

A map of the Virginia coastal region, showing the Chesapeake Bay and surrounding waters. The land is colored in a light tan/beige, and the water is light blue. The map shows the coastline and major waterways.

Virginia Commonwealth University, Center for Environmental Studies
Coastal Management GIS Support & Coastal GEMS
Maintenance: FY11 Annual Report

October 1st 2011 – September 30th 2012

NOAA Grant # NA11NOS419

Grant Year FY2011, Task #1.02



Virginia Coastal Zone
MANAGEMENT PROGRAM



Acknowledgements

This report was prepared by the Virginia Coastal Zone Management Program's Coastal GIS Coordinator. The Coastal GIS Coordinator position is provided through a contract with Virginia Commonwealth University's Center for Environmental Studies and is funded by the Virginia Coastal Zone Management Program at the Virginia Department of Environmental Quality through Grant # NA11NOS419 from the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended.

Introduction

This report outlines tasks performed and products created under task #1.02 by the Virginia Coastal Zone Management Program's Coastal GIS Coordinator and by staff of Virginia Commonwealth University's Center for Environmental Studies during the grant year FY2011 (October 1st 2011 – September 30th 2012).

This report does not include an image of every map product created for task #1.02 during FY2011. Instead, the images in this report are a sample of the map products created selected to best illustrate each product description.

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Coastal GEMS Mapping Application

Virginia Commonwealth University's Center for Environmental Studies (VCU CES) continued to host the Coastal GEMS online mapping application through the FY11 grant period and VCU CES staff performed routine maintenance and updates on Coastal GEMS during this time.

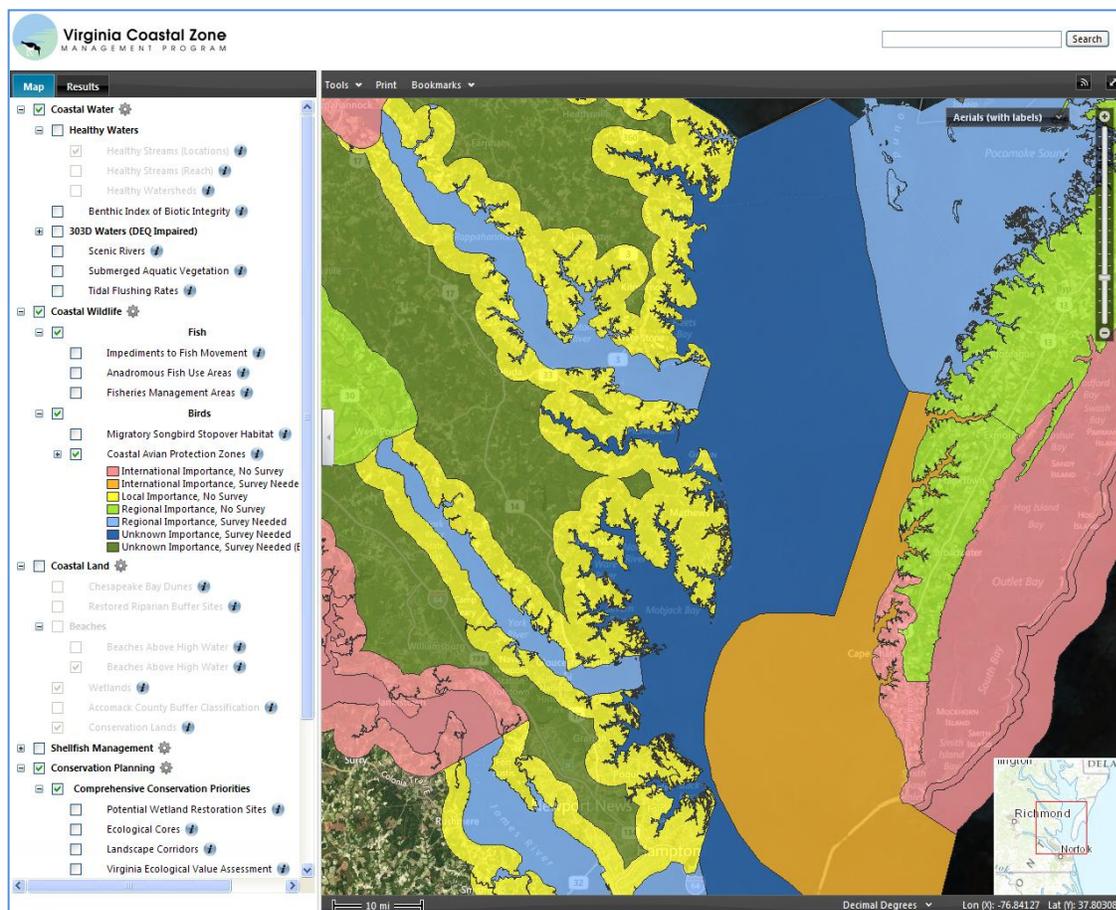
Tasks were to refresh map services, to update data and cartography in the map file as per CZM staff request, and to install software and security upgrades. Coastal GEMS remained operational throughout the FY11 grant period and was only offline to install software/security updates or to refresh map services.

During the FY11 grant period, at CZM staff request, VCU CES staff updated the data and symbology on five currently in production GEMS layers. The Coastal GIS Coordinator processed GIS data layers for effective display on Coastal GEMS and uploaded layers to VCU to be added to Coastal GEMS. GEMS fact sheets were added/updated where applicable.

Layers updated in this period include: Baylor Grounds, Private Oyster Leases, Conservation Lands, Public Access Lands, SAV Coverage

The Coastal GIS Coordinator conducted by request a Coastal GEMS training session for Hampton Roads local planning staff as part of a Hampton Roads Planning District Commission environmental committee meeting on February 2nd, 2012.

Google Analytics services for Coastal GEMS set up by VCU CES staff remained operational throughout the FY11 grant period. Google Analytics sends an email PDF report to CZM staff weekly to show access and web statistics for the GEMS application and VCU CES staff created additional reports at CZM staff request by querying specific date ranges. From October 1, 2011 to September 30, 2012, Coastal GEMS received 1,222 visits from 703 unique visitors resulting in 1,666 pageviews and an average site visit time of 2 minutes and 3 seconds. The full Google Analytics report for the Coastal GEMS mapping application during the FY11 grant period can be found in the appendix of this report.

