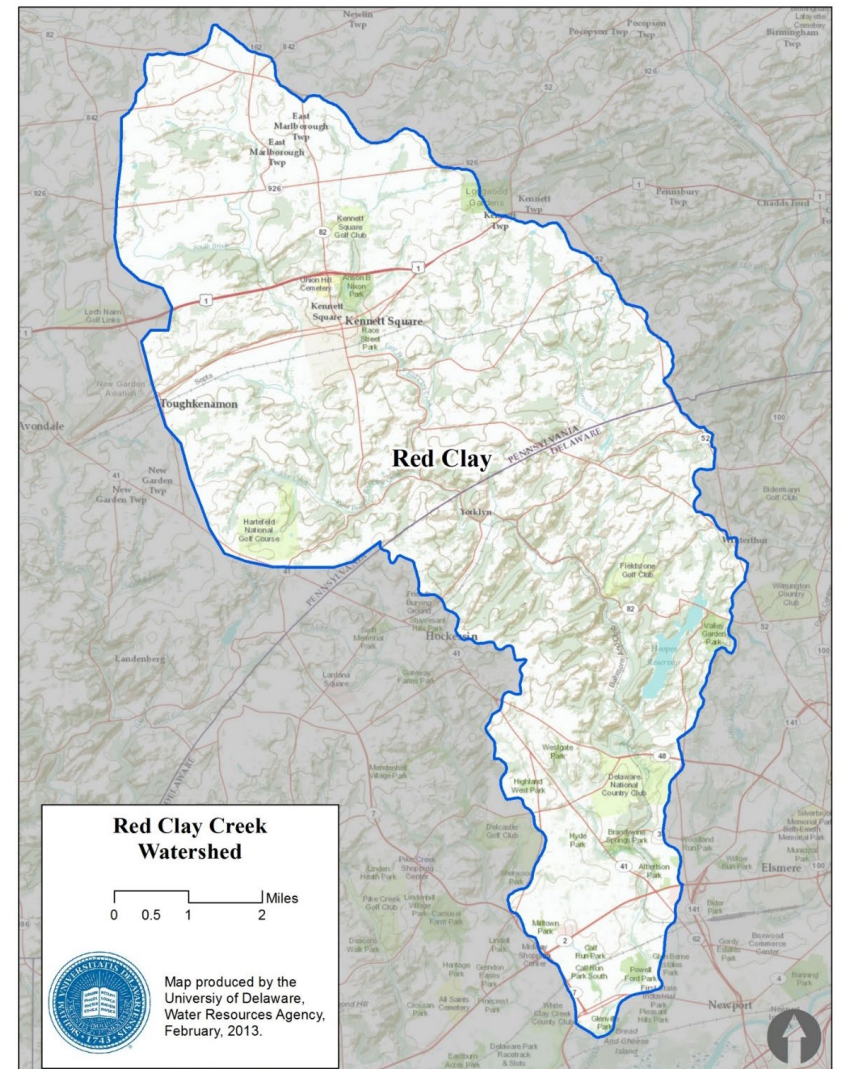
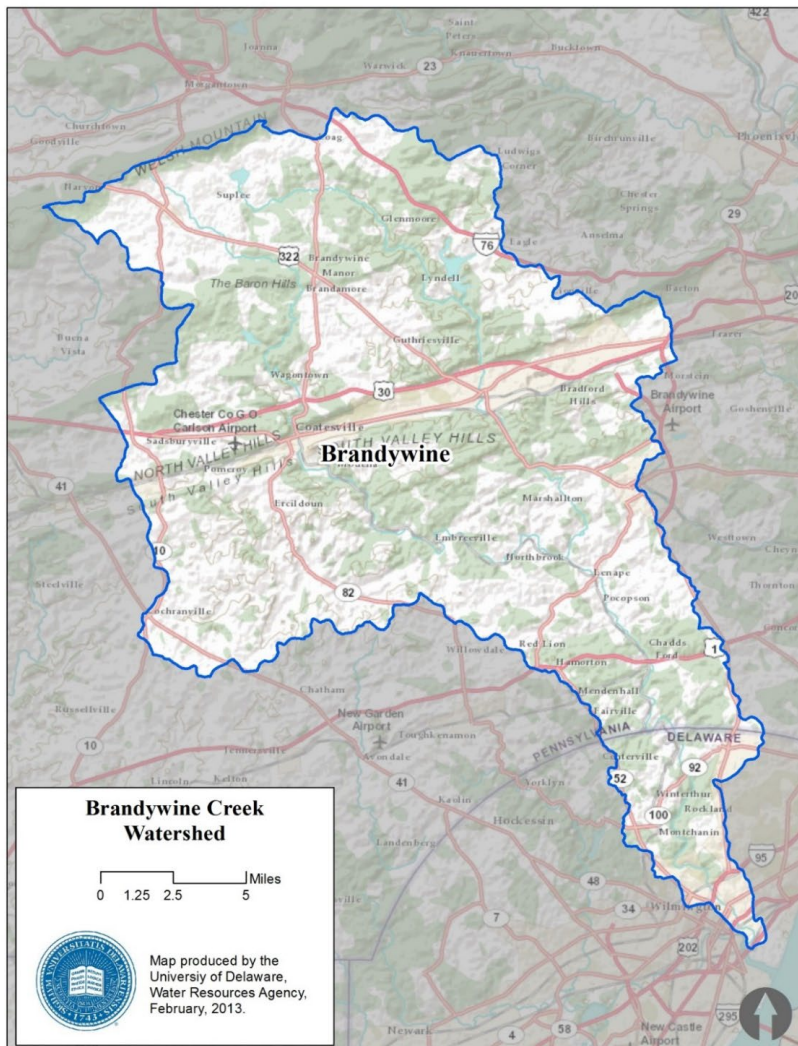


