

# Priority Conservation Areas

A Virginia Coastal Zone  
Program Supported Project



# PCA Project Team

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- ◉ VA Dept. of Game & Inland Fisheries
- ◉ VCU – Center for Environmental Studies
- ◉ VA Dept. of Conservation & Recreation
- ◉ VIMS Center for Coastal Resources Management

# Priority Conservation Areas (PCAs)

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***....are lands and surface waters identified as important for conservation of Virginia's wildlife, plants, and natural communities. The identified lands/waters can be used to prioritize areas for preservation, protection or specific management action.***



# VDGIF - Component

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# Priority Wildlife Diversity Conservation Areas

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- Based on Virginia's Wildlife Action Plan
  - <http://bewildvirginia.org/>
  - mapped Tier I/II+ habitat
  - recommended conservation actions
- Other wildlife resource spatial data
  - Important Bird Areas
  - Colonial waterbird sites
  - Coldwater streams
  - Anadromous fish use areas
- Input from wildlife diversity biologists



# Northampton County

## Terrestrial Tiered Species Habitats



Photo by Alvin Walker



Lou Hinshelwood



Gary Gaston







# Northampton County

## Audubon Important Bird Areas



# Northampton County

- Wetlands
- Stream riparian buffers



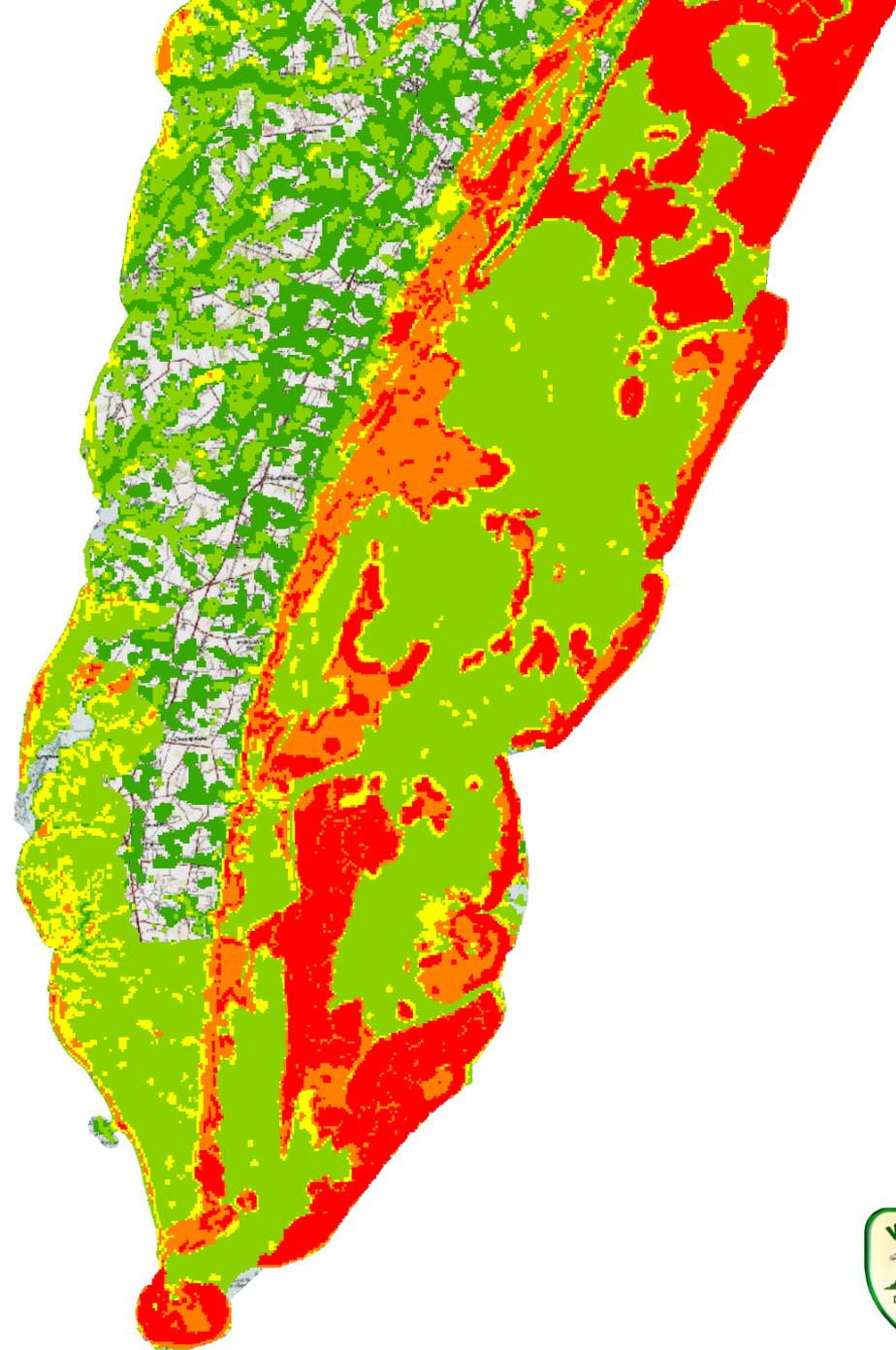
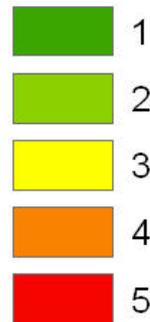
Mike Pinder



# Northampton County

## Priority Wildlife Diversity Conservation Areas

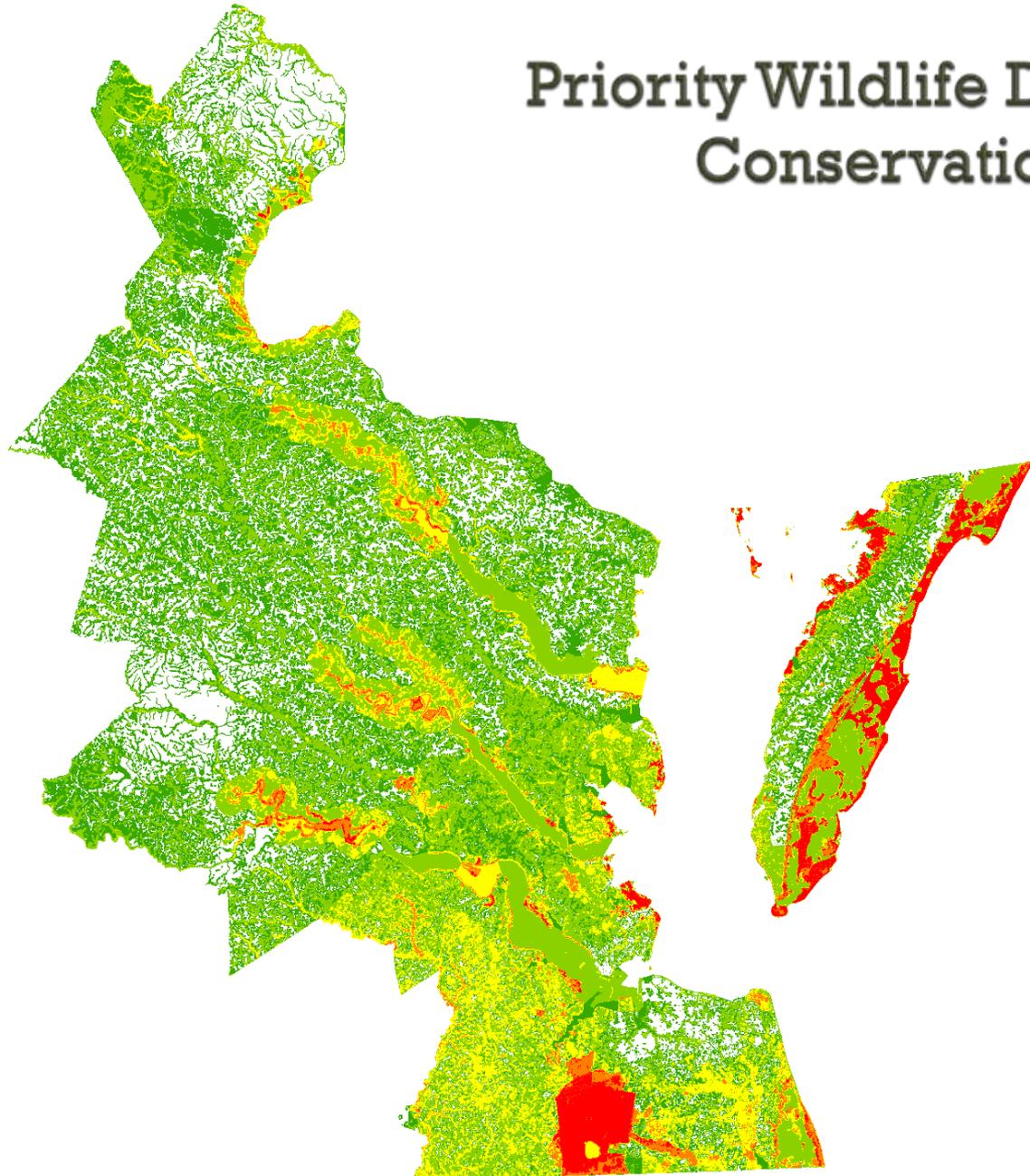
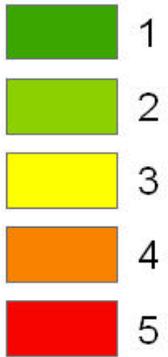
### Legend





