

Presentation on

James River Viewshed Analysis

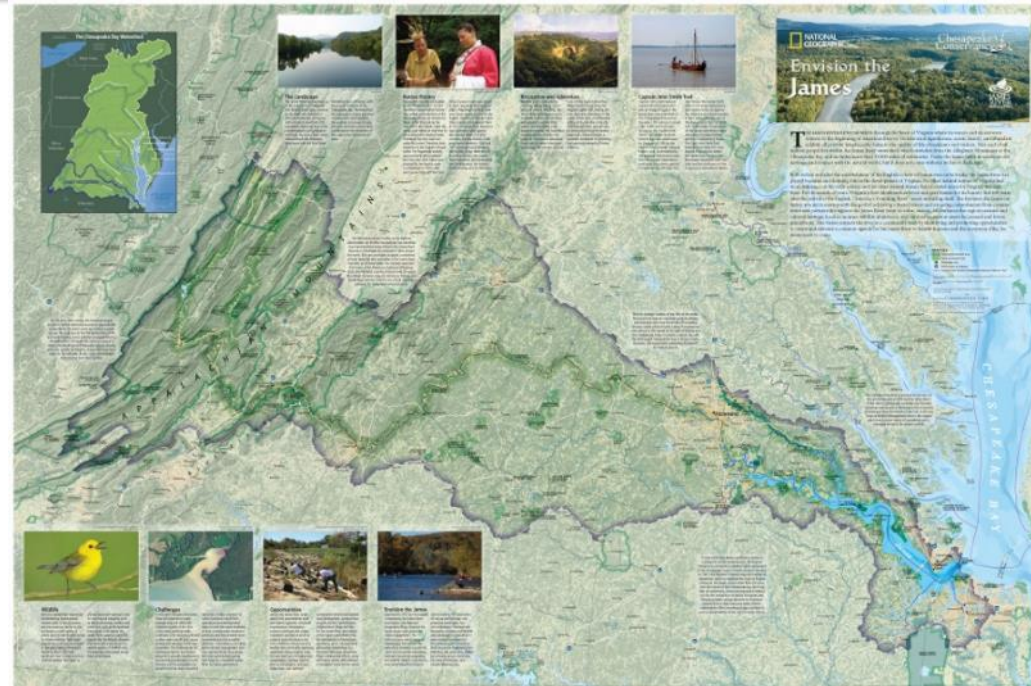
Conor Phelan

Chesapeake Conservancy



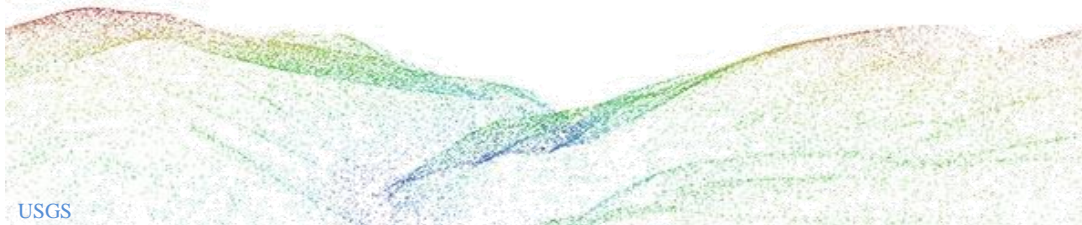
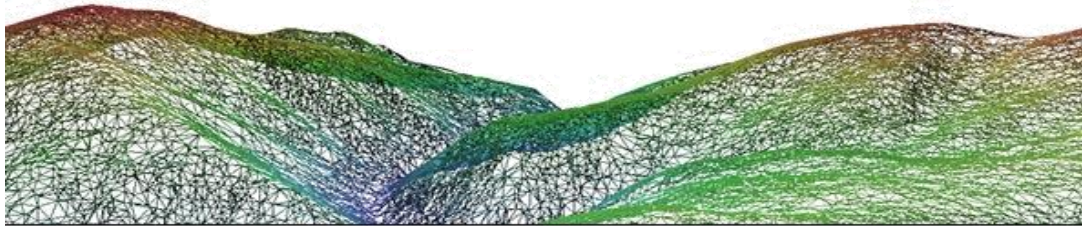
Envision the James

- **Partnership Agreement (2012)**
 - Chesapeake Conservancy
 - James River Association
 - National Geographic
- **Promotes & enhances:**
 - Heritage and river-based tourism
 - Recreational trails and river access
 - Conservation and restoration efforts
 - Wildlife habitat throughout the watershed
 - Watershed-wide focus