Percentage Forests and Wetlands



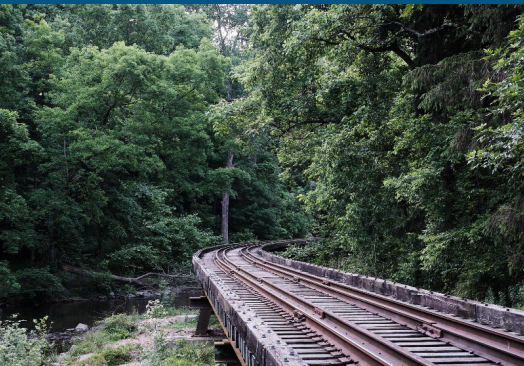
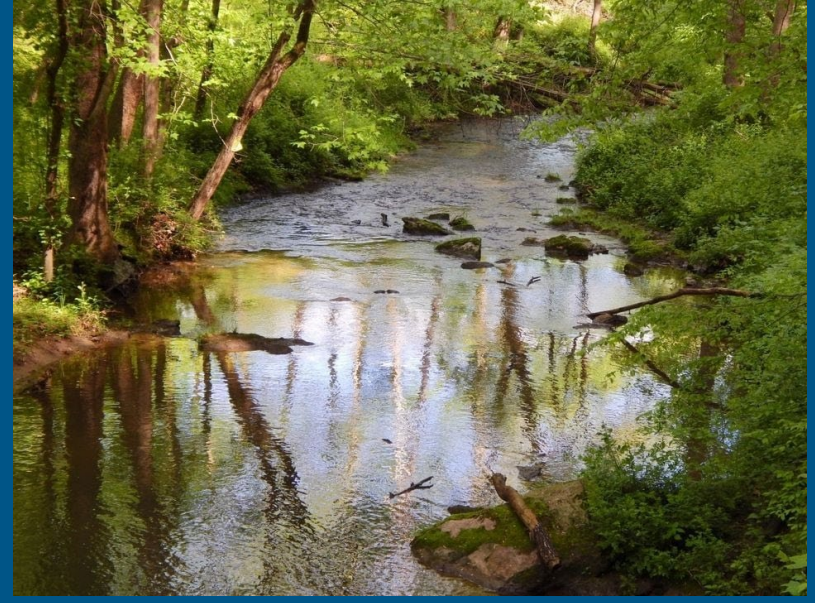


# Recommend Brandywine River and Red Clay Creek in Delaware for further study of potential wild and scenic river eligibility.