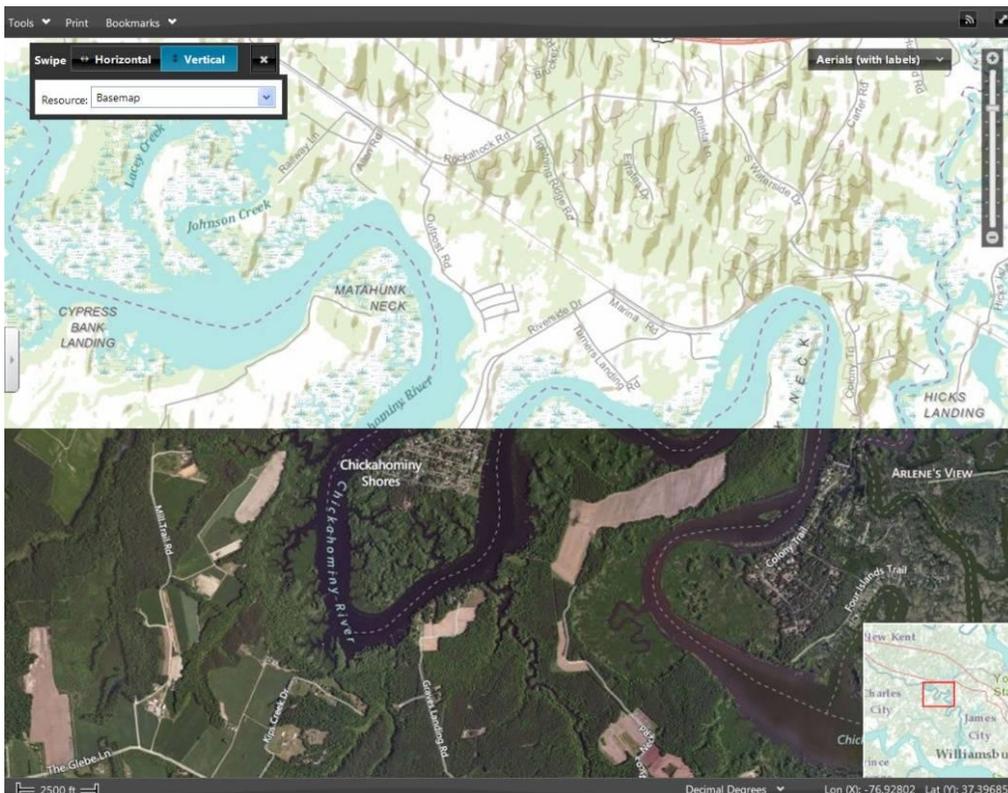
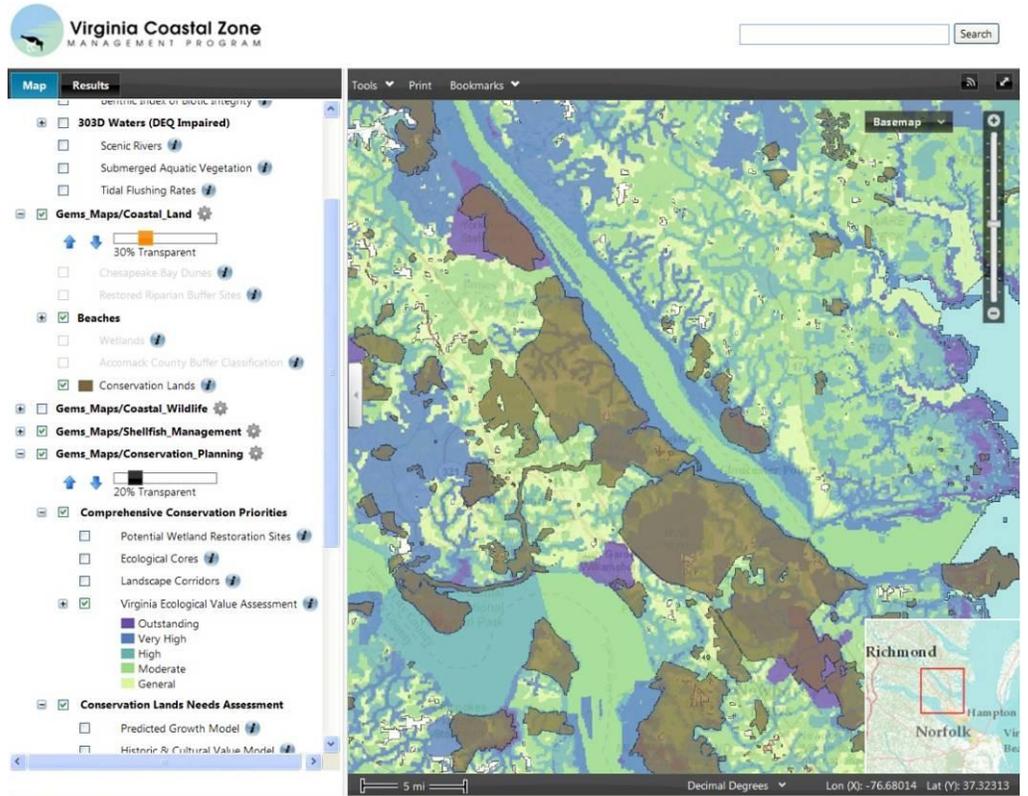


Screenshot from Coastal GEMS showing the Coastal Avian Protection Zones (CAPZ) layer. To see more visit Coastal GEMS at www.coastalgems.org.