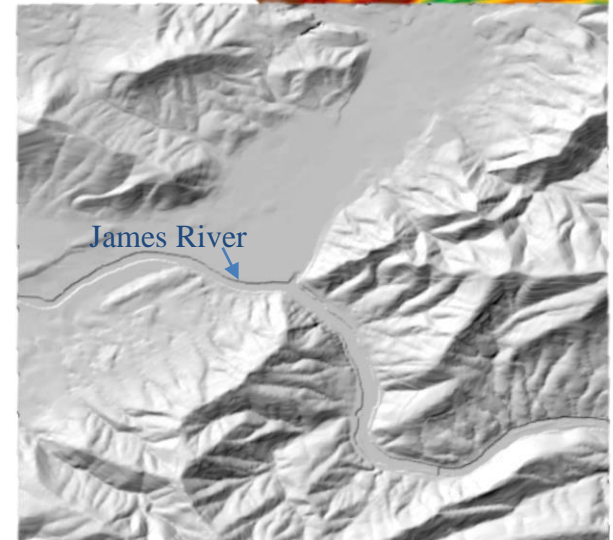
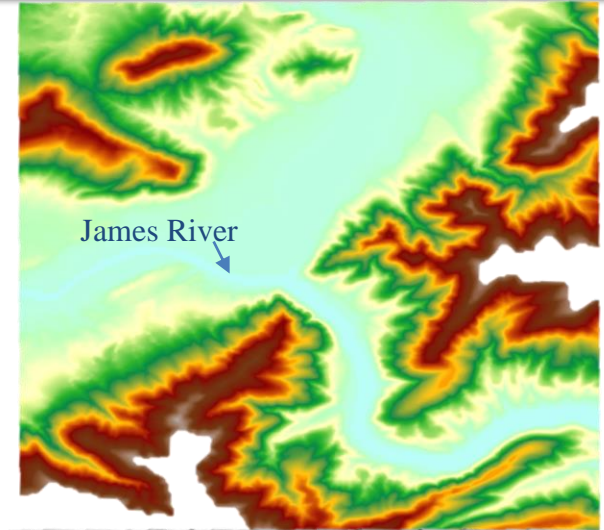


Elevation Data (DEM)

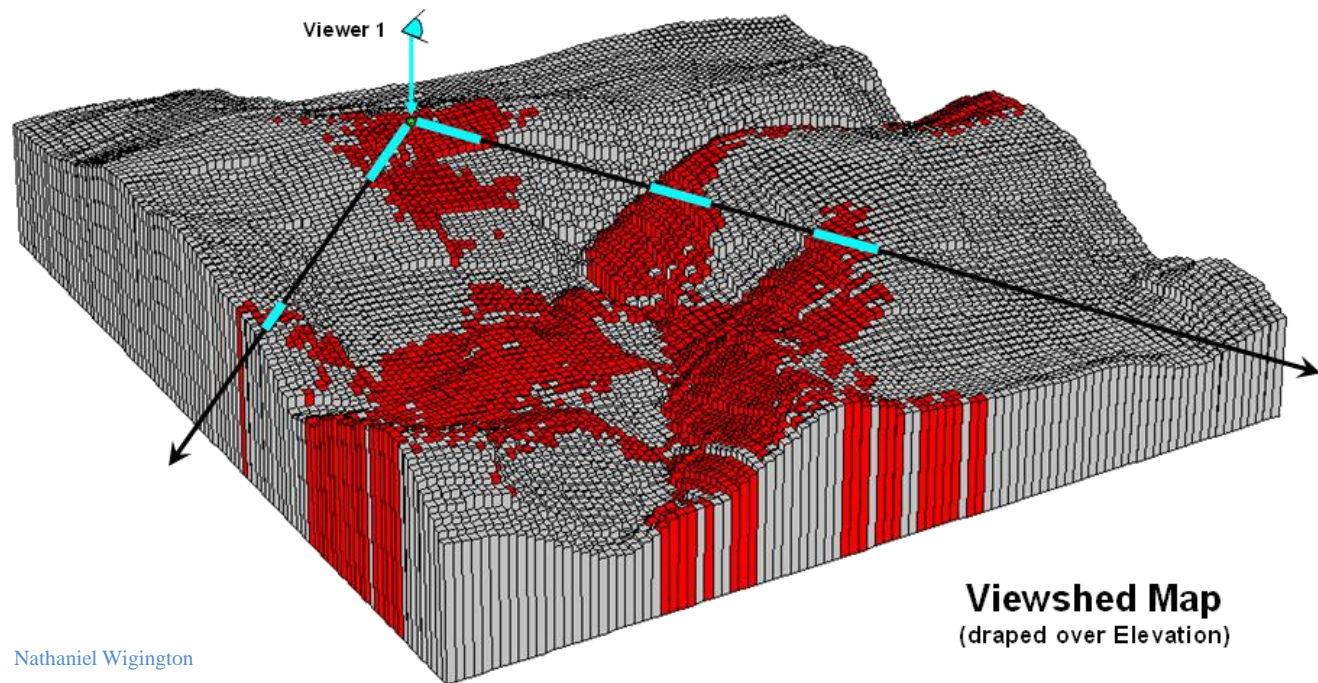
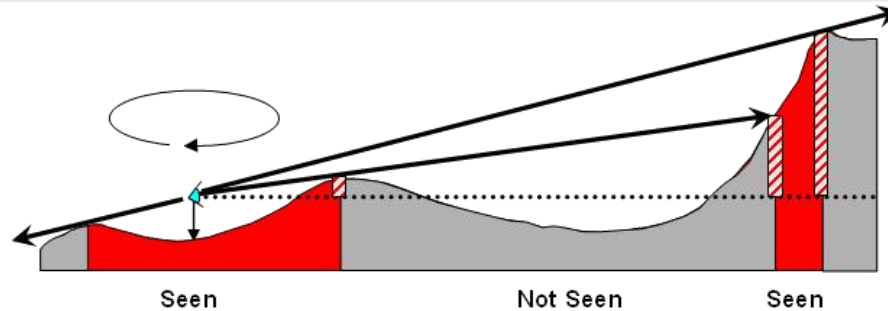
- **Digital Elevation Model**
 - **National Elevation Dataset (NED)**
 - **10 meter resolution**



