



NOAA Grant # NA23NOS4190255

Grant Year FY2023, Task #1.03



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 and is funded by the Virginia Coastal Zone Management Program at the Virginia Department of Environmental Quality through Grant #NA23NOS4190255 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 provides a summary of tasks performed and products created under task #1.03 by the Virginia Coastal Zone Management Program's Coastal GIS Coordinator and by staff of Virginia Commonwealth University Life Sciences during the grant year FY2023 (October 1st, 2023 – September 30th, 2024). Links are provided for web-based products where applicable. For full-resolution map images, spatial data, or further documentation of tasks summarized in this report, contact nick.meade@deq.virginia.gov.

Contents

- Coastal GEMS Mapping Application
 - Hosting and Maintenance.....3
 - Web Analytics.....3
- Coastal GEMS Data Management
 - Data Updates.....3
- Coastal GIS Coordination
 - Data Requests.....4
 - Project Management.....4
 - GIS User Group Participation.....4
 - Coastal VEVA.....4
- Training and Outreach
 - Coastal GEMS and Coastal VEVA Demos.....5
 - CZM Technical Assistance.....5
- GIS Map Products and Services
 - CZM Staff and Partner..... 6-8
- Appendix
 - Google Analytics.....9

Coastal GEMS Mapping Application

Hosting and Maintenance

Virginia Commonwealth University Life Sciences continued to host the Coastal GEMS online mapping application through the FY23 grant period and VCU Life Sciences staff performed routine maintenance and updates on Coastal GEMS during this time.

Tasks included refreshing map services, updating data and cartography in the map file per CZM staff request, and installing software and security upgrades. Coastal GEMS remained operational throughout the FY23 grant period and was only offline to install software/security updates or to refresh map services. Coastal GEMS can be accessed at: <https://gaia.vcu.edu/portal/apps/sites/#/gemsmaps>.