# Red Clay and Brandywine







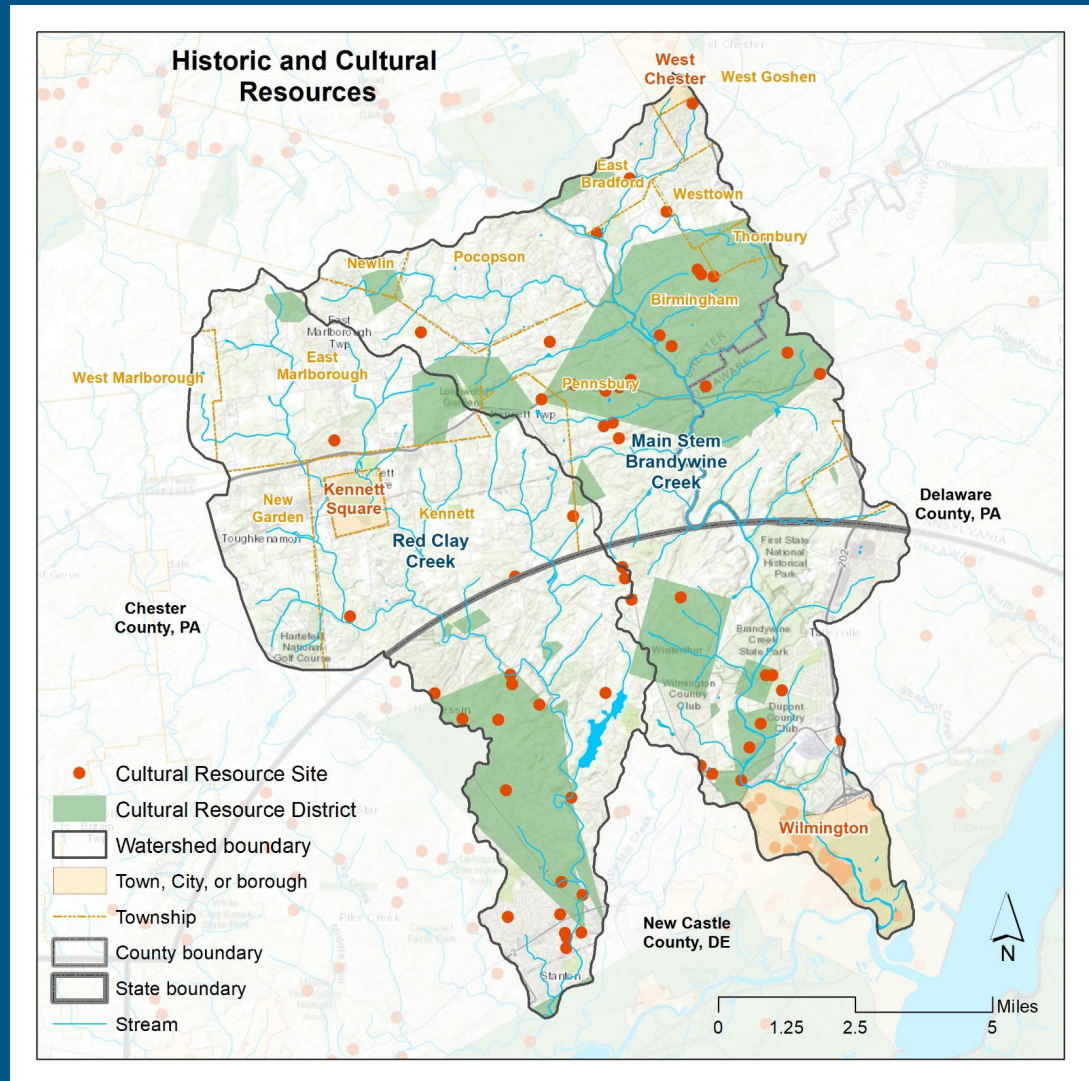
# Queonemysing

T. Furlong

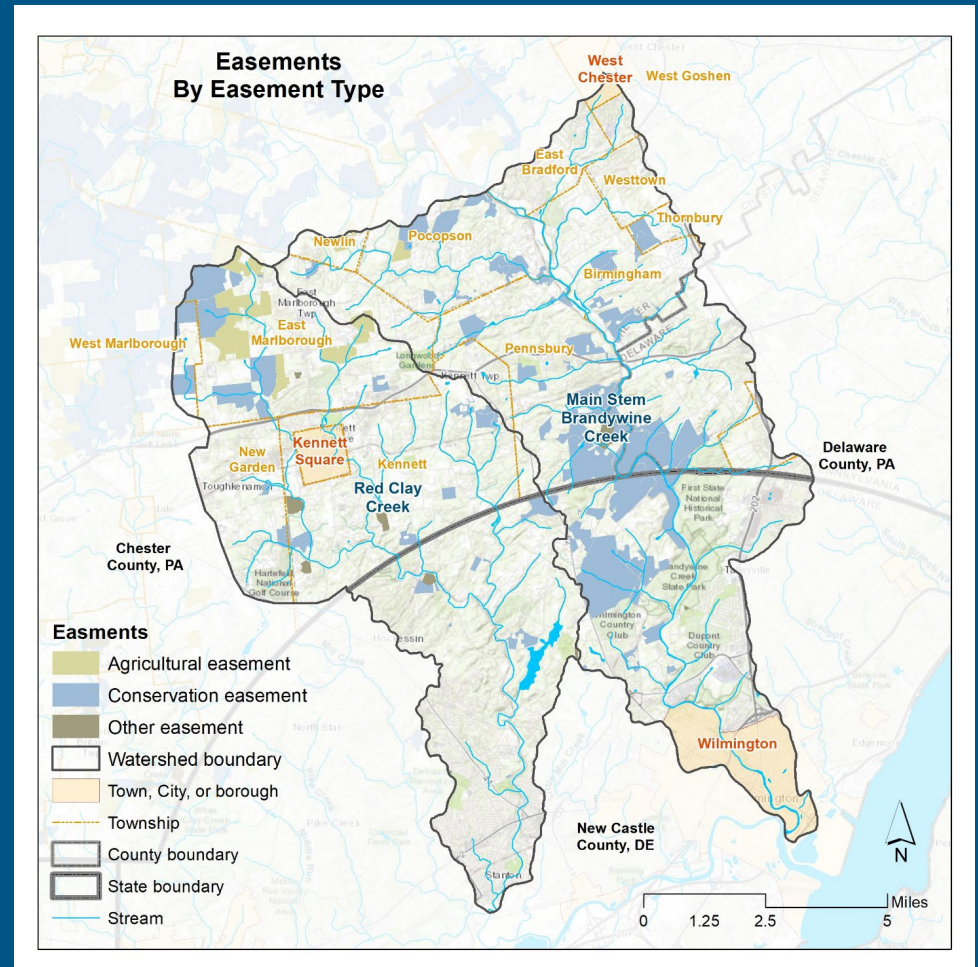


# Eligibility

- Outstandingly Remarkable Values (ORVs)
  - Underground Railroad
  - Brandywine Battlefield
  - Red Clay Creek Scenic Byway
  - Washington-Rochambeau National Historic Trail
  - Industrial heritage (du Pont mills)
  - Immigration history



- Open and protected spaces
  - Fee owned
  - Eased Lands



# Partnership Model

- Brandywine Red Clay Alliance
- Brandywine Conservancy
- Delaware Nature Society
- The Nature Conservancy
- Coalition for the Delaware River Watershed
- Christina Basin Clean Water Partnership
- Other partners (partial potential list)
  - Civic League for New Castle County (DE)
  - Christina Watersheds Municipal Partnership (PA)
  - Wilmington & Western Railroad
  - Historic Brandywine Village
  - Many locally-based foundations