# Priority Wildlife Diversity Conservation Areas

## Legend



# VCU - Component



photo by Mike Pinder



Photo by Monte McGregor





# Assessment

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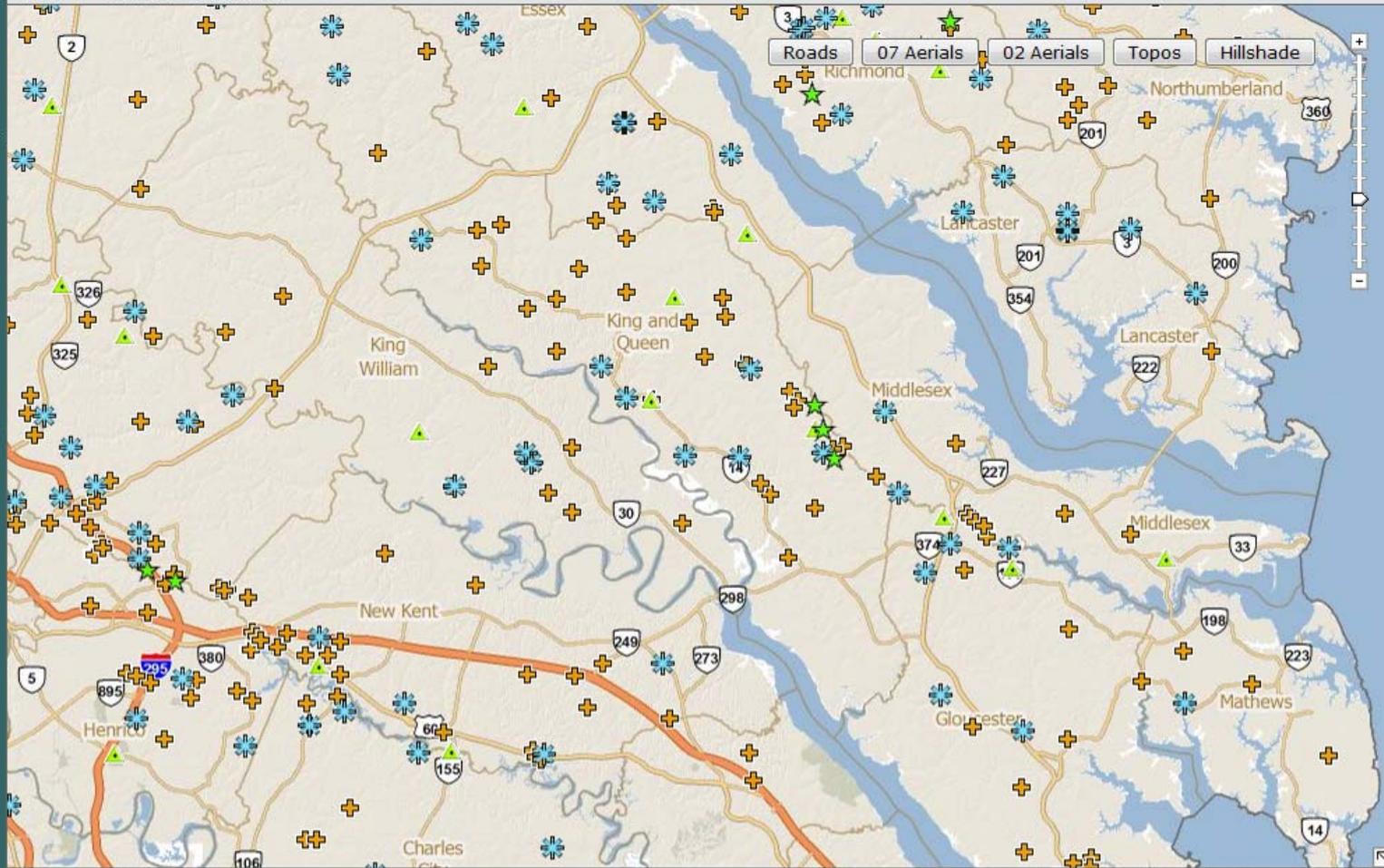
## ◉ Stream Reach Assessment

- Aquatic Community analysis
  - Fishes, Bugs, Habitat
- 50+ variables used to derive a Virtual Stream Score which rates the overall Stream Health

## ◉ Watershed Assessment

- Coarse scale analysis to characterize whole watershed
- Incorporates various data throughout the 6<sup>th</sup> order HUCs
- 6 variables/metrics, 1 score generated

- INSTAR Sites
  - Exceptional (81-100)
  - Healthy (71-80)
  - Restoration Potential (58-70)
  - Compromised (10-57)
  - Not Scored Yet
- INSTAR Reaches
  - Streams
  - Wetlands
  - Watershed Names
- Watersheds
  - Watershed Integrity
  - Watershed Diversity of Significant Species
  - Watershed Diversity of RT&D
  - Watershed Species Diversity
  - Boundaries Only