USGS



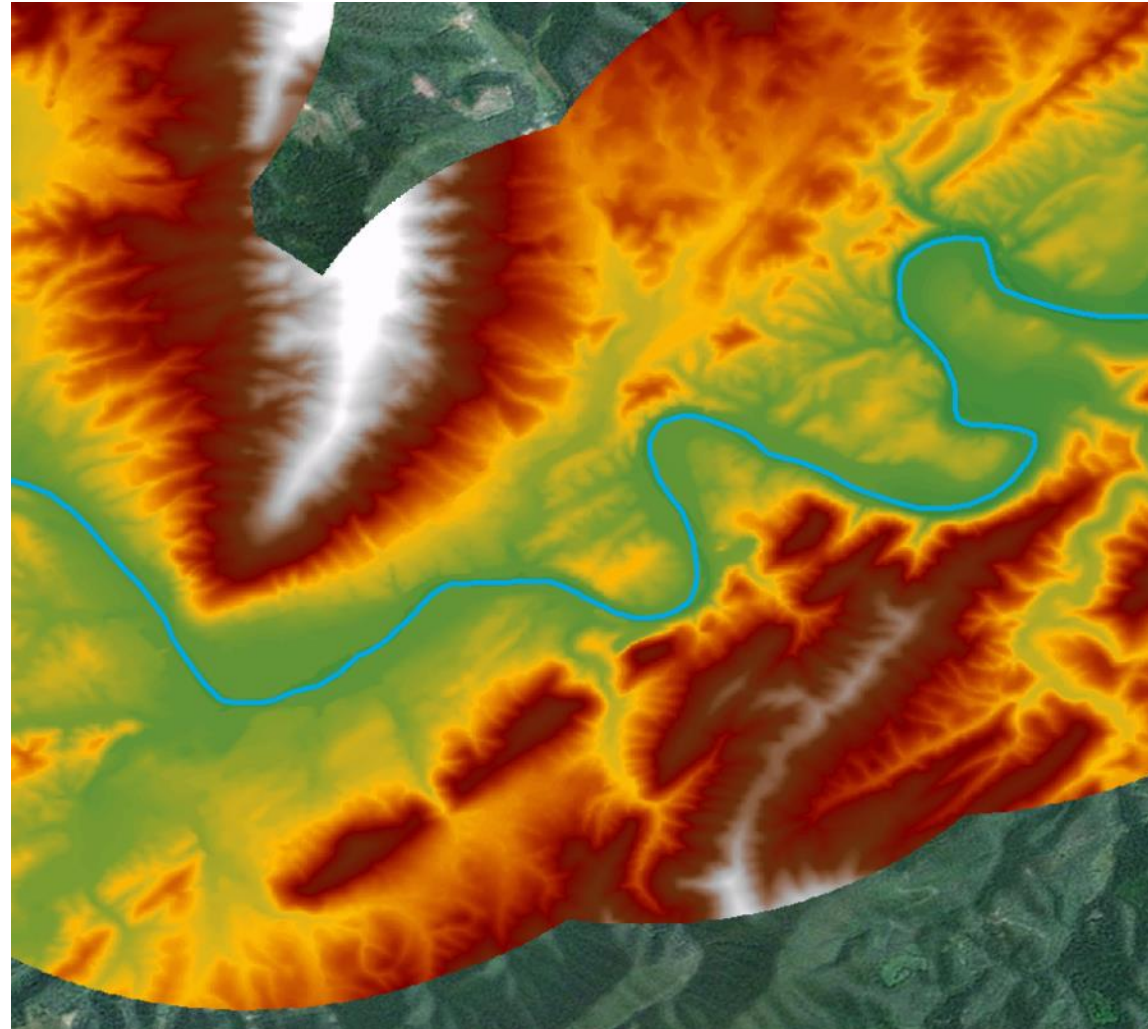
What is a viewshed?



Nathaniel Wigington

Visibility Analysis

- **Extent of Analysis**
 - **Navigable waterways**
 - **Five mile buffer**
 - **One meter viewer offset**