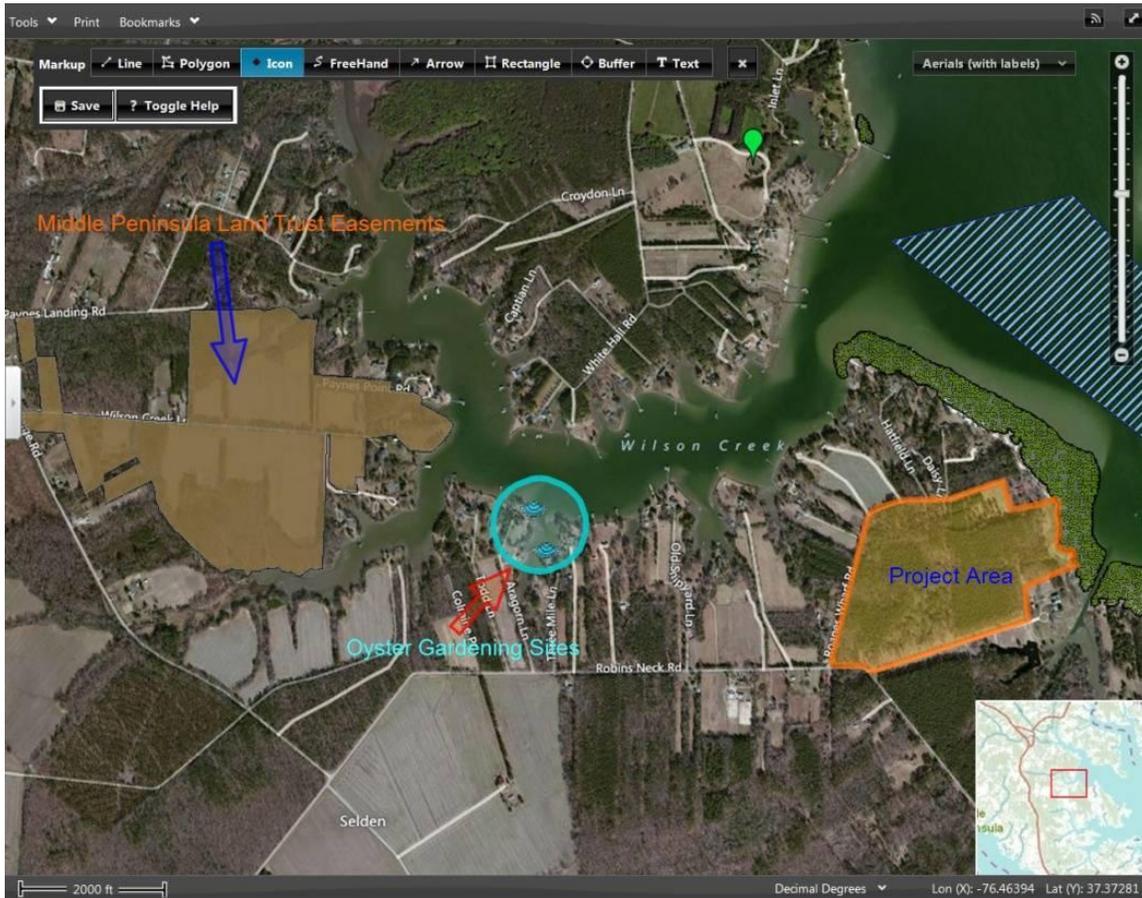
Coastal GEMS Version 3

The Coastal GIS Coordinator worked with VCU CES staff to develop a new version of the Coastal GEMS online mapping application with many new features and improved functionalities. The Coastal GIS Coordinator worked to update contact information and links for all of Coastal GEMS 60+ data layers and worked with data providers to make sure the most current versions of each dataset were available on Coastal GEMS. The Coastal GIS coordinator gave a joint presentation with VCU CES staff at the Coastal Policy Team meeting outlining the new features and functionalities of Coastal GEMS Version 3. www.coastalgems.org

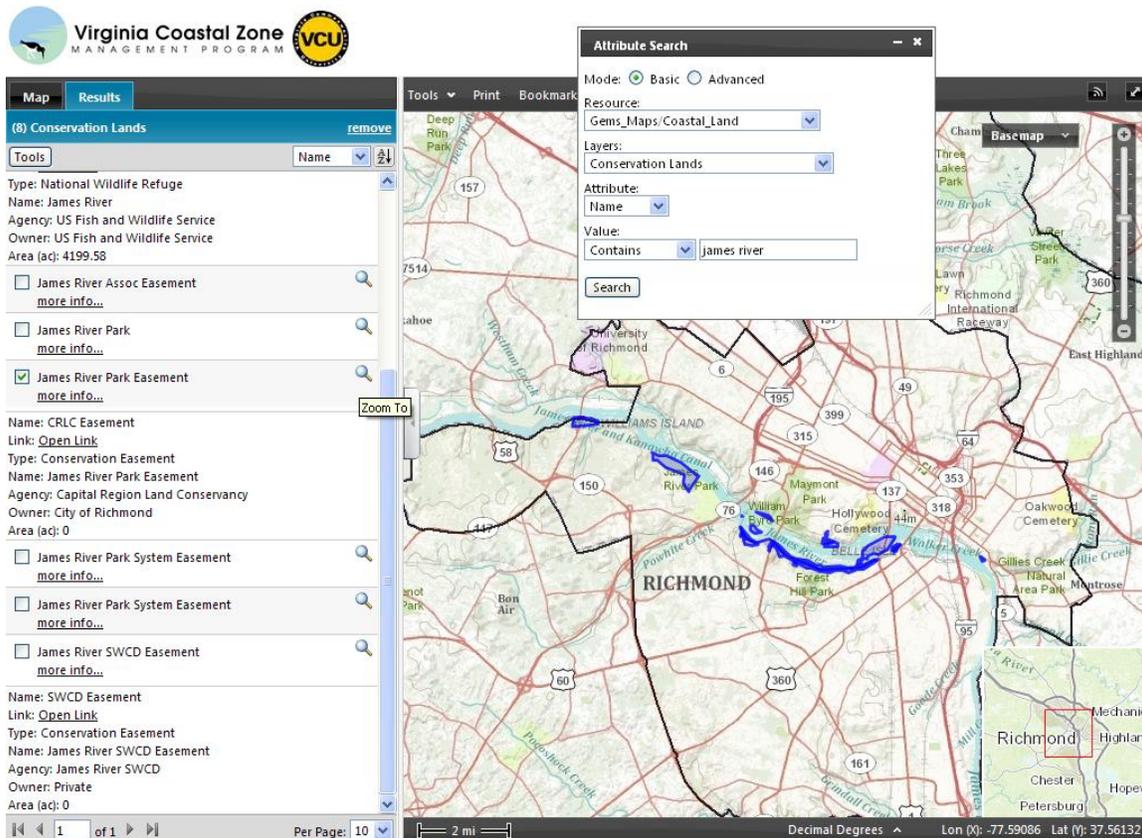
Version 3 allows users to adjust data transparency and move data layers above or below each other to get a better view of the data and basemaps underneath



Coastal GEMS Version 3 includes a list of various basemaps to choose from and the new swipe feature allows users to more easily compare between them



