



MDOT'S APPROACH TO MITIGATION USING THE WATERSHED RESOURCES REGISTRY (WRR) TOOL

Presented By

Sandy Hertz, Assistant Director

Office of Environment

Maryland Department of Transportation



PRESENTATION OVERVIEW

- MDOT - The 2 Slide Tour
- A Historical Look at Need's Assessments
- The Watershed Resources Registry Tool
- Using the WRR



MARYLAND DEPARTMENT OF TRANSPORTATION

- Six Business Units and One Authority
 - The Secretary's Office
 - State Highway Administration (MDOT SHA)
 - Maryland Transit Administration (MDOT MTA)
 - Motor Vehicle Administration (MDOT MVA)
 - Maryland Port Administration (MDOT MPA)
 - Maryland Aviation Administration (MDOT MAA)
 - Maryland Transportation Authority (MdTA)



MDOT – CONNECTING YOU TO LIFE'S OPPORTUNITIES



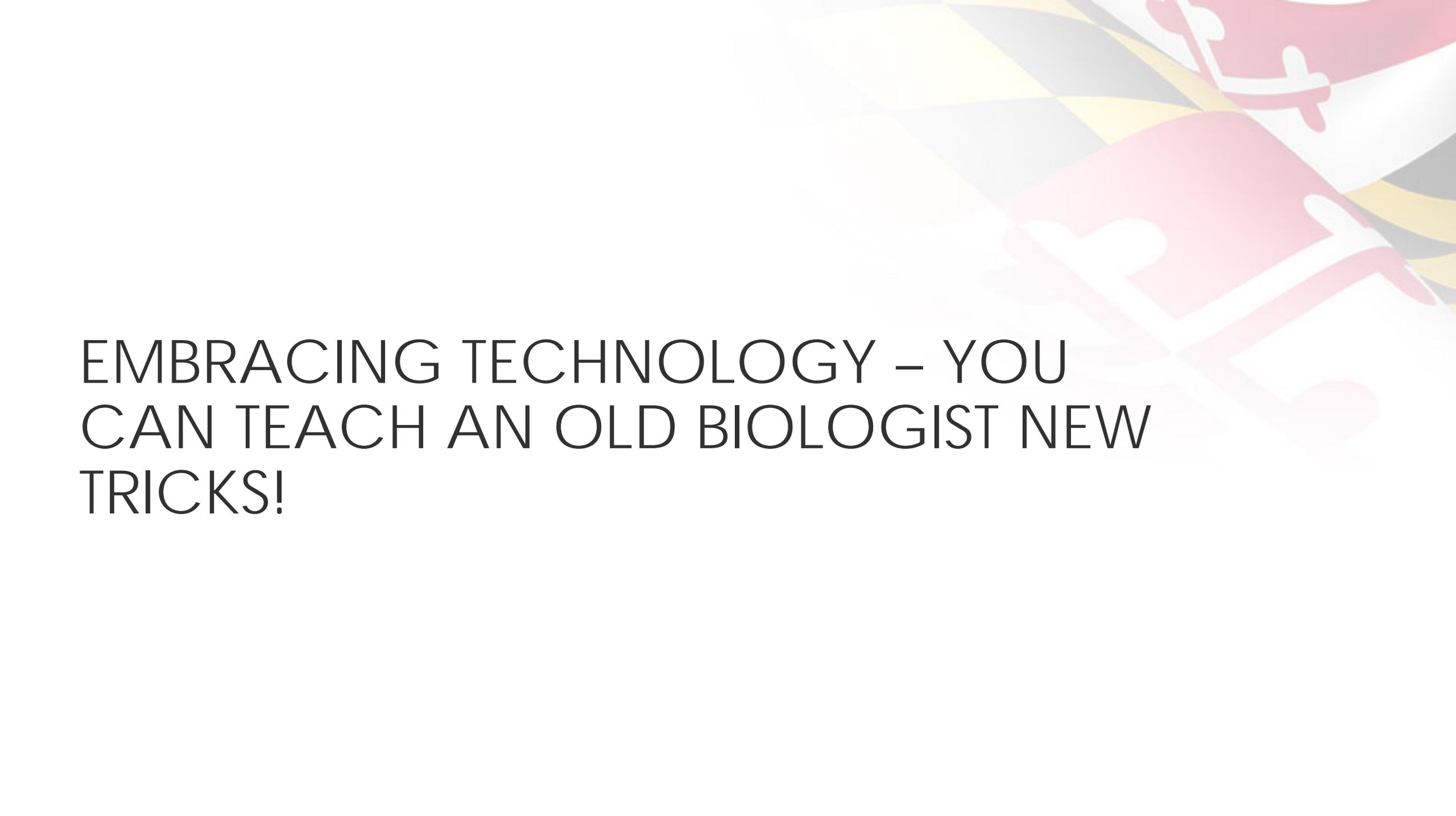
DETERMINING OUR NEEDS





DETERMINING OUR IMPACTS

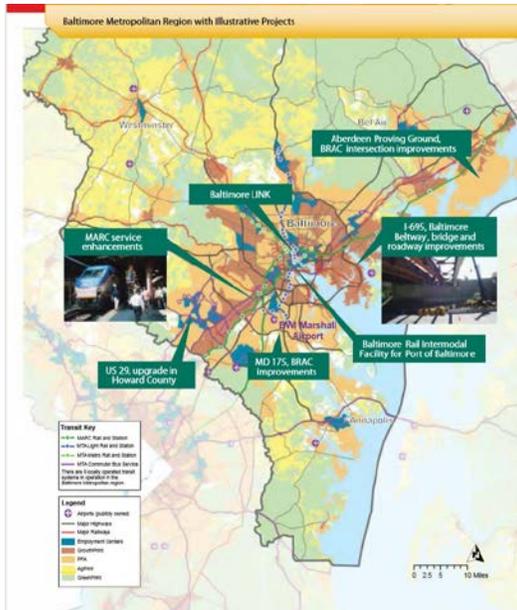
- TRADITIONAL DESKTOP ANALYSIS (PRE-GIS)
 - REVIEW OF PLANS
 - REVIEW SOIL SURVEYS, TOPOGRAPHIC MAPS, AERIAL PHOTOGRAPHY, NATIONAL WETLAND INVENTORY MAPPING, ETC.
 - ESTIMATE POTENTIAL IMPACTS BASED ON REVIEWS
- LIMITATIONS
 - OUTDATED DATA SOURCES
 - WATERSHED CONTEXT CHALLENGING