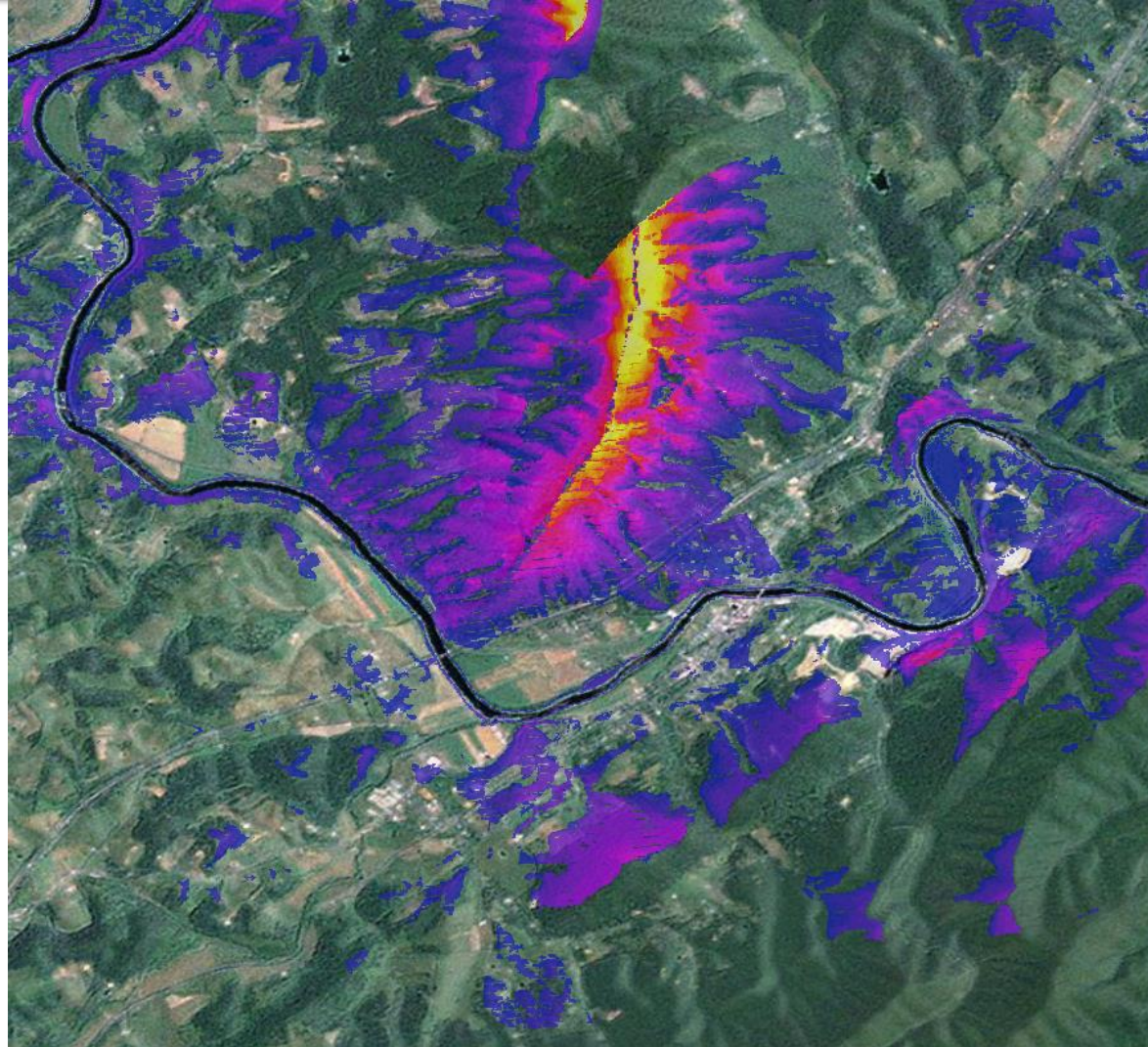


- **Accounting for visual impediments**
 - **Additional elevation for vegetated areas**
 - **Forest & Wooded Wetlands= 15 meters**
 - **Shrub = 5 meters**
 - **20 meter buffer around navigable waterway**