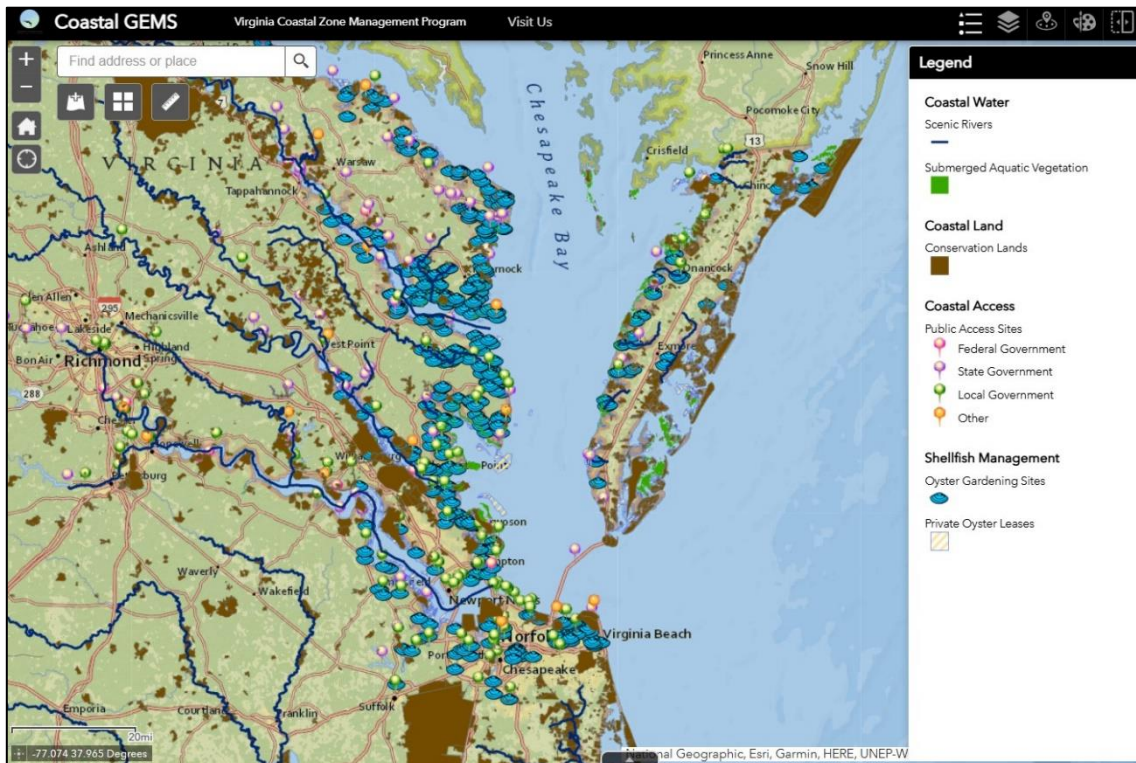
Google Analytics Tracking

Google Analytics services for Coastal GEMS set up by VCU CES staff remained operational throughout the FY23 grant period. VCU CES staff created Google Analytics reports at CZM staff request by querying specific date ranges. From October 1, 2023 to September 30, 2024, Coastal GEMS received 1.9k pageviews from 969 users, resulting in 8.2k events and an average site visit time of 2 min and 13 sec. More Google Analytics information for the Coastal GEMS mapping application during the FY23 grant period can be found in the appendix of this report.

Coastal GEMS Data Management

The Coastal GIS Coordinator requested and obtained available data updates for current Coastal GEMS mapping application and story map layers from data providers, processed/prepared data for display, packaged symbolized data and uploaded to VCU Life Sciences to update map services. Updates to the Coastal GEMS landing page, fact sheets, and data library were made as necessary.

Coastal GEMS Layers added or updated during the FY23 grant period: Public Access Sites, Oyster Gardening, Private Oyster Leases, Submerged Aquatic Vegetation, Conservation Lands, and Scenic Rivers.



Left: A screenshot of the Coastal GEMS v4 mapping application showing some of the new and updated data from the FY23 grant period.

Coastal GIS Coordination

Data Requests

The Coastal GIS Coordinator responded promptly to all data and information inquiries. In the FY23 grant period this included requests from local, state, and federal agencies, academic institutions, NGO's, and private firms.

Project Management

The Coastal GIS Coordinator performed VA CZM project manager duties in FY23 associated with task 1.03 to VCU (Coastal Management GIS Support and Coastal GEMS Maintenance) and worked with VIMS and VCU staff to contract and manage projects to update Coastal VEVA component models.

In FY23, the Coastal GIS Coordinator also worked with NOAA and VA CZM staff to determine need for, compile, and review FY23 data sharing plans.