# Watershed Integrity (Health) using the National Watershed Boundary Dataset (NWBD)

## Legend

 NWBD Sub-Basins

## Watershed Integrity

 No Data

 Moderate

 High

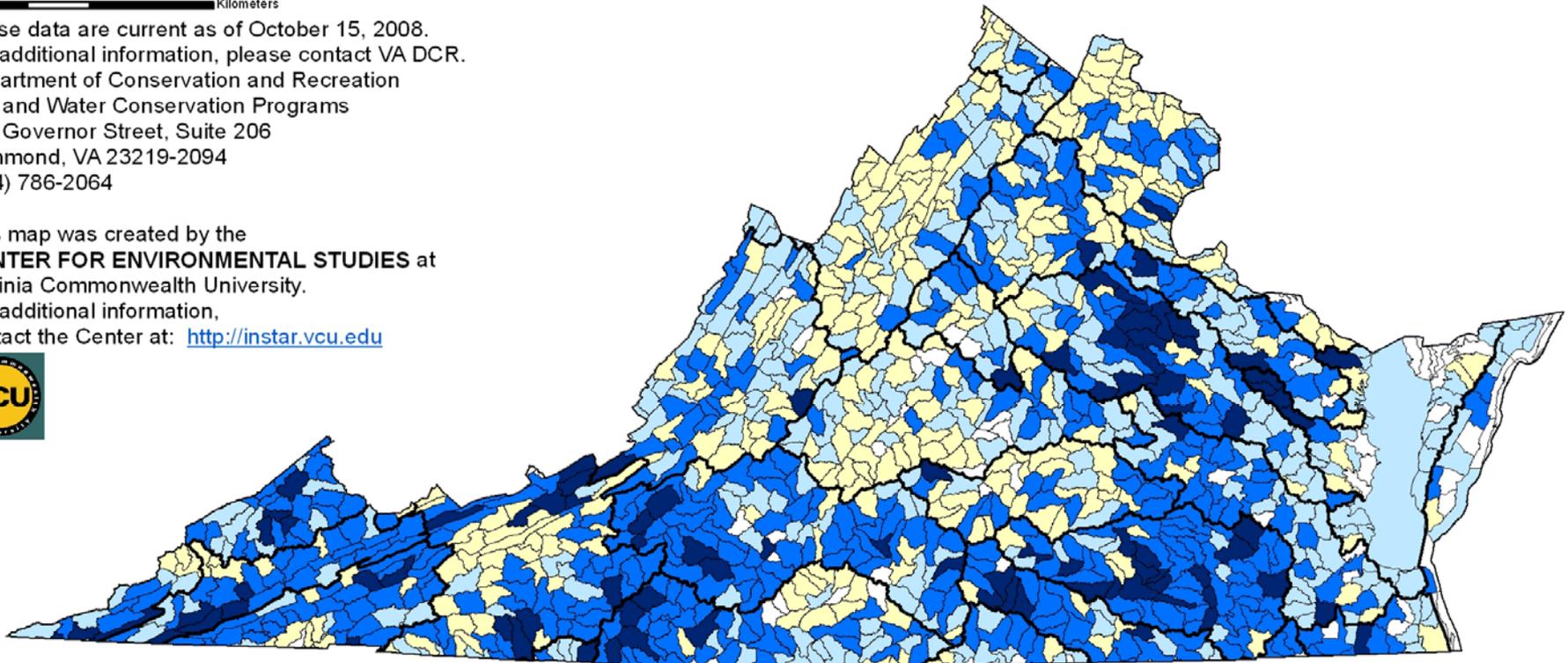
 Very High

 Outstanding

 0 30 60 120 Kilometers

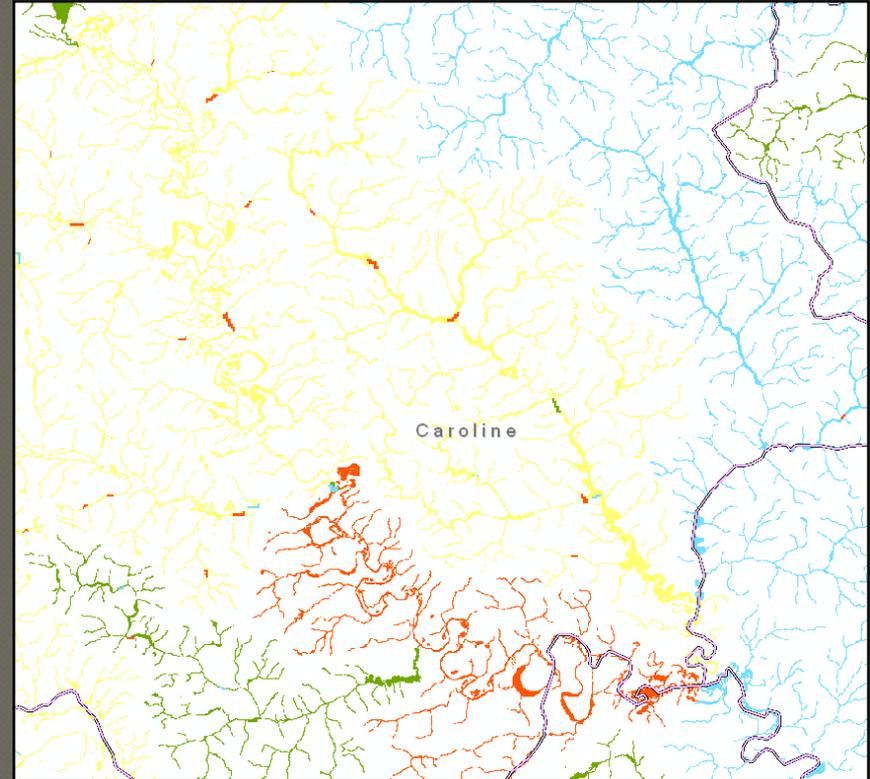
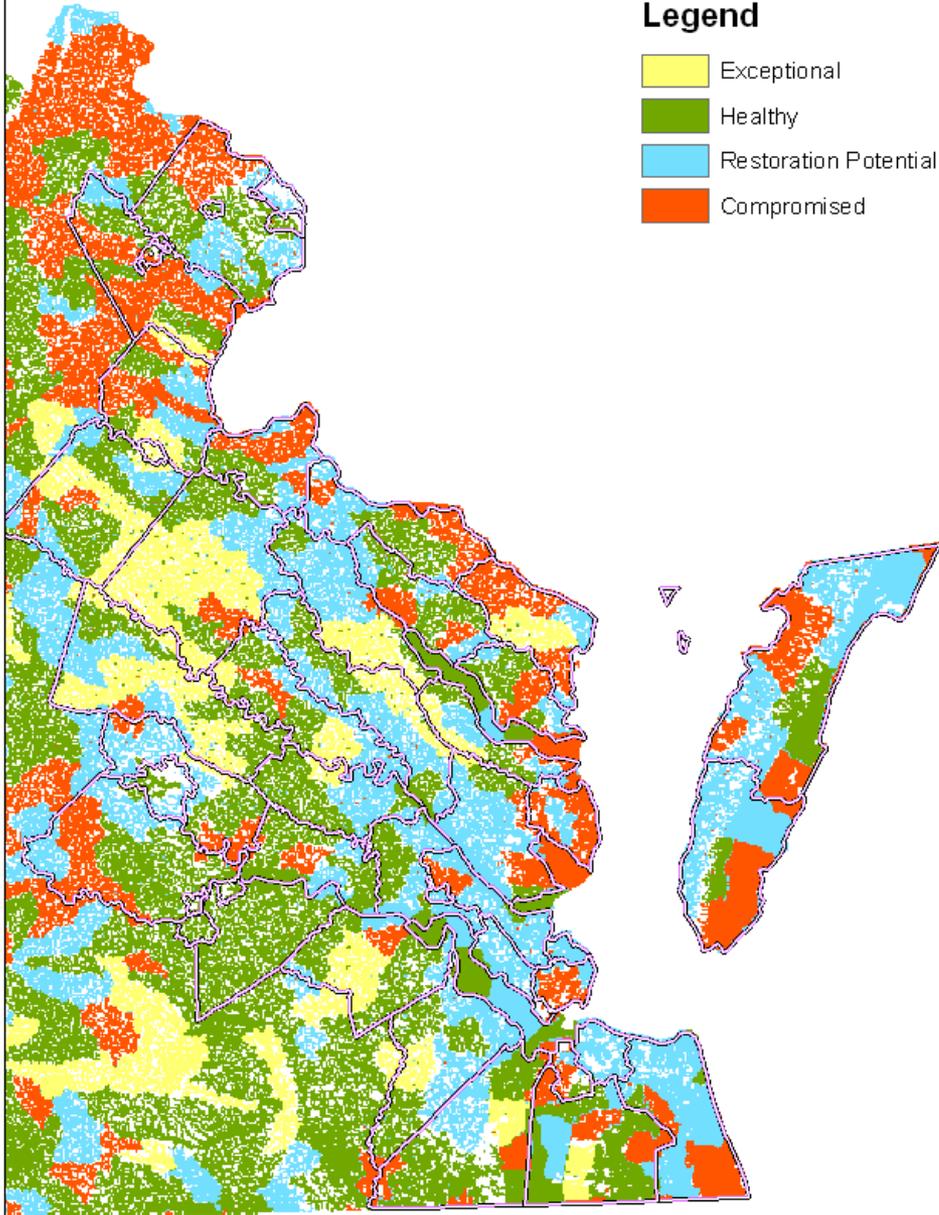
These data are current as of October 15, 2008.  
For additional information, please contact VA DCR.  
Department of Conservation and Recreation  
Soil and Water Conservation Programs  
203 Governor Street, Suite 206  
Richmond, VA 23219-2094  
(804) 786-2064

This map was created by the  
**CENTER FOR ENVIRONMENTAL STUDIES** at  
Virginia Commonwealth University.  
For additional information,  
contact the Center at: <http://instar.vcu.edu>