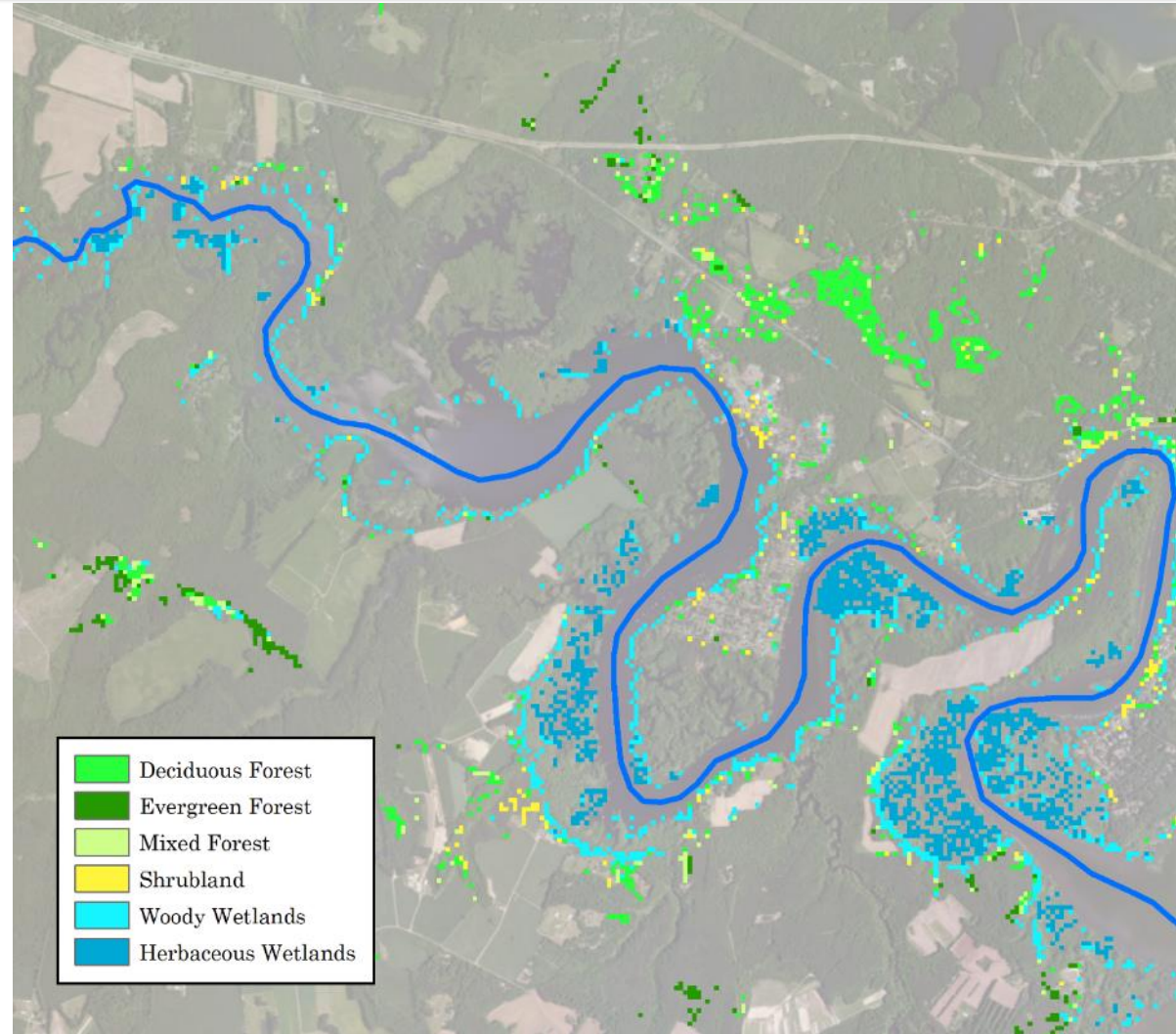
Weighted Visibility

- The viewshed of each point along the John Smith Trail
- Landscapes visible from multiple points were weighted higher



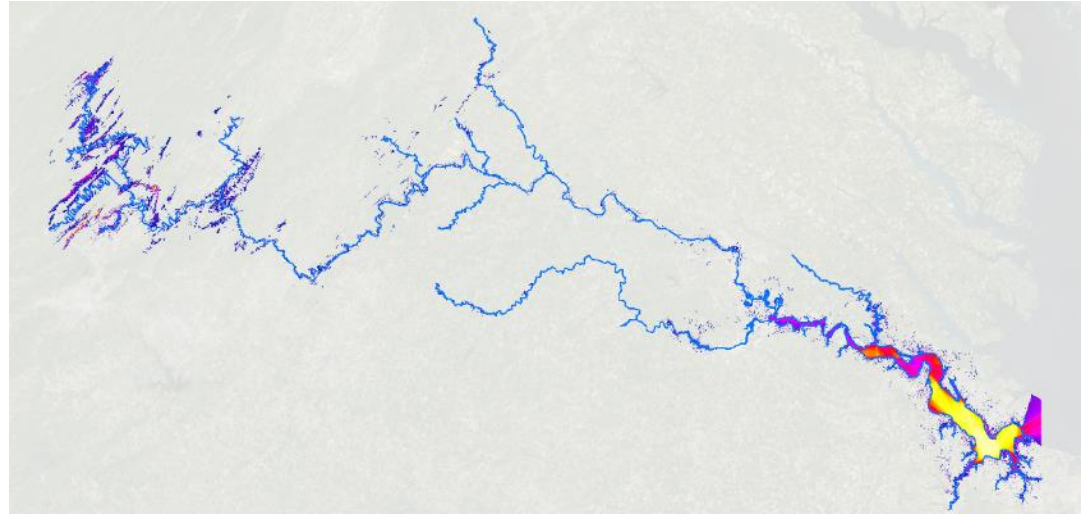
Natural Areas Visibility

- Viewshed data was compared to 2011 National Land Cover Dataset (NLCD) data to identify natural landscapes