Markup tools in Coastal GEMS Version 3 allow users to add text to their maps, draw lines and shapes, add icons and symbols, and even buffer specific points



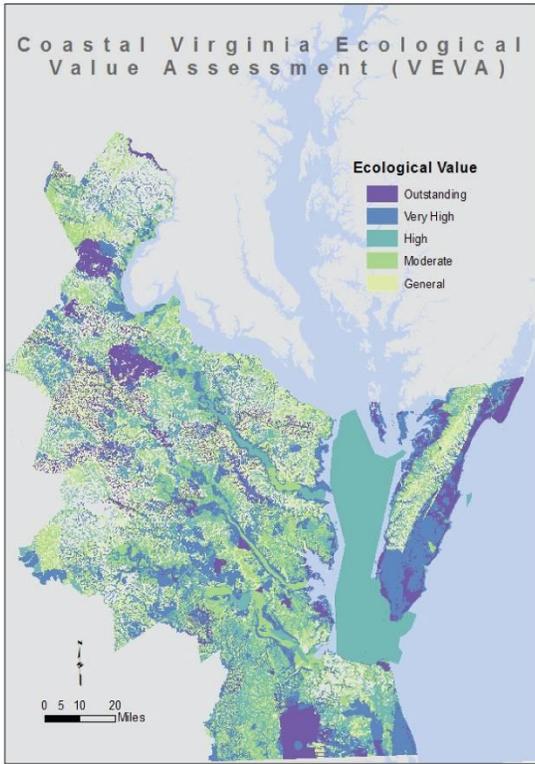
Version 3 includes a new Attribute Search tool that allows users to search the attributes for any Coastal GEMS layer, scroll through a list of features that their search produces, and then zoom to the features of their choice

Data Liaison Activities

The Coastal GIS Coordinator continued involvement in the Seaside SAMP group, the Eastern Shore of Virginia GIS Users group, and the Richmond GIS Users group by attending meetings and participating in discussions and continued involvement with the Coastal VEVA group by assisting with improvements to Coastal VEVA outreach materials. The Coastal GIS Coordinator performed VA Dept of Historic Resources archive searches as part of the state historic preservation office clearance process for two separate CZM funded projects.

Coastal Virginia Ecological Value Assessment (VEVA)

The Coastal Virginia Ecological Value Assessment (VEVA) was developed to provide guidance to local governments engaged in land use management and conservation planning. VEVA is a collaborative effort among several state programs to synthesize the best available natural resource information into a single geospatial product. VEVA combines scientific data and best professional judgment to rank terrestrial and aquatic areas for their ecological value. These values can be used to prioritize areas for preservation, develop strategies for special area management actions, or to build awareness about Virginia’s natural communities.



For more information visit these websites:
<http://www.deq.state.va.us/coastal/coastalgems.html>
http://ccrm.vims.edu/resources/conservation_planning/index.html
<http://www.dgif.virginia.gov/gis/gis-data.asp>

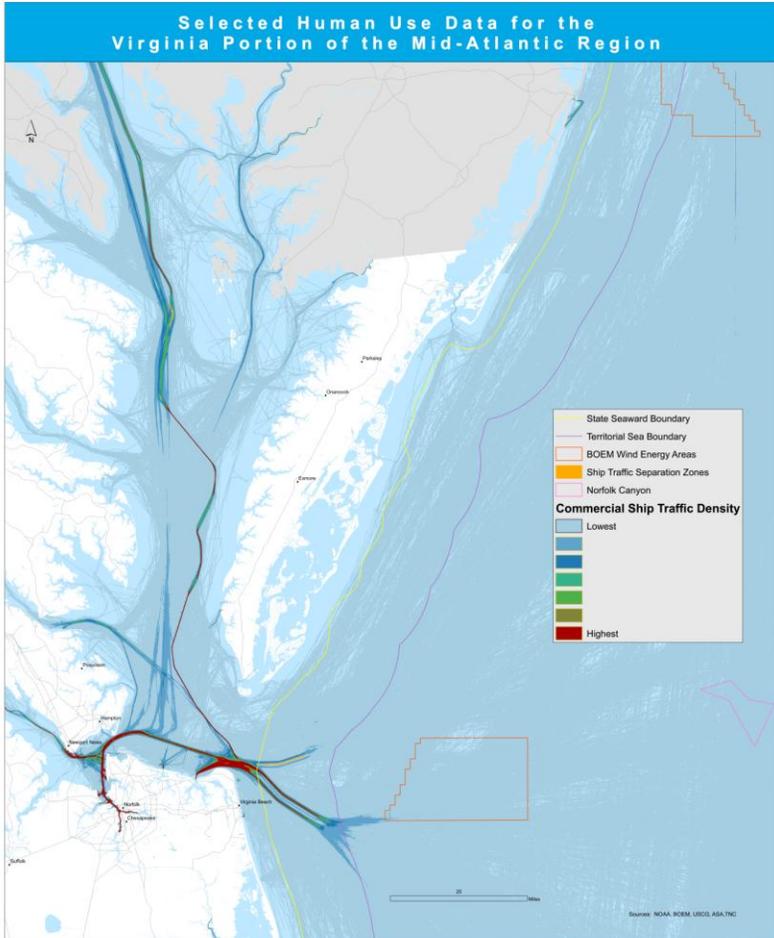
Data Sources	Project Partners
Priority Wildlife Diversity Conservation Areas	VA Dept. of Game and Inland Fisheries
Natural Heritage Conservation Sites Layer	VA Dept. of Conservation and Recreation, Natural Heritage
Natural Lands Network.....	VA Dept. of Conservation and Recreation, Natural Heritage
Aquatic Resource Integrity Layer.....	VCU Center for Environmental Studies
Aquatic Priority Conservation Areas	VIMS Center for Coastal Resources Management
Virginia’s Healthy Waters.....	VA Dept. of Environmental Quality

This project was funded in part by the Virginia Coastal Zone Management Program at the Department of Environmental Quality through grant number NA10NOS4190205 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended.