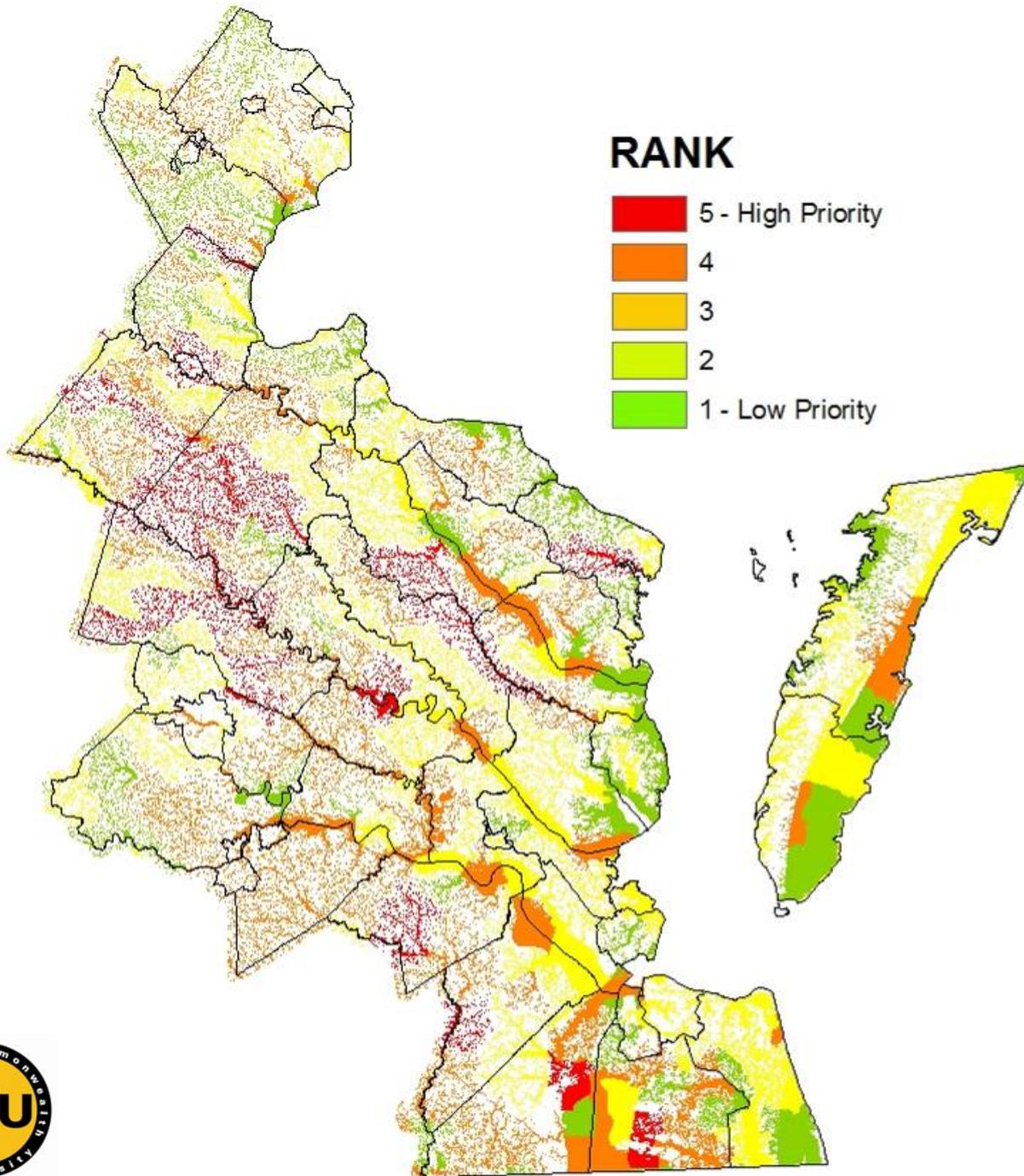
### Legend

- Exceptional
- Healthy
- Restoration Potential
- Compromised



# Aquatic Resource Integrity Layer

## RANK



# DCR - Component





# Conservation Sites

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- Boundaries that enclose:
  - At least one natural heritage resource, and
  - The surrounding habitat or buffer necessary for protection
- Represent land that should be conserved for protection of natural heritage resources.
  - Do NOT represent protected lands
- Scored with a biodiversity significance rank (b-rank)

“Map image not displayed in this web-accessible version of the presentation due to sensitive Natural Heritage Species information”