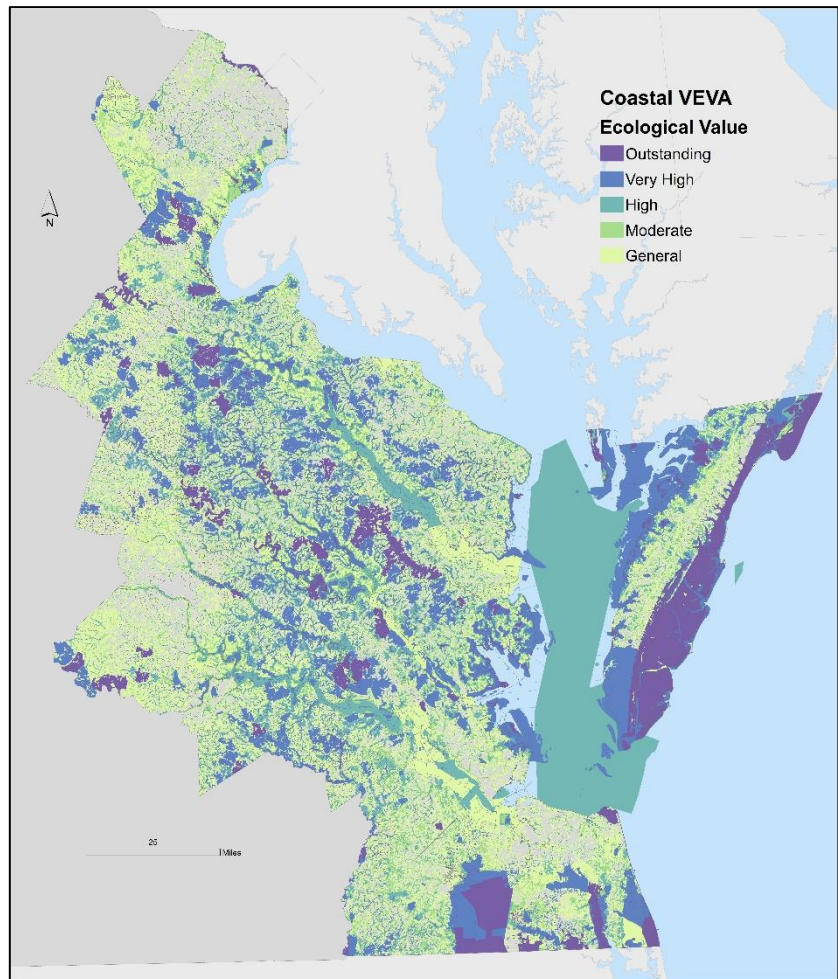
GIS User Group Participation

During the FY23 grant period the Coastal GIS Coordinator continued participation in the MARCO Ocean Mapping & Data Team, the State GIS Users Group, and the Mid-Atlantic Coastal Web Atlas group.

Coastal VEVA

Continuing work from the FY22 grant period, during the FY23 grant period the Coastal GIS Coordinator worked to update the Coastal VEVA conservation planning data synthesis including: convening a VEVA Partners Meeting on 11/27/24, working with VCU and VIMS staff to create proposals to update their individual VEVA component models, creating a shared folder for VEVA files and providing access to all VEVA partners, working with DCR-DNH staff to create an origin template raster to be used by all VEVA partners when creating their VEVA input layer, creating a buffered CZ boundary shapefile for clipping VEVA input layers, assisting with obtaining input data layers, and reviewing deliverables.