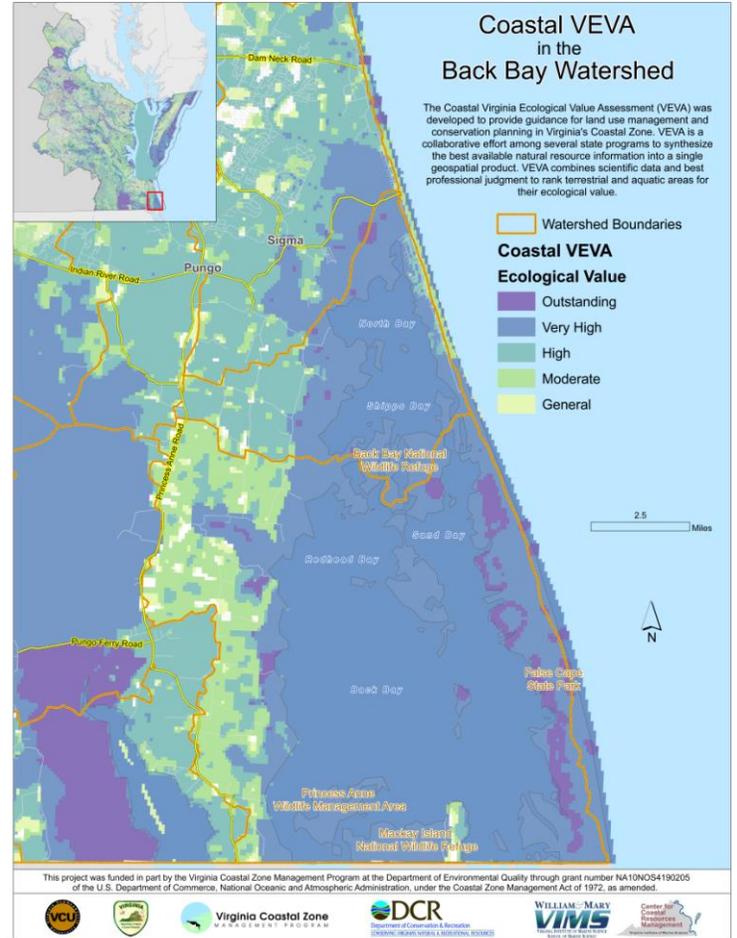


GIS Map Products

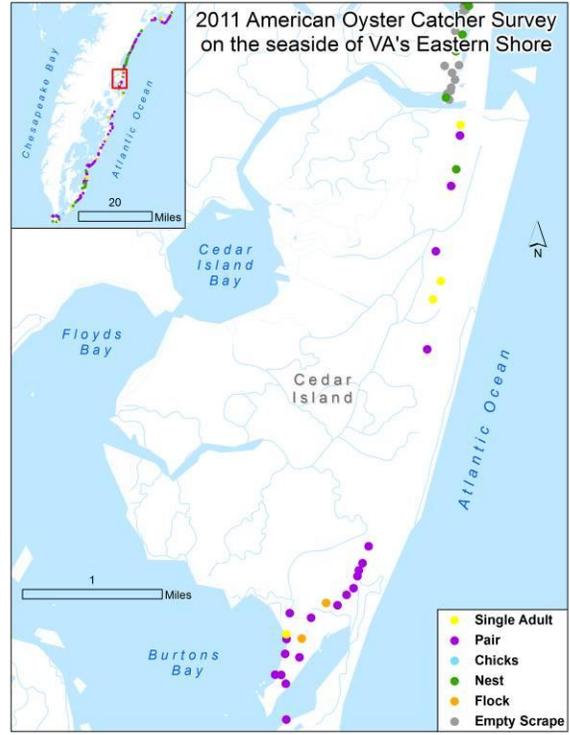
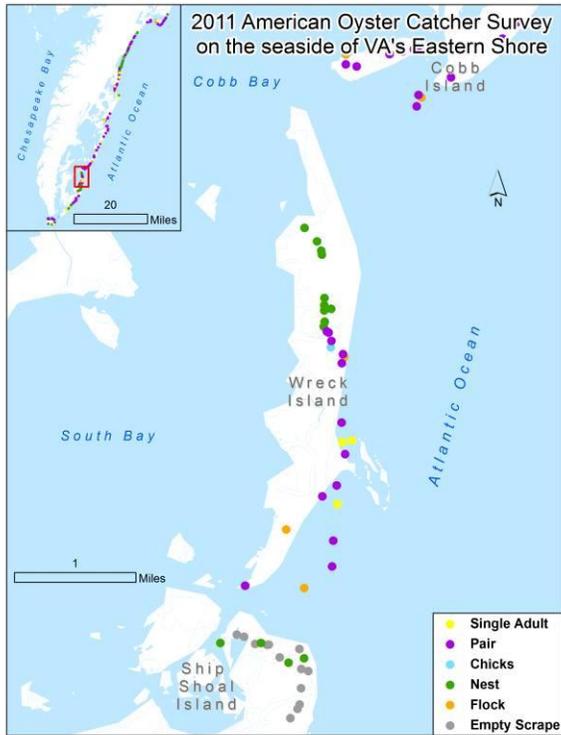
Map products created for CZM staff/partners by the Coastal GIS Coordinator include: maps of American Oyster Catcher distribution on the Eastern Shore of Virginia included in the final report for FY09 Task 96.01, an overview map of the Rappahannock River rotational oyster harvest areas and a map of the Wreck Shoals oyster sanctuary area in the James River for VMRC staff to utilize in presentations and for enforcement purposes, a map of Coastal VEVA coverage in the Back Bay watershed for a Back Bay Restoration Foundation workshop, a map of conserved lands on the Southern tip of Virginia's Eastern shore for VA CZM staff to include as part of a display at the 2011 Eastern Shore Birding Festival, a map comparing lands prioritized for conservation on both sides of the VA-MD border to inform a discussion on joint land protection projects, a human use map for the VA Ocean Planning kickoff meeting, and a map for attendees of the CZM 40th anniversary event.