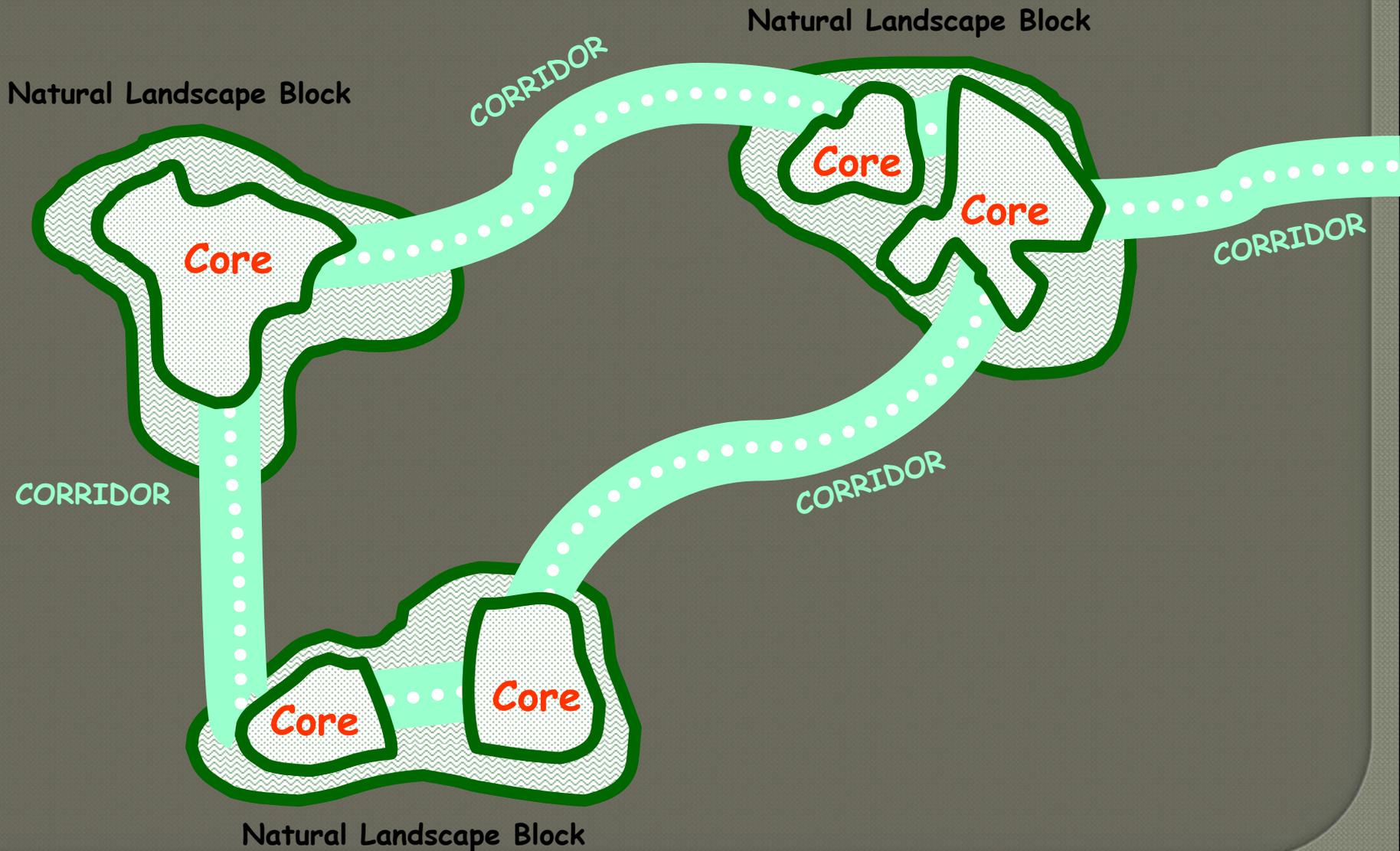


# Conservation Sites by Biodiversity Rank

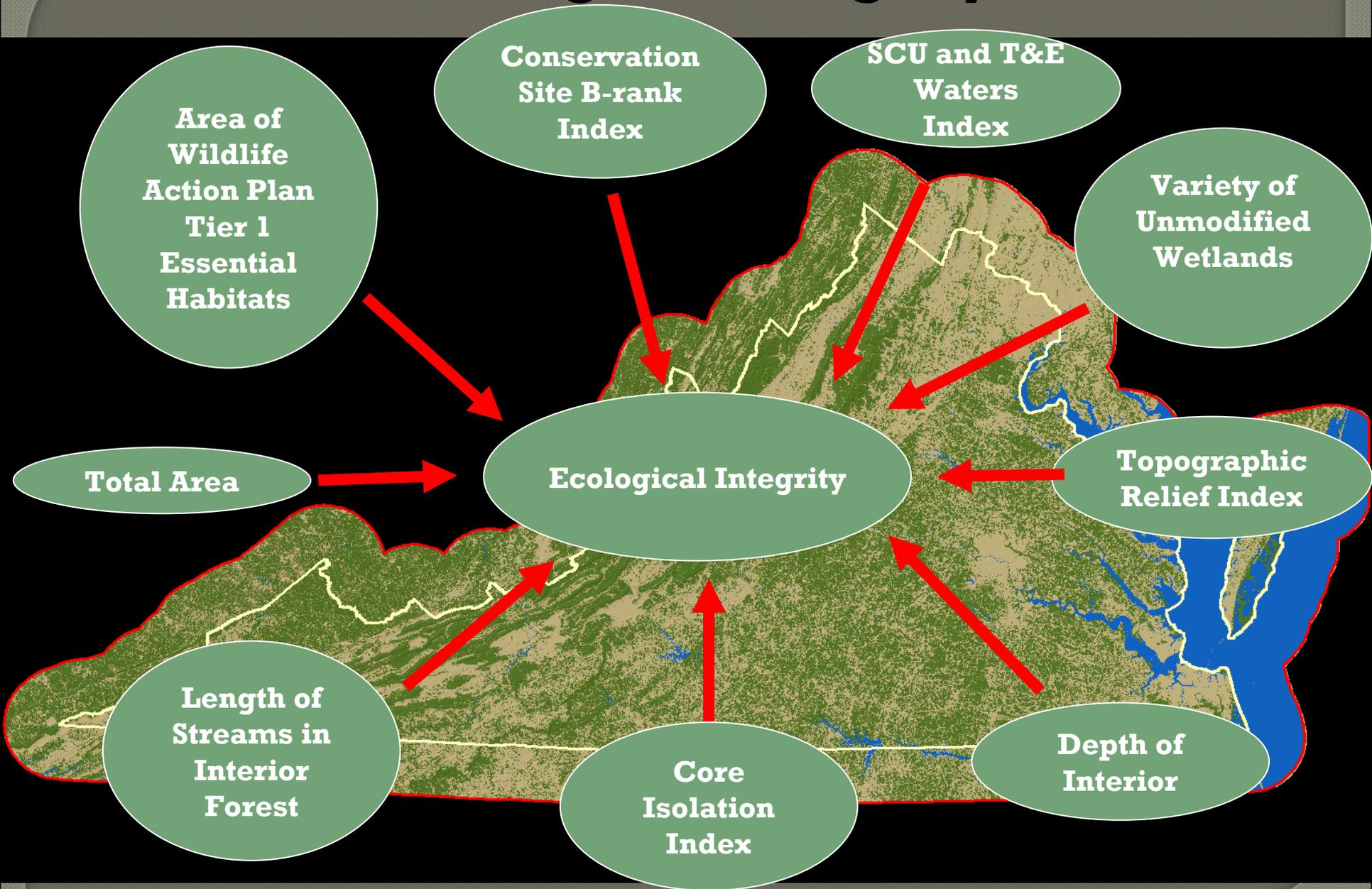
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# Virginia Natural Landscape Assessment