*Right: Coastal VEVA
v2 data synthesis map
layout.*

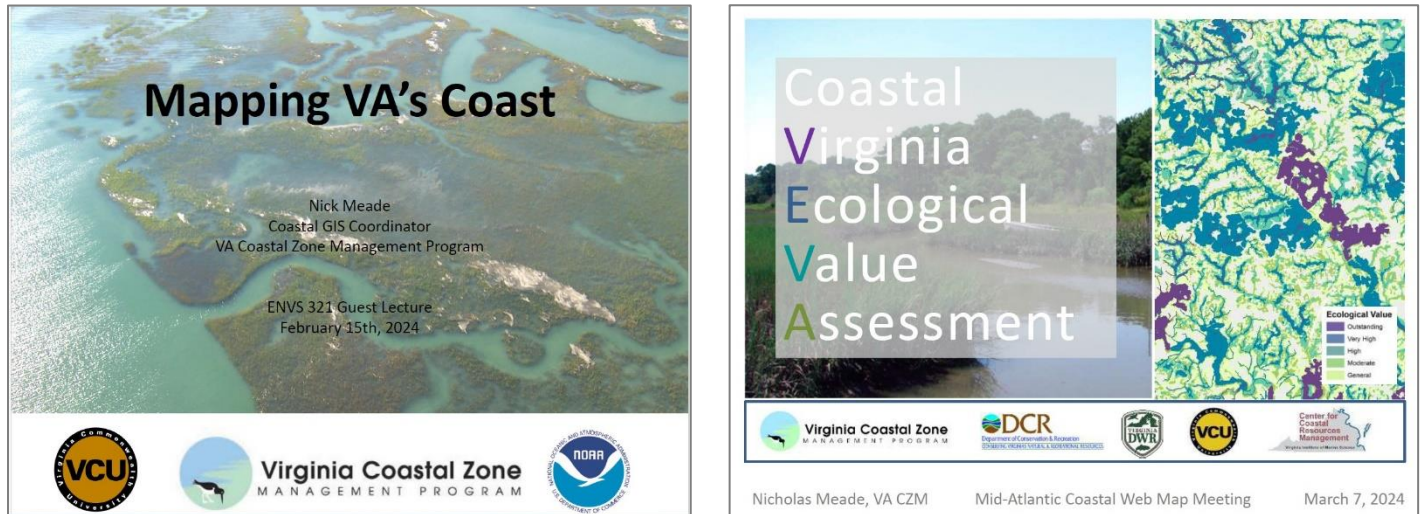


Training and Outreach

Coastal GEMS and Coastal VEVA Demos

In FY23, the Coastal GIS Coordinator guest lectured for two sections (2/14/24 & 2/15/24) of an undergraduate VCU cartography class. The Coastal GIS Coordinator talked to students about VA CZM and how we use mapping and spatial data in the program, and highlighted the Coastal GEMS mapping application and Coastal VEVA data synthesis.

In FY23 the Coastal GIS Coordinator also gave an overview of Coastal GEMS and presented Coastal VEVA for NOAA Mid-Atlantic Coastal Web Maps meetings on 12/14/23 and 3/12/24.

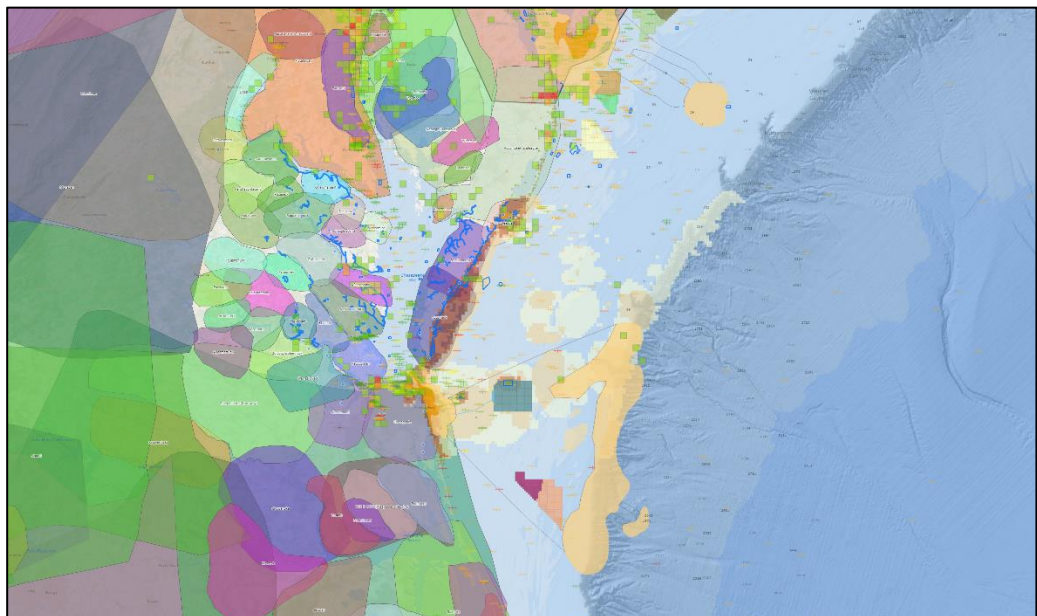


Above: First slides from cartography class guest lecture presentation and Coastal VEVA overview presentation given to Mid-Atlantic Coastal Web Map group.

CZM Technical Assistance

The Coastal GIS Coordinator provided technical assistance to VA CZM and partners during the FY23 grant period including participating in the Shore Strong (Eastern Shore Coastal Relocation) group and providing assistance to Virginia Ocean Plan (VOP) development. VOP development assistance included participating in regular meetings with CZM and IEN staff, supporting MARCO Portal (and Portal group function) utilization for various workgroups, planning/staffing and creating maps products for a community open forum, and performing responsibilities related to chairing the Cultural and Historic Resources & Non-Consumptive Recreation Workgroup. In FY23 these responsibilities included identifying and reaching out to potential workgroup members, sending out meeting polls, leading workgroup meetings, completing the groups workgroup worksheet, sending meeting follow up emails, and meeting separately with Tribal and VA DHR representatives.