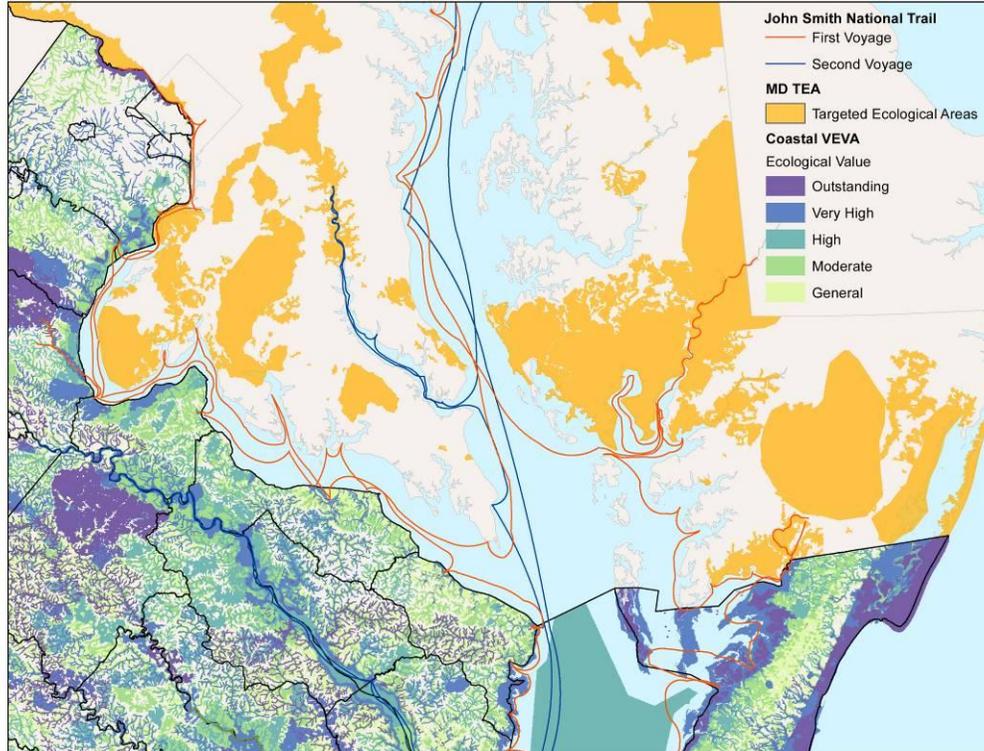
Human use map created for the VA Ocean Planning kickoff meeting



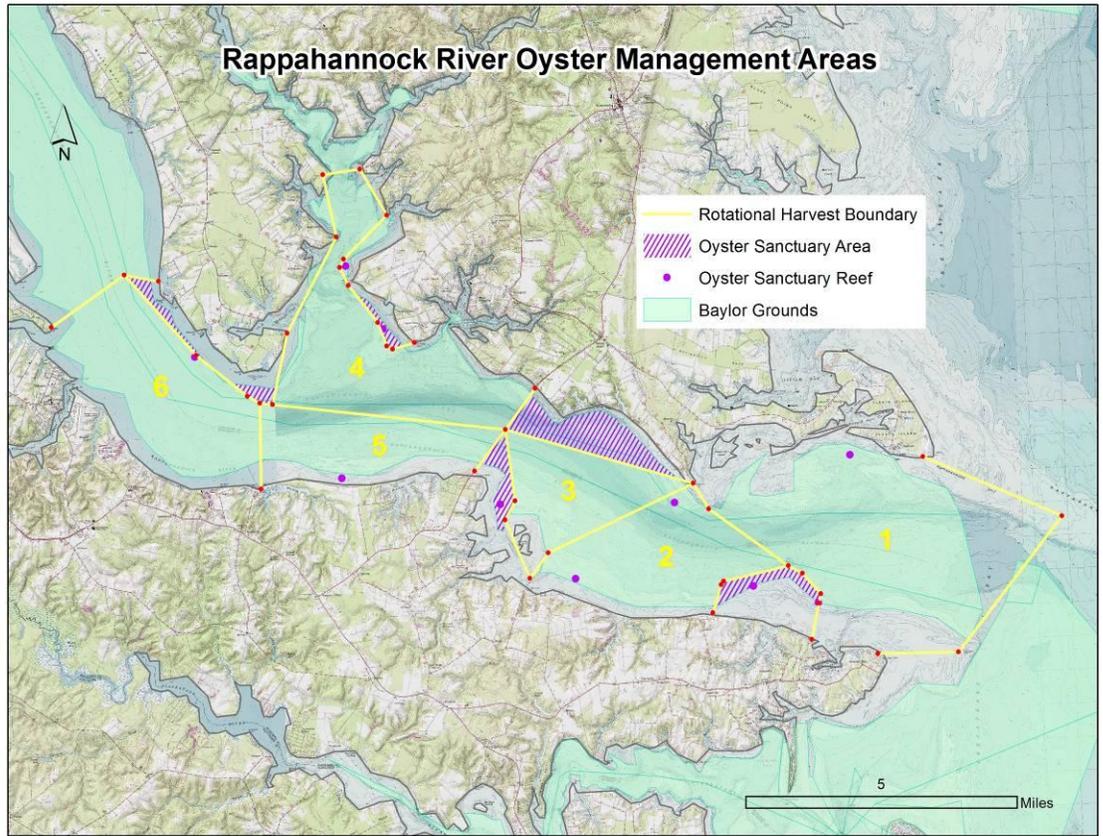
Coastal VEVA coverage in the Back Bay Watershed created for a Back Bay Restoration Foundation workshop