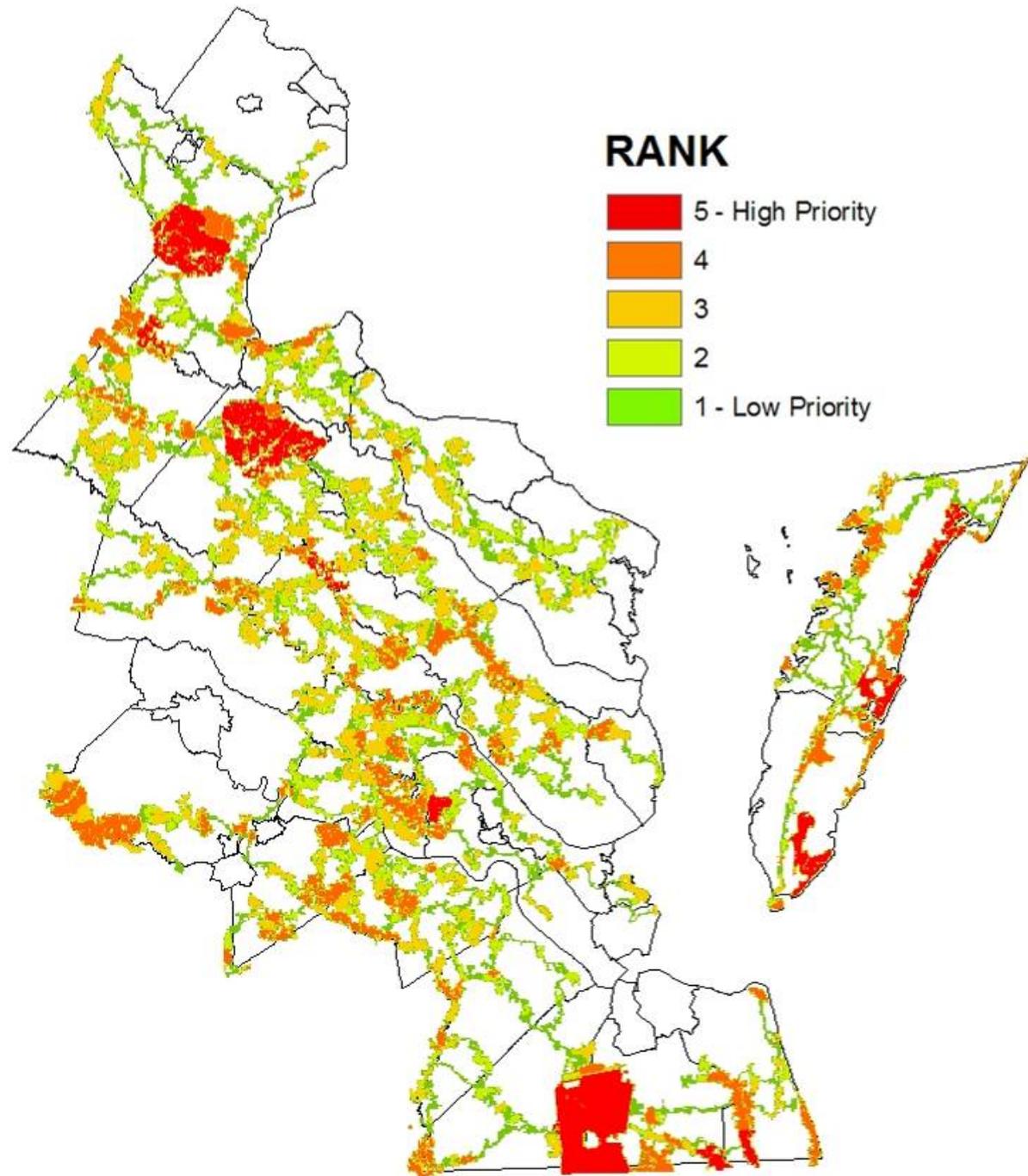


# VaNLA Ecological Integrity Ranks





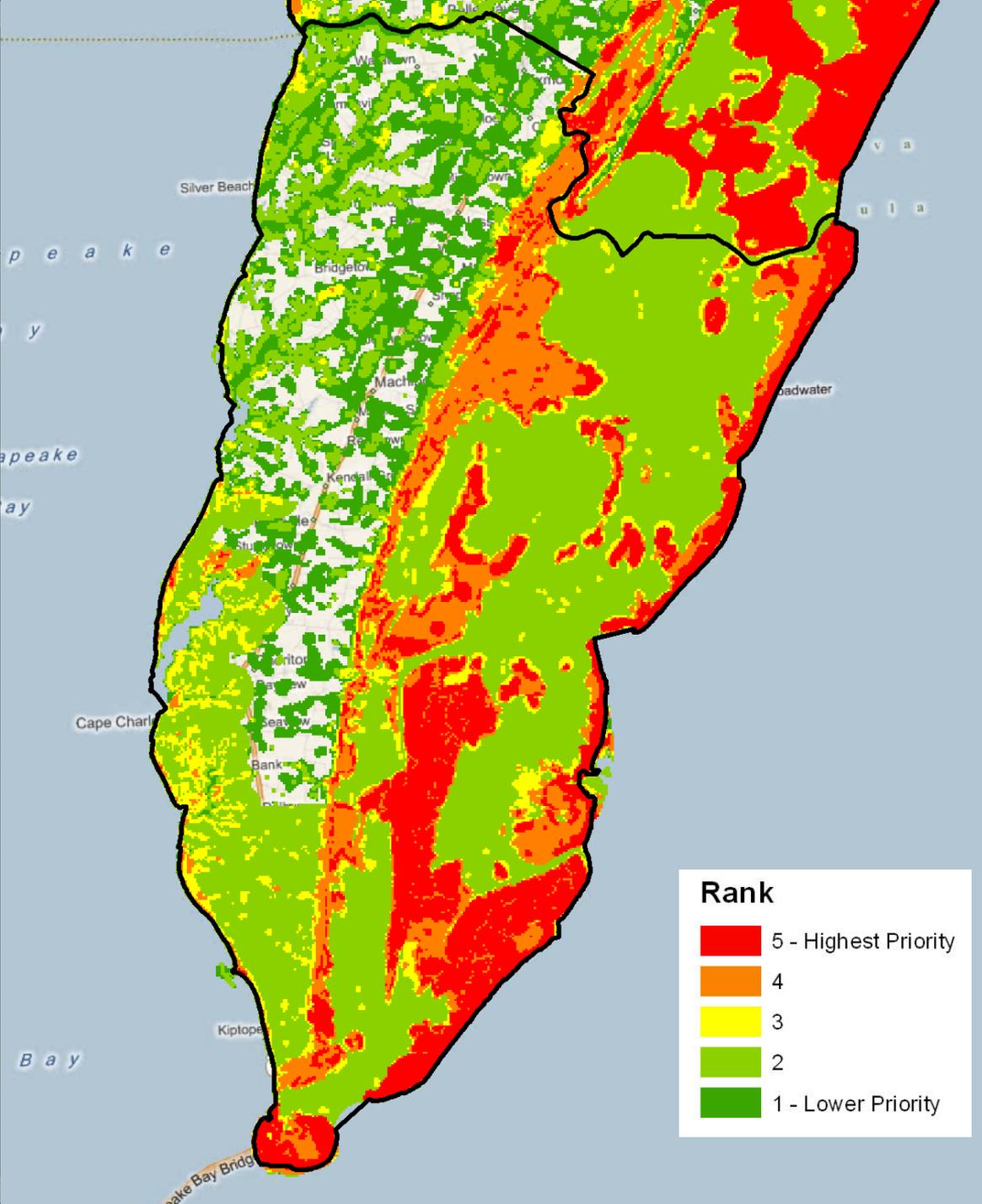
# Natural Land Network of C1 and C2 Ecological Cores and Corridors



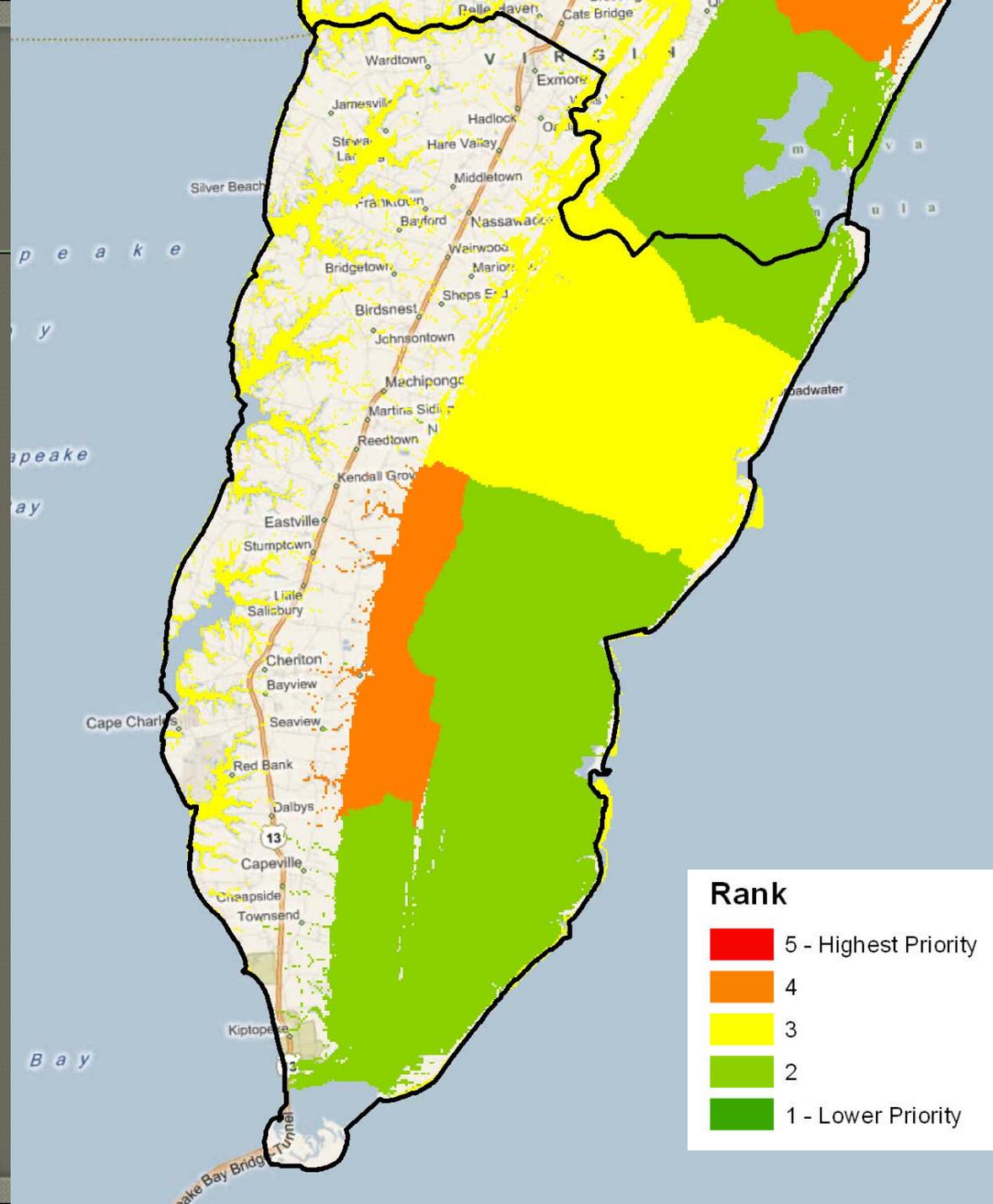
# Developing the PCA

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Priority Wildlife  
Diversity  
Conservation  
Areas  
DGIF