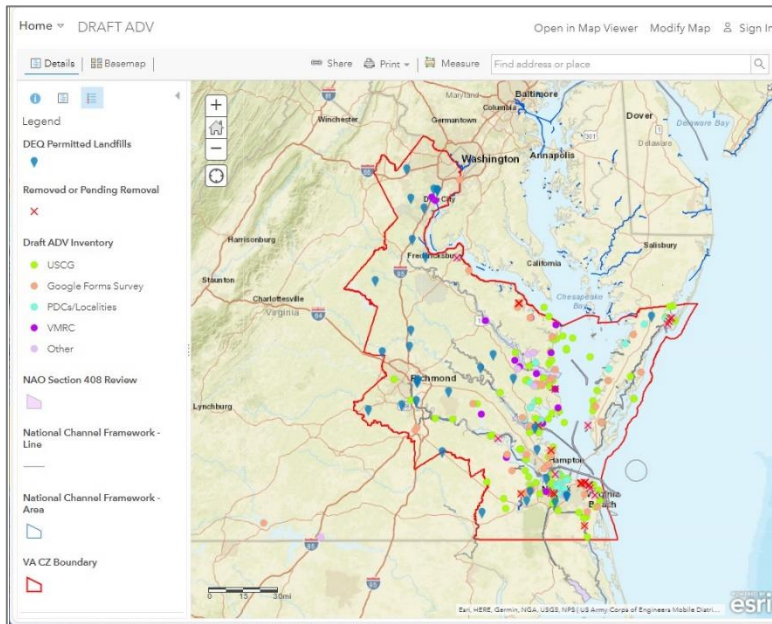
Right: Screenshot from MARCO Portal showing layers compiled for reference by the Cultural and Historic Resources & Non-Consumptive Recreation Workgroup



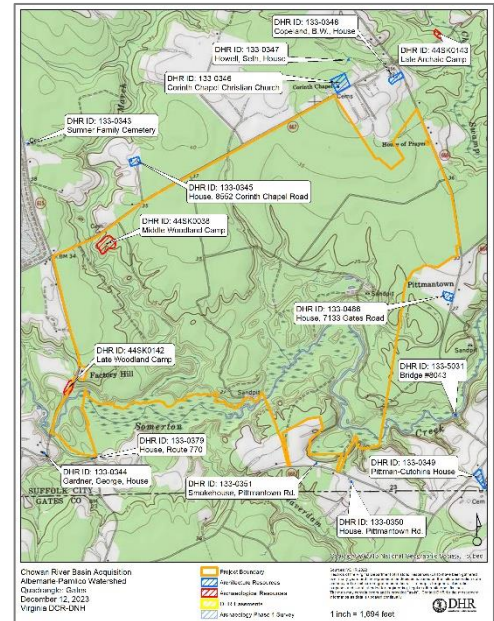
GIS Map Products and Services

The Coastal GIS Coordinator continued to provide mapping support to the VA CZM Program in FY23, including:

- Continuing to work with VA CZM Coastal Planner on the ADV database and webmap. In FY23 this included updating the ADV geodatabase, map service, and [web map](#) as well as participating in meetings with the Marine Debris Project Coordinator and larger ADV Advisory Partner Meeting.
- Completing the SHPO clearance process for a proposed BIL Albemarle-Pamlico acquisition including performing resource search and creating maps at VA DHR archives and completing application using DHR's ePIX system.