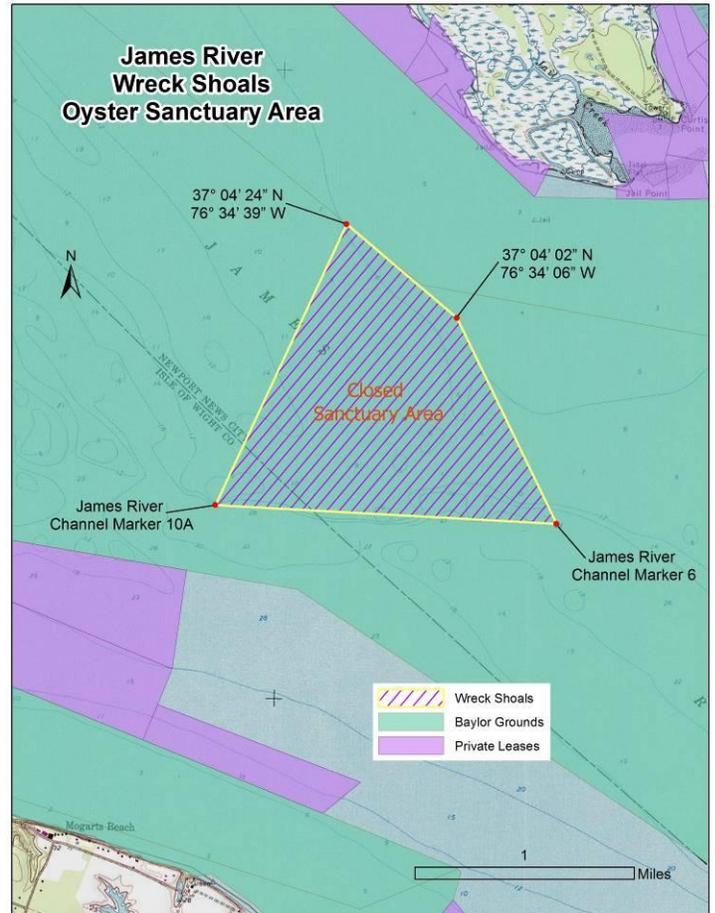
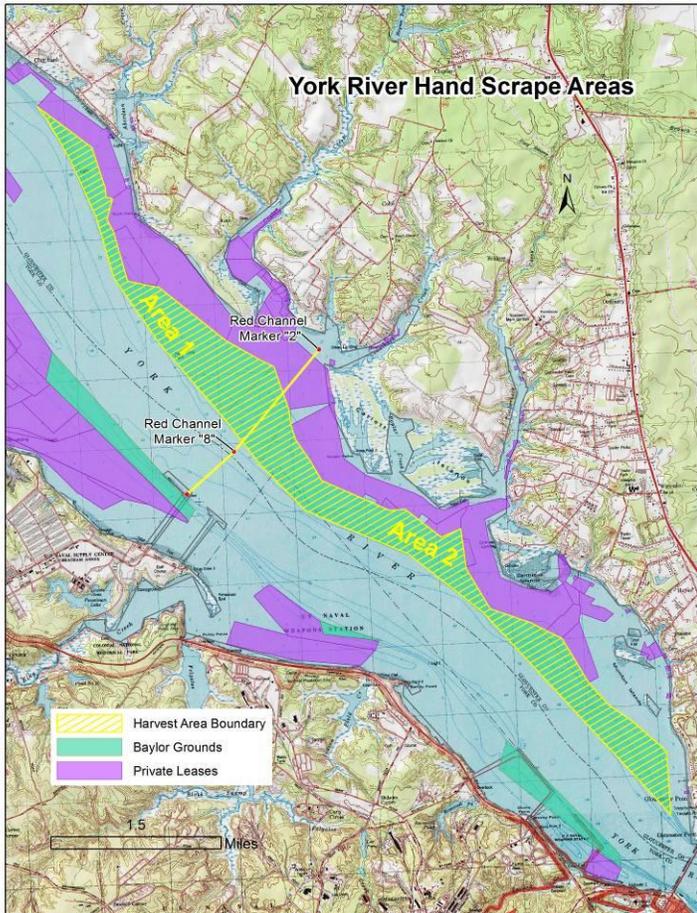
Maps of American Oyster Catcher distribution on the Eastern Shore of Virginia



Map comparing lands prioritized for conservation on both sides of the VA-MD border

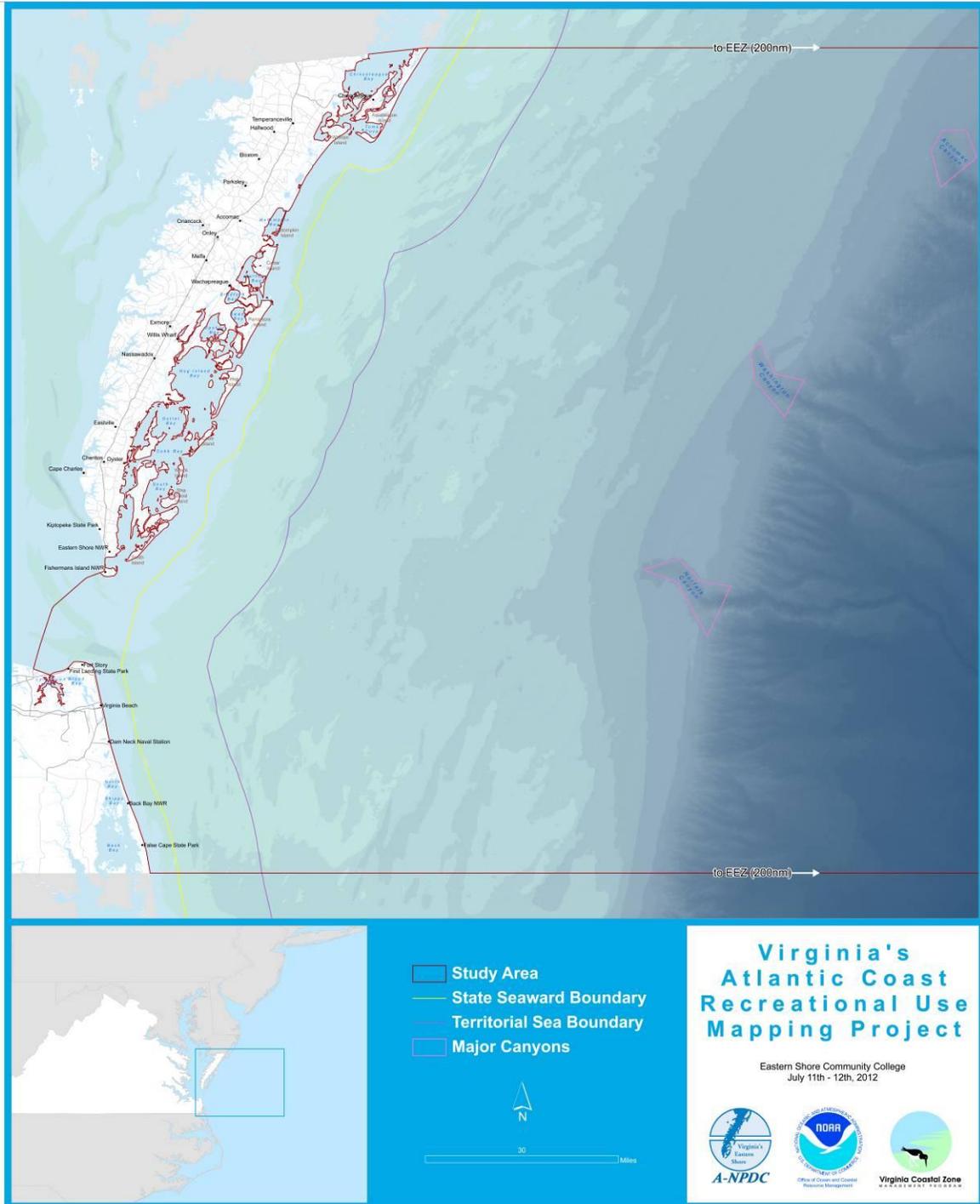


Maps created during the grant period by the Coastal GIS Coordinator for VMRC Conservation and Replenishment staff to utilize in presentations and for enforcement purposes.