Aquatic  
Resource  
Integrity  
Layer  
VCU CES





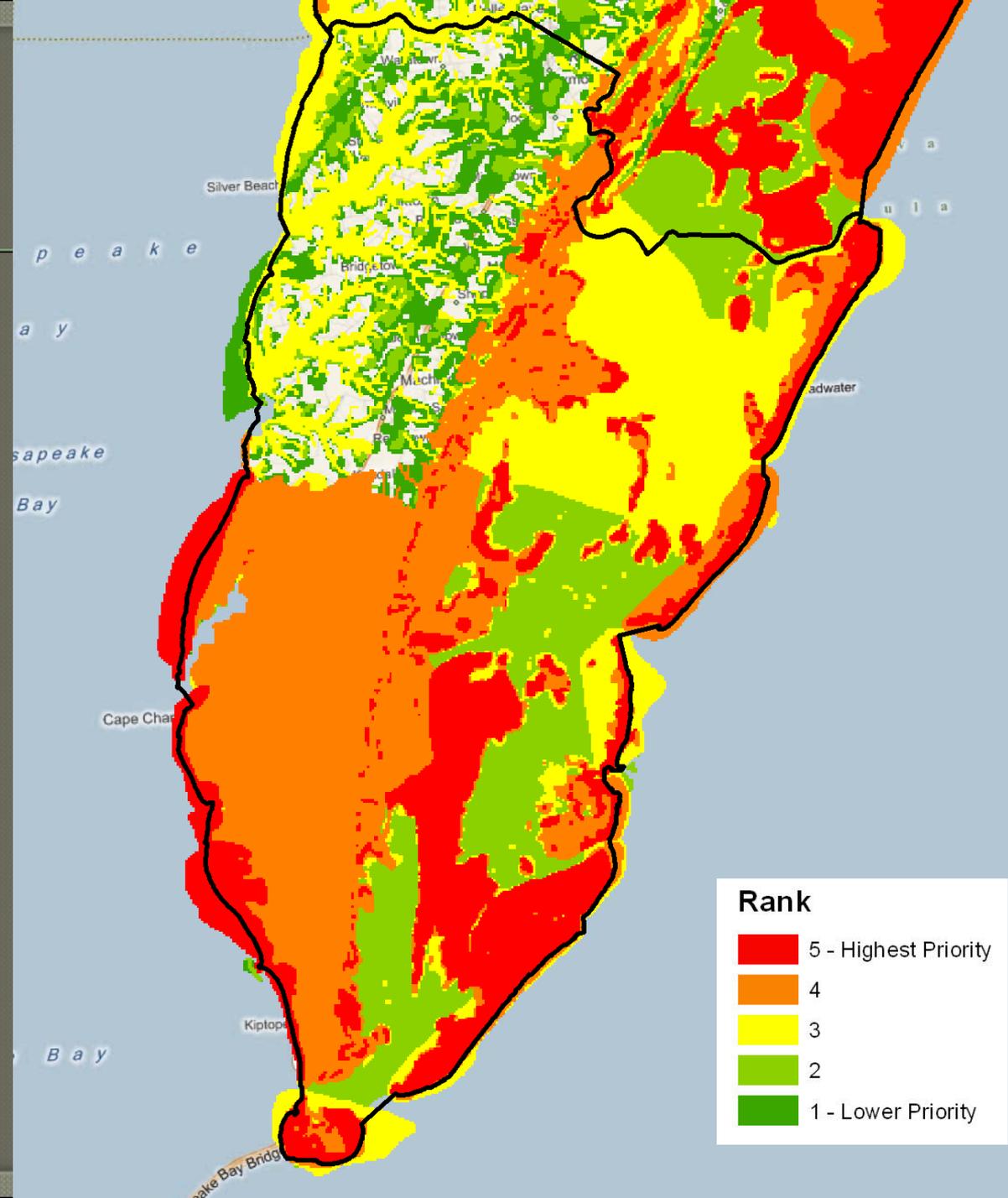
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# Conservation Sites DNH

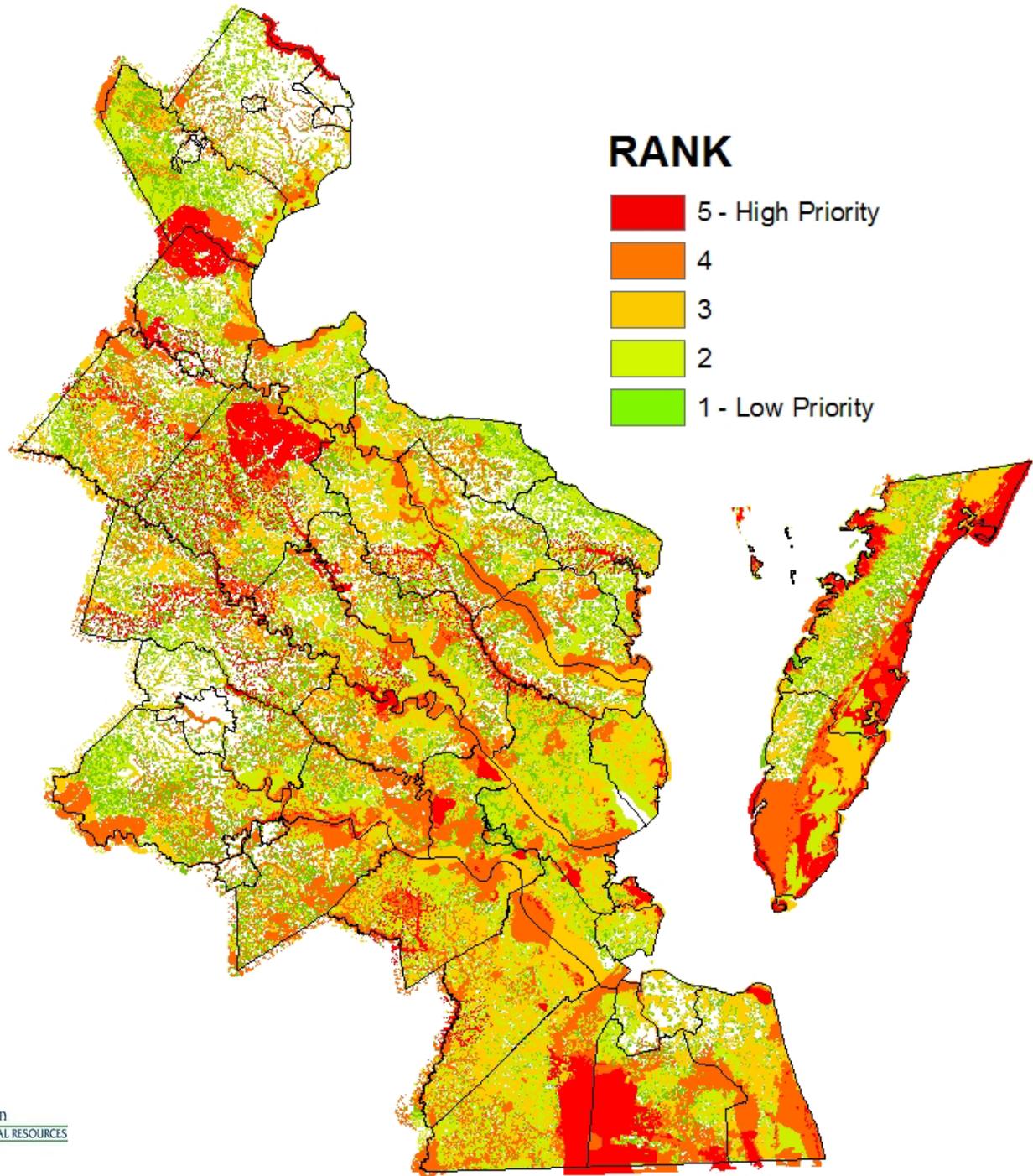
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# Priority Conservation Areas



# Priority Conservation Areas



# GIS Caveats and Limitations

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- ◉ Intended to guide conservation planning
- ◉ Statewide data – not at local scale
- ◉ Subjective - Based on current priorities
- ◉ Snapshot in time
- ◉ Based on *available* information
- ◉ Does not account for lands already conserved
- ◉ Does not factor in climate change issues



# VIMS: Aquatic Priority Conservation Areas

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- Colonial Waterbird Database
- Audubon Important Bird Areas
- Shellfish Suitability
- Reef Restoration Sites
- Oyster Reefs
- Artificial Fishing Reef
- Wetlands (2009 NWI)
- Sand/Mud Flats
- Seed Areas
- Aquaculture sites
- Turtle Nesting Sites
- SAV (1999 – 2008)
- Aquatic Confirmed Habitat
- VCU Aquatic Resource Integrity
- Stream Conservation Areas
- Threatened & Endangered Waters
- Regulated Areas