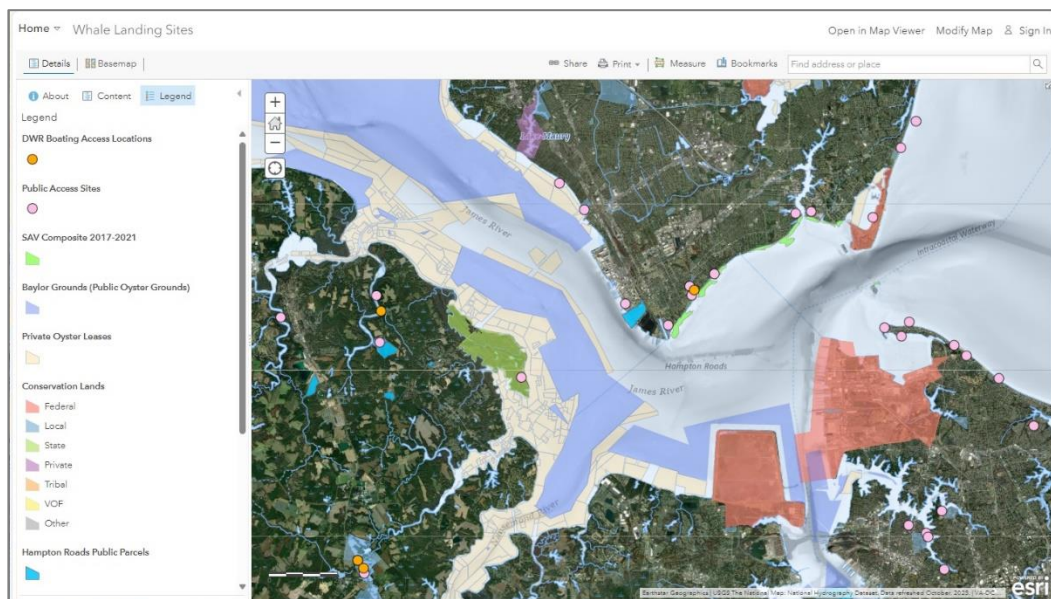


Above Left: Screenshot of ADV inventory web map.



Above Right: VA DHR Archive search map for proposed BIL acquisition

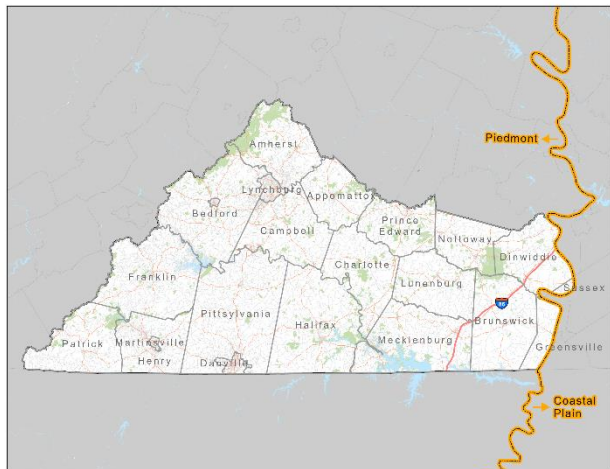
- Providing GIS support to a VA DWR Expert working on a VA CZM funded project (FY23 Task 92.01) to develop planning and response agreements to address large whale stranding events. This support included creating a custom [web map](#) to be utilized in spatial planning exercise by VMRC and DWR staff to identify parcels around the Chesapeake Bay that would be appropriate to land, work up, and bury a large whale and participating in this planning exercise, navigating the web map and adding data on the fly as needed.