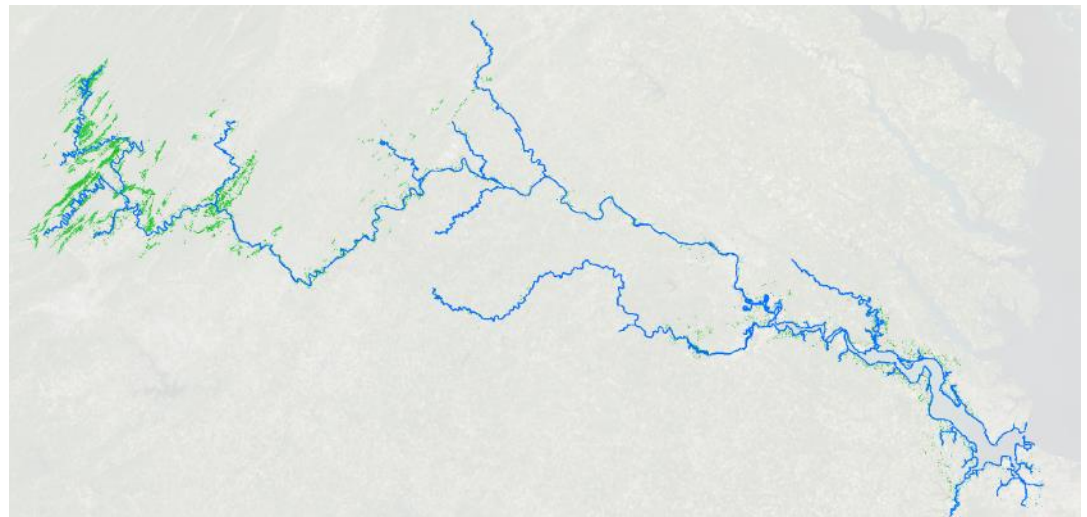


Visibility Results Overview

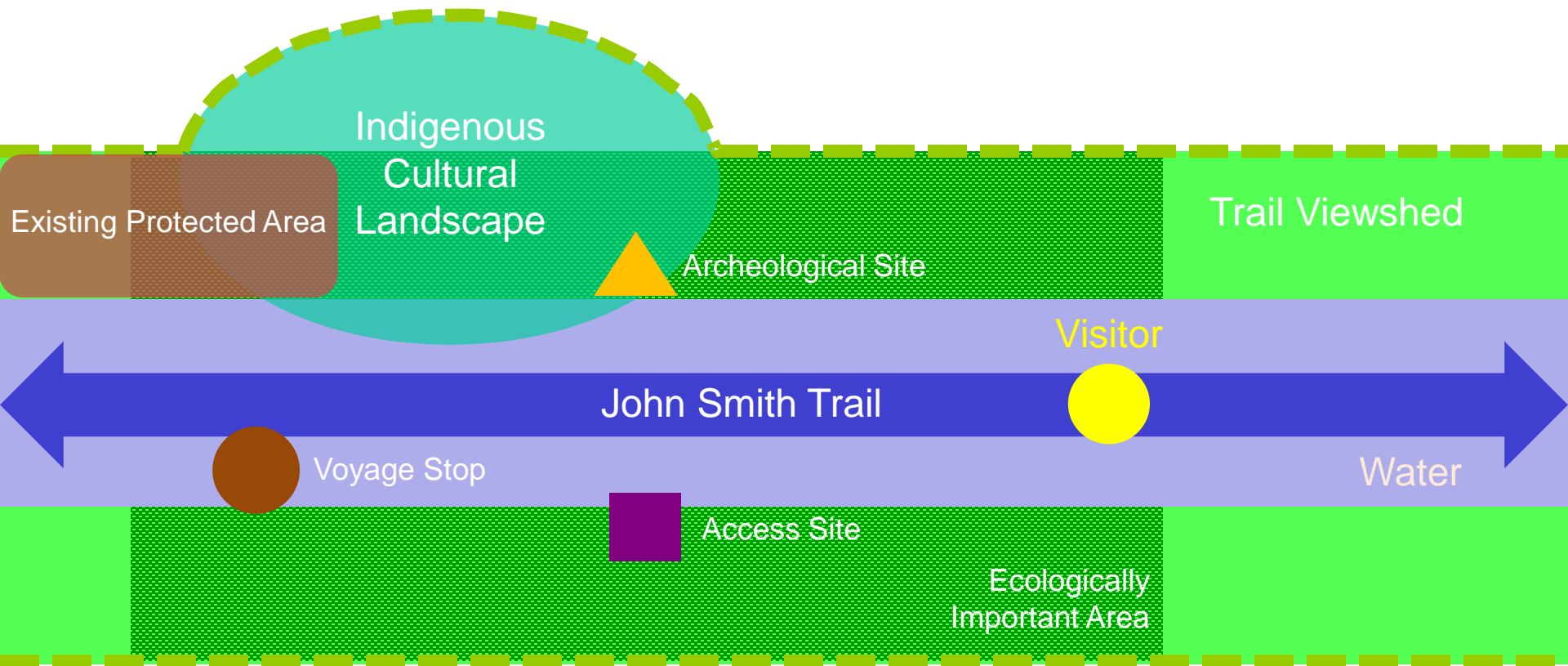
Weighted Visibility



Natural Areas Visibility



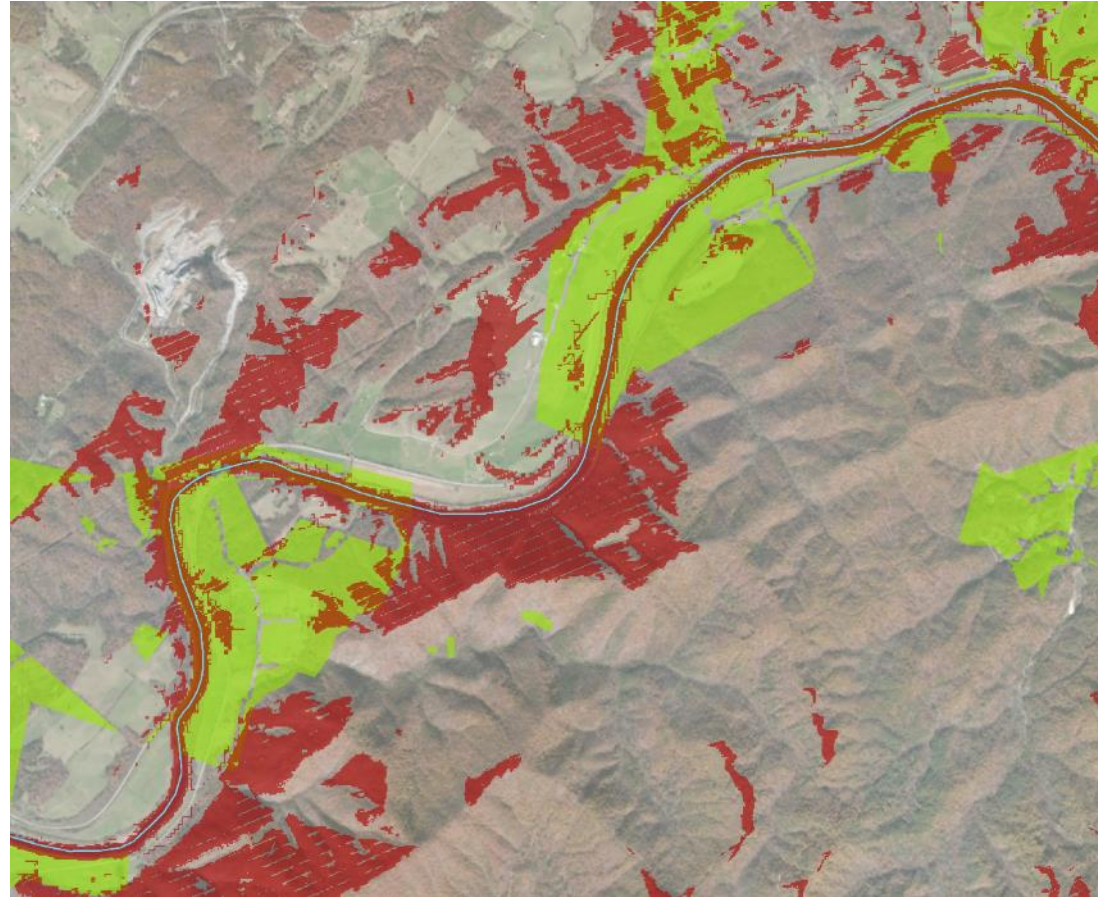
Trail Resources in Brief



Resources Outside Trail Viewshed

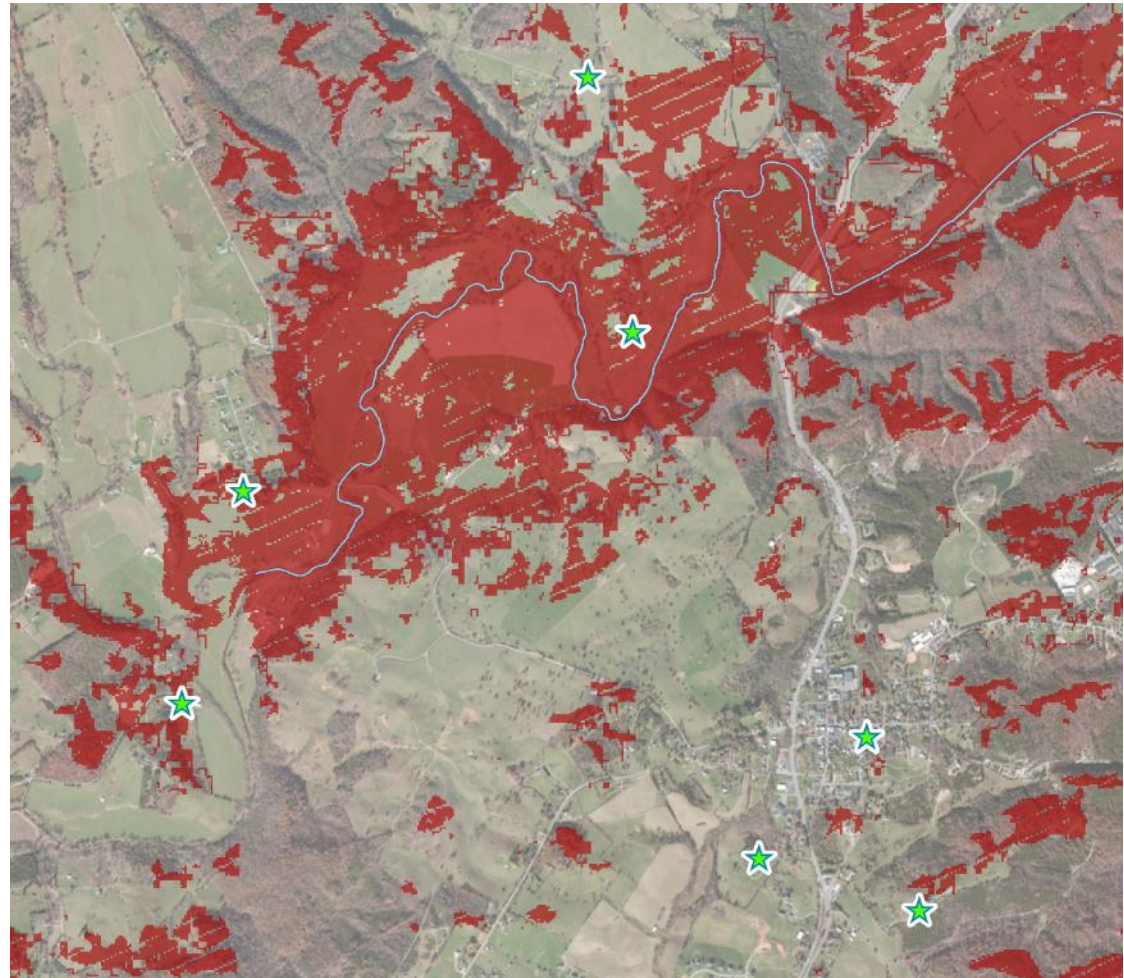
Ecological Prioritization