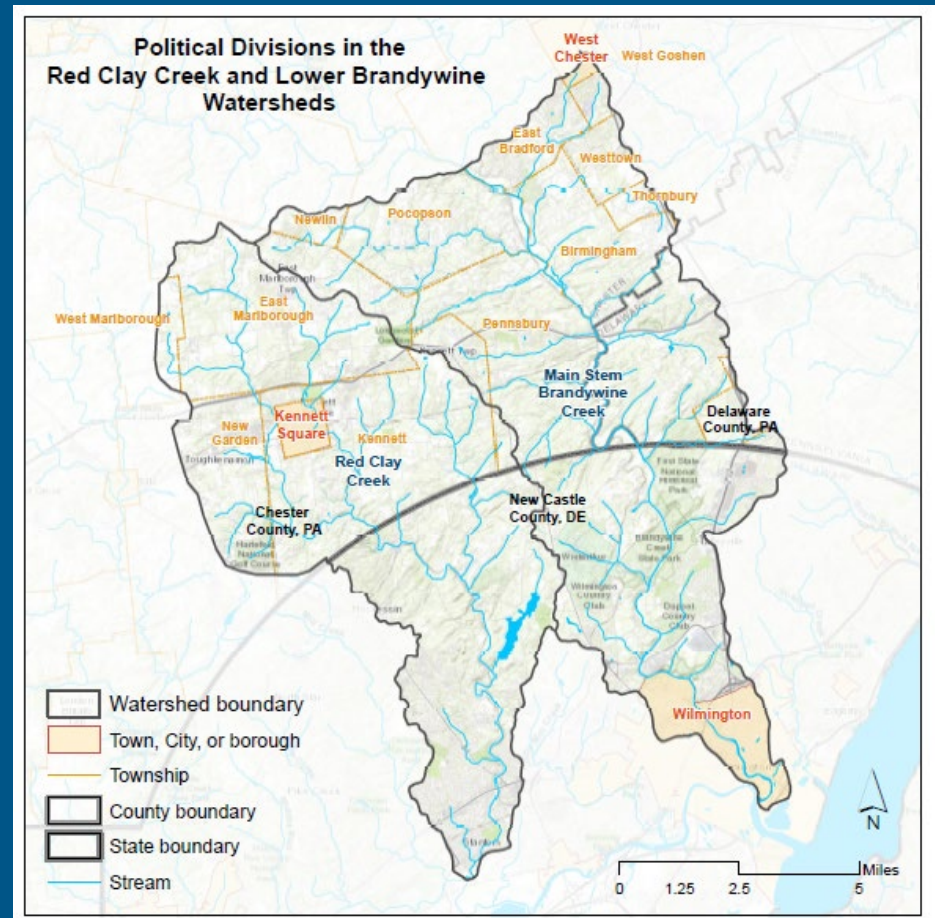


# Suitability: Public/Private Partnerships

- Mt. Cuba Center
- Ashland Nature Center
- Longwood Gardens
- Hagley Museum
- Winterthur Museum, Gardens, and Library
- First State National Park (NPS)
- Brandywine Battlefield Park