 - ACCURACY OF ESTIMATES



EMBRACING TECHNOLOGY – YOU
CAN TEACH AN OLD BIOLOGIST NEW
TRICKS!

DETERMINING NEEDS:

- Review the Consolidated Transportation Program
- Review the Maryland Transportation Plan
- Review MPO Long Range Transportation Plans
- Review System Preservation Projects



Maryland Transportation System Performance Dashboard 2018 Annual Attainment Report Highlights

Goal: System Preservation

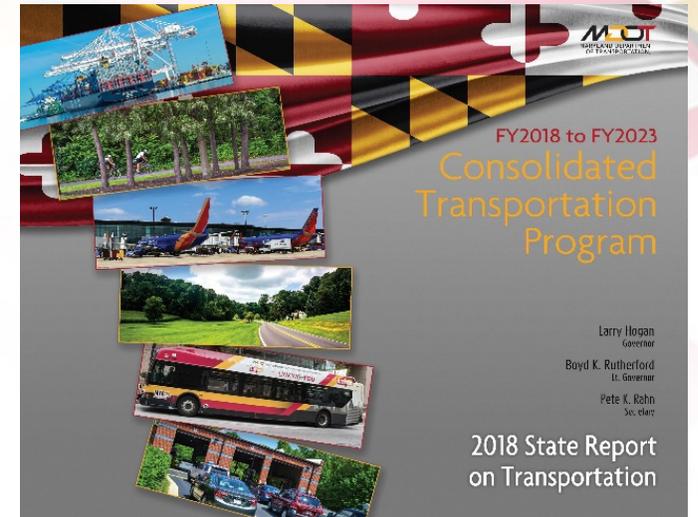


Objectives:

- Preserve and maintain State-owned or supported roadways, bridges, public transit, rail, bicycle and pedestrian facilities, port, airports and other facilities in a state of good repair.

Select a Measure:

Pavement Quality Bridge Conditions Average Fleet Age



MDOT'S CHALLENGES

- Small State
 - Many watersheds
 - Developed
 - Few banks
 - Small mitigation program
- Hard to find mitigation
 - Opportunity-based
 - Difficult to get agency buy-in
 - Poor sites (no functional replacement)
 - Outside impacted watersheds
- Delayed projects
- Delayed mitigation



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“I want you to find a bold and innovative way to do everything exactly the same way it’s been done for 25 years.”