- **Incorporate Ecological importance data**
 - **Unprotected terrestrial ecosystems**
 - **Confirmed terrestrial species of conservation concern**
 - **Natural Heritage Areas**



Historical Prioritization

- **Incorporate historical importance data**
 - **Civil War battlefields**
 - **American Indian villages**
 - **National Registry of Historical Places**

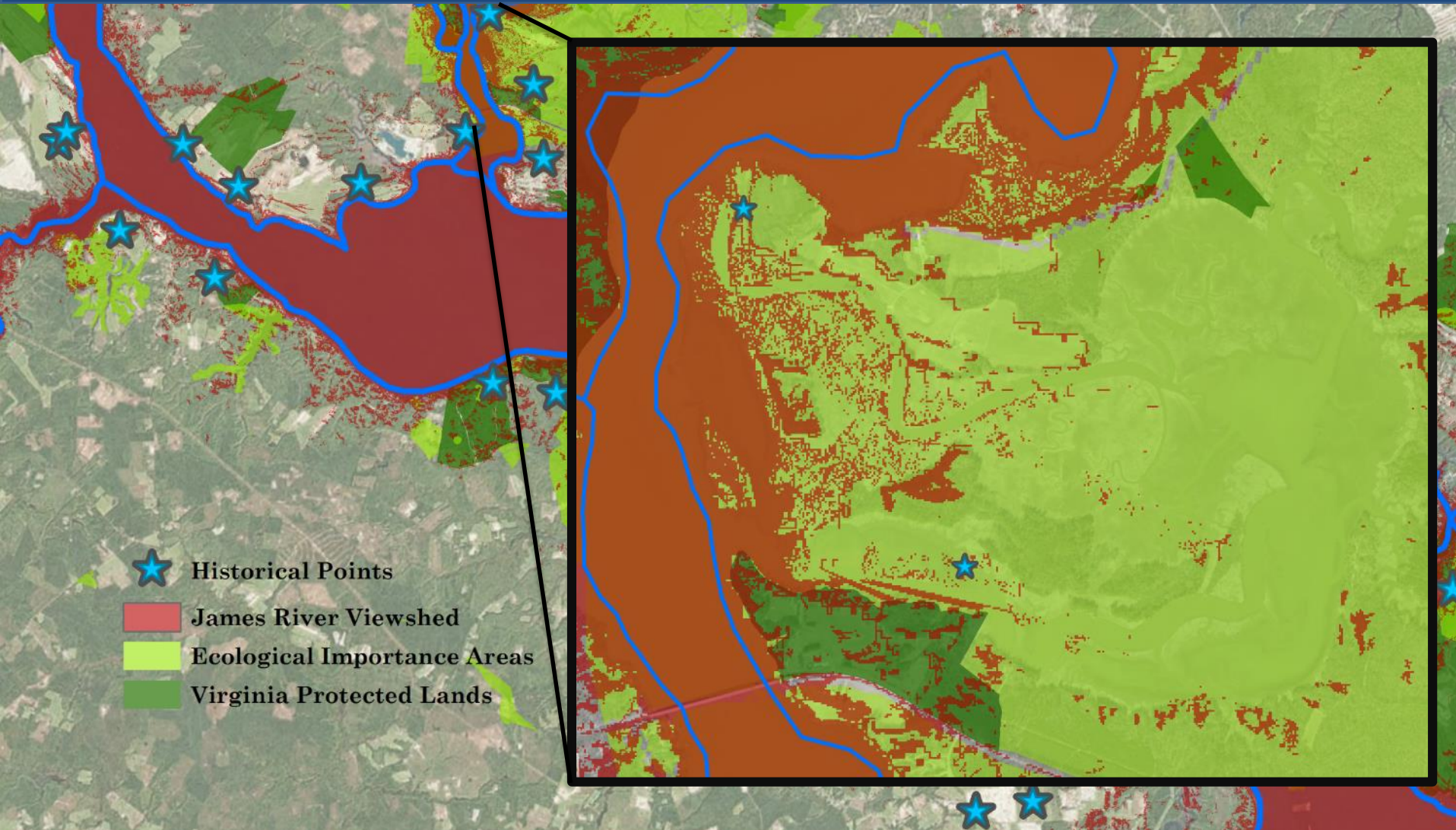


Protected Lands Prioritization

- **Proximity to protected lands**
 - **Includes easements**
 - **100 meter selection buffer**



Trail Resources in Reality



Saving the Chesapeake's Great Rivers and Special Places

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