# Governmental Jurisdictions

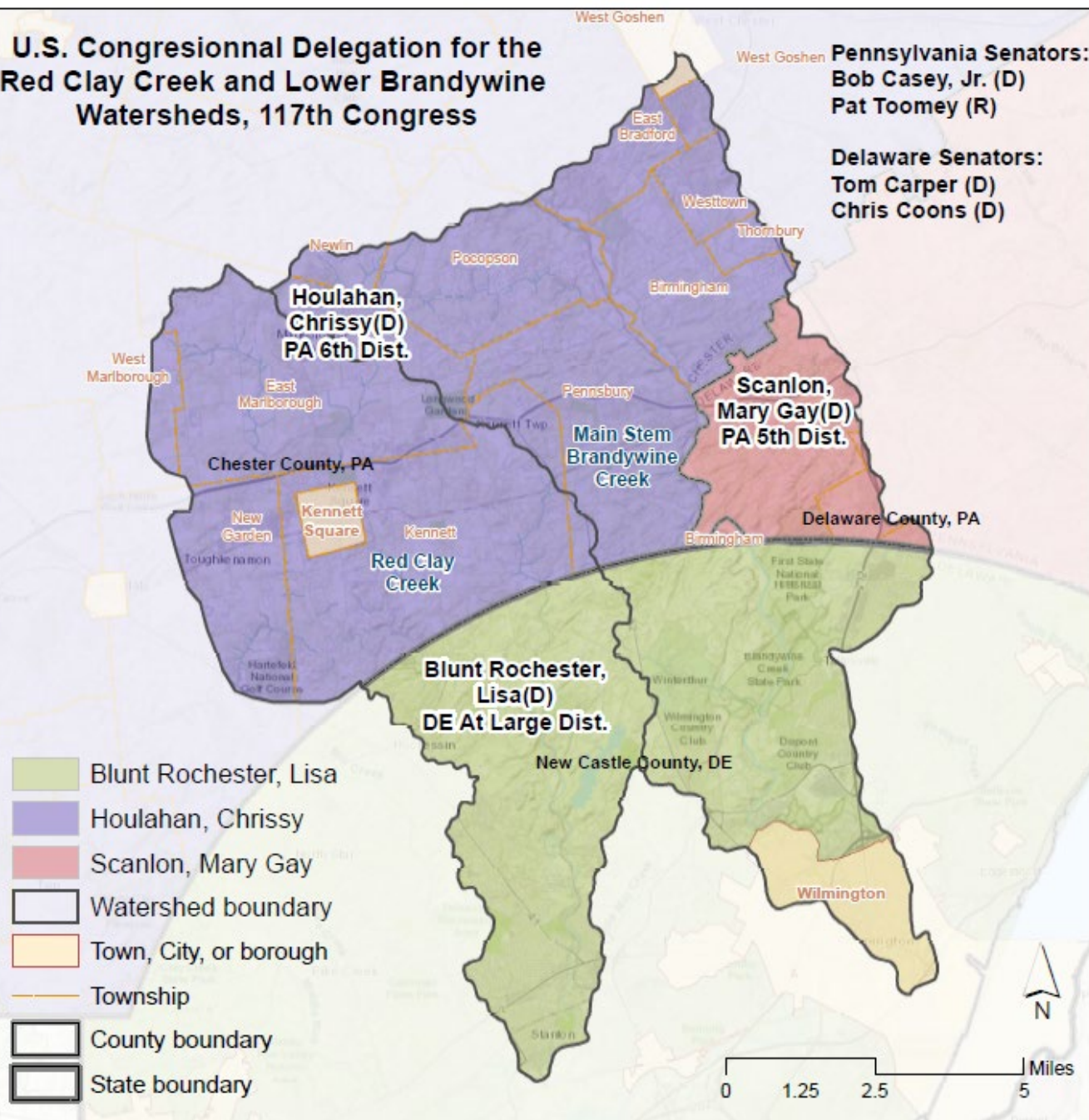
- Intergovernmental and interstate coordination and cooperation
  - New Castle County, DE
  - City of Wilmington, DE
  - Chester/Delaware County PA
  - PA Townships and Boroughs
- Strong political support



**U.S. Congressional Delegation for the  
Red Clay Creek and Lower Brandywine  
Watersheds, 117th Congress**

**Pennsylvania Senators:**  
**Bob Casey, Jr. (D)**  
**Pat Toomey (R)**

**Delaware Senators:**  
Tom Carper (D)  
Chris Coons (D)





## State House Members in the Red Clay Creek and Lower Brandywine Watersheds



## State Senators in the Red Clay Creek and Lower Brandywine Watersheds