# Classification of the Aquatic Habitat

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- ◉ **Exceptional Habitat Value ranked 3**
- ◉ **Very High Habitat Value ranked 2**
- ◉ **Good Habitat Value ranked 1**

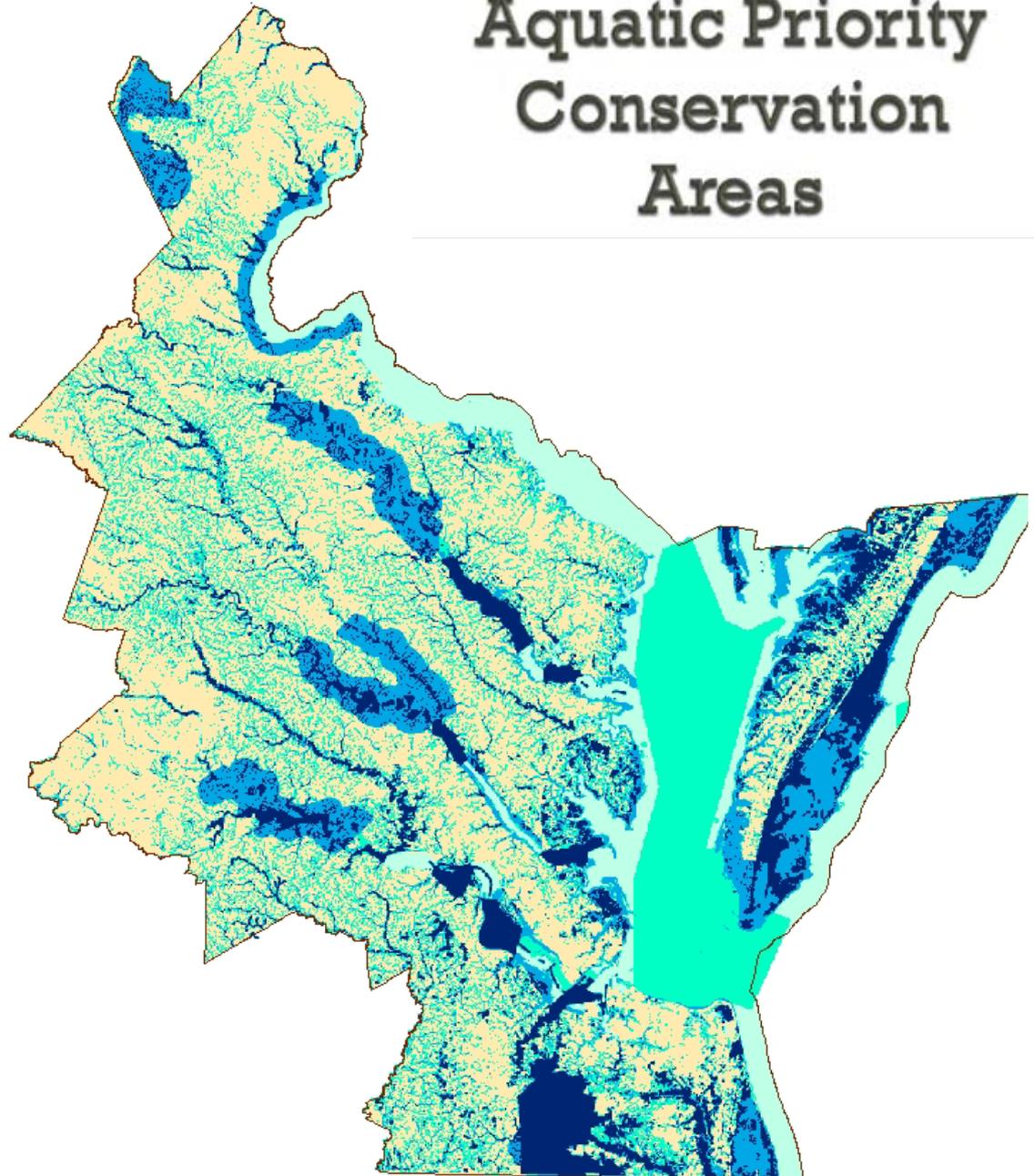
# Attribute Ranking

<i>LAYER</i>	<i>SCORE</i>
Colonial Waterbird Database	3
Audubon Important Bird Areas	2
Shellfish Suitability	2
Reef Restoration Sites	3
Oyster Reefs	3
Artificial Fishing Reef	1
Wetlands (2009 NWI)	3
Sand/Mud Flats (from 2009 NWI)	2
Seed Areas	1
Aquaculture sites	2
Turtle Nest	3
SAV (1999 – 2008)	3
Aquatic Confirmed Habitat	3
VCU Aquatic Resource Integrity	3
Stream Conservation Areas	1
Threatened & Endangered Waters	3
Regulated Areas	1

# Aquatic Priority Conservation Areas

## Legend

-  1 - Good Habitat Value
-  2 - Very High Habitat Value
-  3 - Exceptional Habitat Value
-  water
-  Land





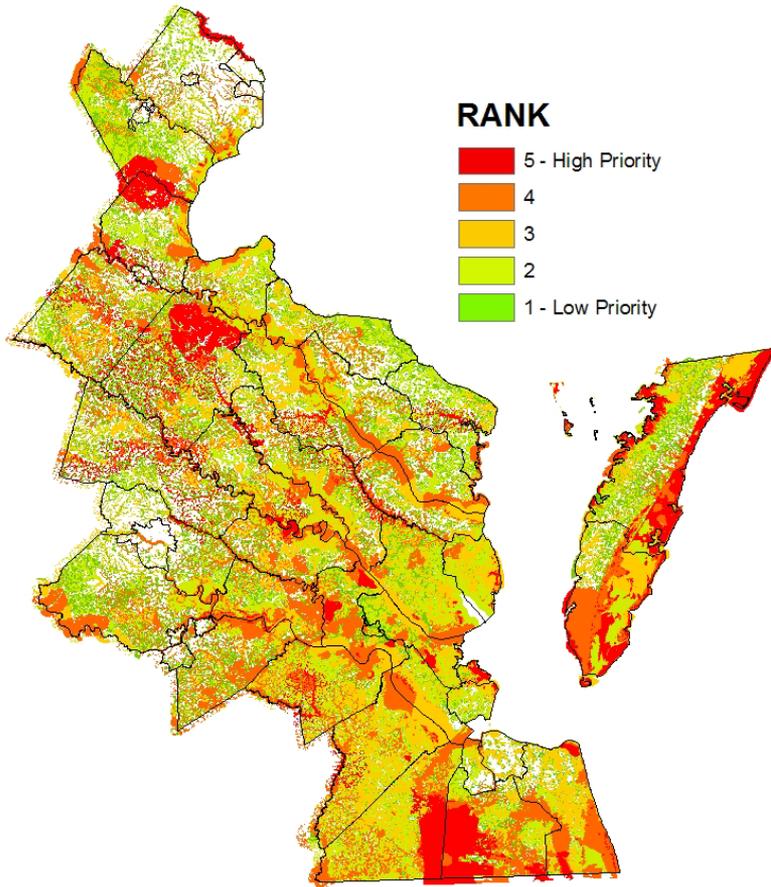
# PCA Phase 2

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1. Integrate the marine and estuarine elements of blue infrastructure that were not incorporated into the first generation PCA – GIS data using VIMS aquatic priority conservation areas.
2. Develop a map that portrays the new PCA in light of known developed areas and lands that are currently permanently conserved. This map can be used to help guide land conservation action (i.e. acquisition and easements) in the CZ.
2. This new PCA and the map will be taken “on the road”, by a project team of partnering agencies and NEMO, with plans to better implement its use by local government officials, planners and conservation organizations.

# Coming Soon.....

Priority Conservation Areas



Aquatic Priority Conservation Areas



# Data Available

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- ◎ CZM Coastal GEMS:

<http://www.deq.state.va.us/coastal/coastalgems.html>

- ◎ Dataset available at:

<http://www.dgif.virginia.gov/gis/MOM.asp>

- ◎ Landscape America:

<http://www.landscape.org/virginia/priorities/>

# Questions?

Jennifer Ciminelli  
Virginia Commonwealth University  
Center for Environmental Studies  
[s2jmcimi@vcu.edu](mailto:s2jmcimi@vcu.edu)