Atlantic Coast Recreational Use Mapping Project

The Coastal GIS Coordinator helped to plan, prepare for, and run Virginia's 2012 Atlantic Coast Recreational Use Mapping Project by helping to identify and invite stakeholders, testing the eBeam digital whiteboard technology, pulling together basemap data, defining the study area, creating print materials, and continuing to work with NOAA staff as the data was processed and maps were created. The Coastal GIS Coordinator presented about participatory GIS and demonstrated the eBeam technology for the MARCO board, the Coastal Policy Team, and for ocean use stakeholders at VA's Ocean Planning kickoff meeting and provided support to other MARCO states in planning their own recreational use mapping workshops. The Coastal GIS Coordinator also worked with ANPDC staff to design a methodology for recreational use survey flights along VA's Atlantic coast.



Study area wall map created for Virginia's Atlantic Coast Mapping Project



Participants in Virginia's Atlantic Coast Recreational Use Mapping Project gathered together for an introductory presentation

A breakout group's facilitator and GIS specialist watch on as an expert participant prepares to draw on the map using the digital stylus



An expert participant uses a digital tablet to draw a recreational use boundary

Audience Overview

● % of visits: 100.00%

Overview

● Visits



703 people visited this site

Visits: 1,222

Unique Visitors: 703

Pageviews: 1,666

Pages / Visit: 1.36

Avg. Visit Duration: 00:02:03

Bounce Rate: 77.00%

% New Visits: 53.44%



53.44% New Visitor
653 Visits

46.56% Returning Visitor
569 Visits

Language	Visits	% Visits
1. en-us	1,197	97.95%
2. en	6	0.49%
3. zh-cn	4	0.33%
4. da	2	0.16%
5. es	2	0.16%
6. it	2	0.16%
7. ru	2	0.16%
8. cs	1	0.08%
9. en-gb	1	0.08%
10. es-es	1	0.08%

[view full report](#)

Browser & OS

% of visits: 100.00%

Explorer

Site Usage

Visits



Visits 1,222 % of Total: 100.00% (1,222)	Pages / Visit 1.36 Site Avg: 1.36 (0.00%)	Avg. Visit Duration 00:02:03 Site Avg: 00:02:03 (0.00%)	% New Visits 53.44% Site Avg: 53.44% (0.00%)	Bounce Rate 77.00% Site Avg: 77.00% (0.00%)
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Browser	Visits	Visits	Contribution to total: Visits
1. Internet Explorer	916	74.96%	
2. Firefox	170	13.91%	
3. Chrome	74	6.06%	
4. Safari	44	3.60%	
5. Mozilla Compatible Agent	11	0.90%	
6. Android Browser	4	0.33%	
7. IE with Chrome Frame	3	0.25%	

Rows 1 - 7 of 7

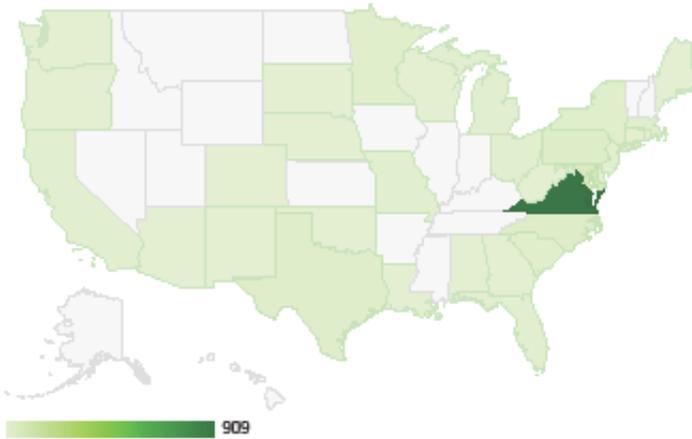
Location

ALL » COUNTRY / TERRITORY: United States

● % of visits: 97.55%

Map Overlay

Site Usage



Visits

1,192

% of Total: 97.89% (1,222)

Pages / Visit

1.36

Site Avg: 1.36 (0.00%)

Avg. Visit Duration

00:02:04

Site Avg: 00:02:03 (0.64%)

% New Visits

52.52%

Site Avg: 53.44% (-1.72%)

Bounce Rate

77.18%

Site Avg: 77.00% (0.23%)

Region	Visits	Pages / Visit	Avg. Visit Duration	% New Visits	Bounce Rate
1. Virginia	909	1.36	00:02:07	45.54%	76.24%
2. District of Columbia	53	1.47	00:04:04	64.15%	71.70%
3. Maryland	48	1.40	00:02:04	85.42%	79.17%
4. North Carolina	26	1.35	00:02:07	65.38%	80.77%
5. Pennsylvania	22	1.18	00:01:49	68.18%	81.82%
6. Texas	17	1.18	00:01:37	76.47%	88.24%
7. Massachusetts	14	1.14	00:00:23	78.57%	85.71%
8. New York	14	1.43	00:01:00	85.71%	78.57%
9. South Carolina	13	3.23	00:04:58	53.85%	46.15%
10. Minnesota	12	1.08	00:00:04	50.00%	91.67%

Rows 1 - 10 of 34

New vs Returning

● % of visits: 100.00%

Explorer
Site Usage

Visits



Visits 1,222 <small>% of Total: 100.00% (1,222)</small>	Pages / Visit 1.36 <small>Site Avg: 1.36 (0.00%)</small>	Avg. Visit Duration 00:02:03 <small>Site Avg: 00:02:03 (0.00%)</small>	Bounce Rate 77.00% <small>Site Avg: 77.00% (0.00%)</small>
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Visitor Type	Visits	Visits	Contribution to total: Visits
1. ■ New Visitor	653	53.44%	
2. ■ Returning Visitor	569	46.56%	

Rows 1 - 2 of 2