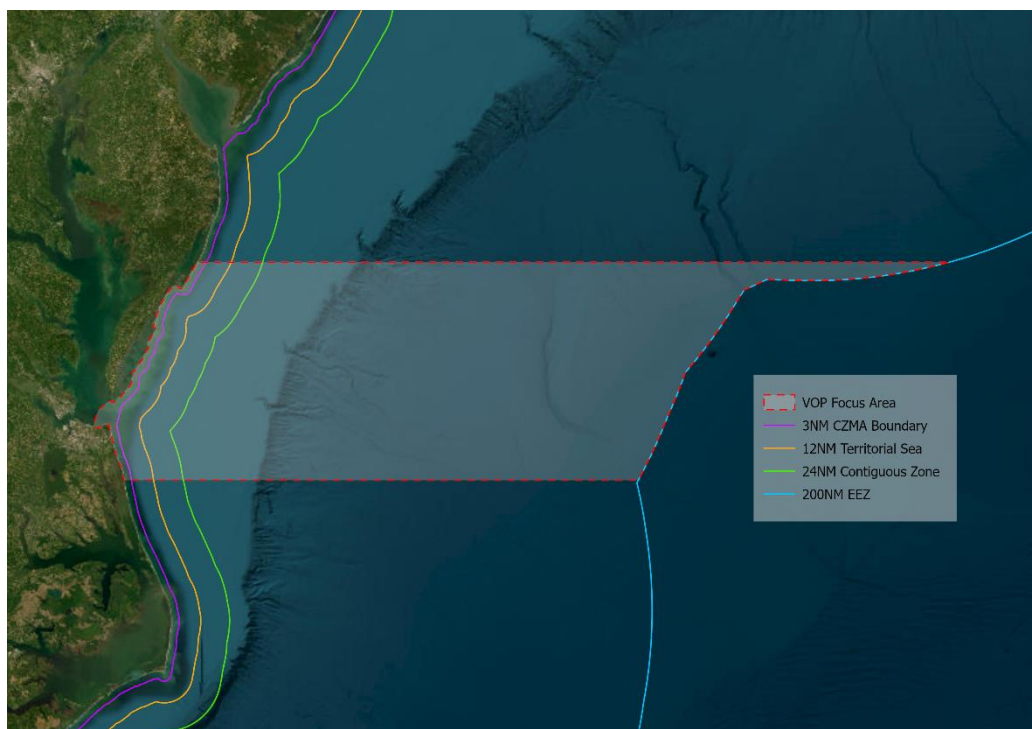
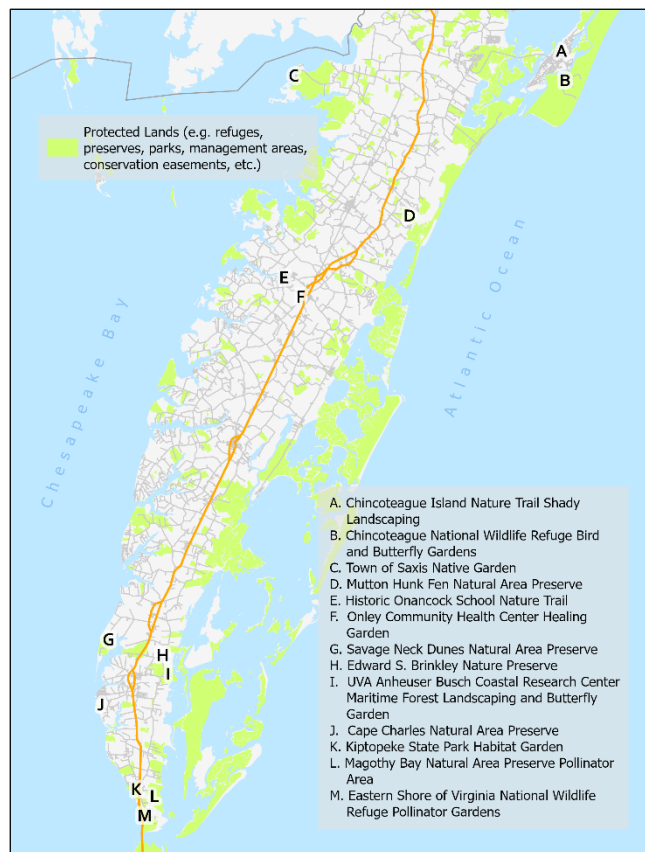
Left:
Custom web map
utilized to identify
potential whale
landing sites

GIS Map Products and Services continued:

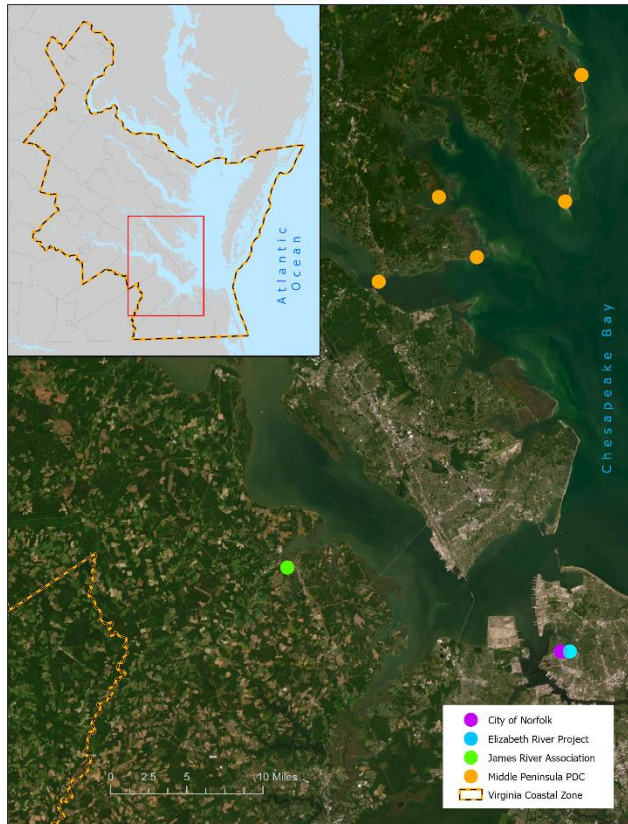
- Created map products for VA CZM and partners including: map layouts for the Southern Piedmont Native Plant guide and Eastern Shore Native Plant Guide; a map service and map layout of the VOP focus area including various maritime limits; map layouts for the Coastal Harmony project proposal (including individual layouts for each project as well as an overview layout showing the locations of all projects); and a map of the VA coast for use in marine debris reduction plan video.



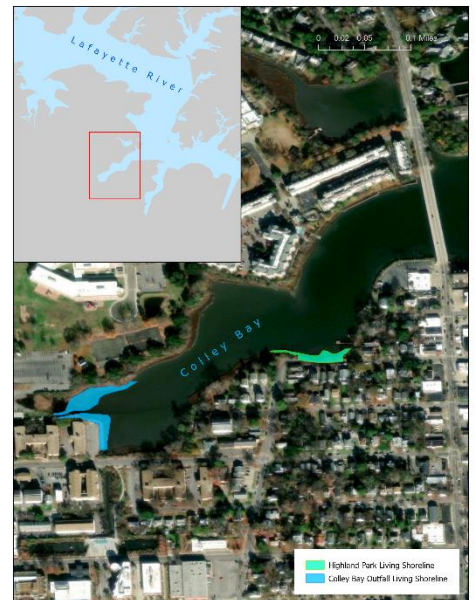
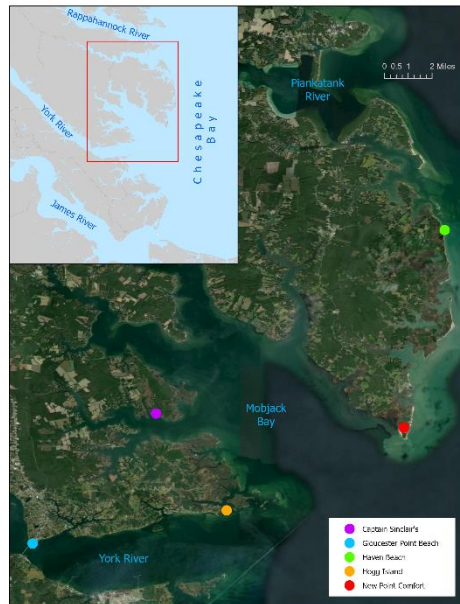
Clockwise from top left: Map layouts for the Southern Piedmont Native Plant guide and Eastern Shore Native Plant Guide; a map layout of the VOP focus area including various maritime limits



GIS Map Products and Services continued:



Map layouts for the Coastal Harmony project proposal including individual layouts for each project as well as an overview layout showing the locations of all projects.



Appendix

Google Analytics