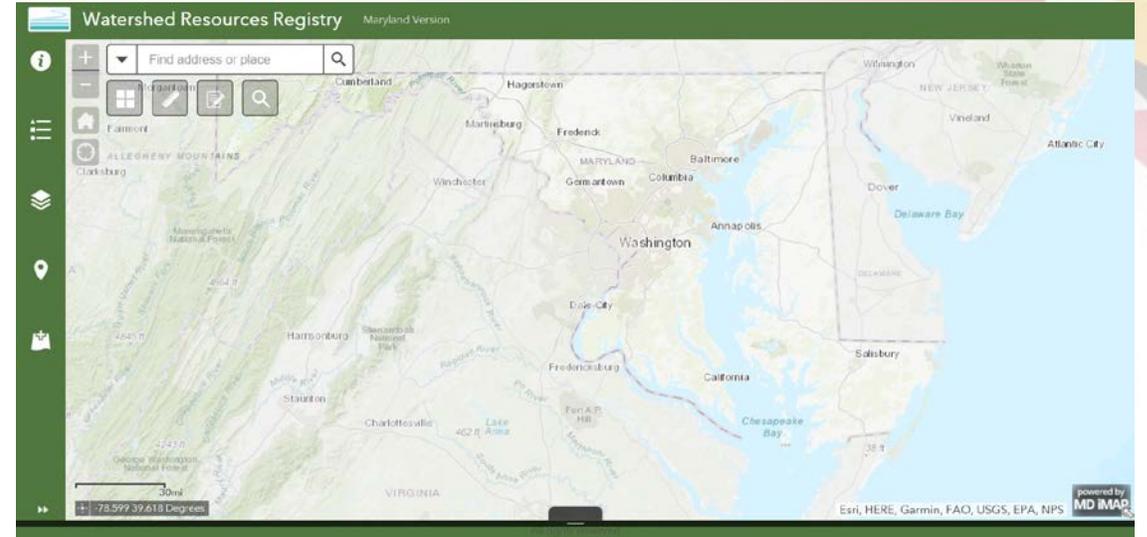


THE WATERSHED RESOURCES REGISTRY TOOL (WRR)

WHAT IS THE WRR?



- Collaborative Initiative
- GIS Based Mapping Tool
- Integrate Program Data
- Avoidance and Minimization
- Identify Opportunities
- Assess and Compare Projects
- Export Data and Site Maps
- Record Site Information



USES FOR THE WRR

- Avoid and/or minimize impacts
- Find mitigation sites for impacts
- Find areas to permanently preserve
- Find opportunities for restoration
- Find areas for reforestation to meet TMDL
- Evaluate alignment options for transportation projects

BENEFITS OF THE WRR

- Integrates and streamlines regulatory programs
- Promotes the watershed approach
- Maximizes public investment's value
- Guides resource planners and regulators
- Saves time and money, increases program efficiencies

BUILDING THE REGISTRY



Watershed Resources Registry

Factors for Wetland Restoration

Relative Factors

- In Biodiversity Conservation Network area (BioNet 4, 5 or new FIDS get ½ point)
- In a Blue Infrastructure high priority watershed
- In Chesapeake Bay Commission Critical Area (LDA or RCA only)
- In a Biological Restoration Initiative Watershed
- in a 100-year floodplain
- In a Green Infrastructure “gap” area
- Near or in a Green Infrastructure “hub” or “corridor”

- Near (200’) but not in a V State Concern
- Near (200’) but not in pro watershed
- In Potential Migration Zo marshes, etc.
- Near (200’) but not in a s
- Near (200’) or in a Green Ecological Area
- Is locally impaired: impair Phosphorus, or sediment

Absolute Factors

- Cannot be forested
- Cannot be a wetland
- Cannot be developed
- Must be on a very poorly drained, somewhat poorly drained, or poorly drained



WATERSHED RESOURCES REGISTRY



Detailed View: How It Works

First Relative Factor

0	1	1	0	0
1	1	1	0	0
0	0	1	1	0
0	0	1	1	0
0	0	0	1	1

Second Relative Factor

0	0	1	1	1
0	0	1	1	1
0	0	1	1	1
0	0	0	1	1
0	0	0	1	1

Third Relative Factor

0	0	0	0	0
0	0	0	0	0
0	0	1	1	0
0	1	1	1	1
0	0	1	1	1

Fourth Relative Factor

0	0	0	0	0
0	0	0	0	0
0	1	1	0	0
1	1	1	1	0
1	1	1	1	1

Absolute Factor

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

Simple Overlay:
Sum Up All Desirable Factors
Found in each area

0	1	2		
1	1	2	1	
		4	3	1
	2	3	4	2
		2	4	4

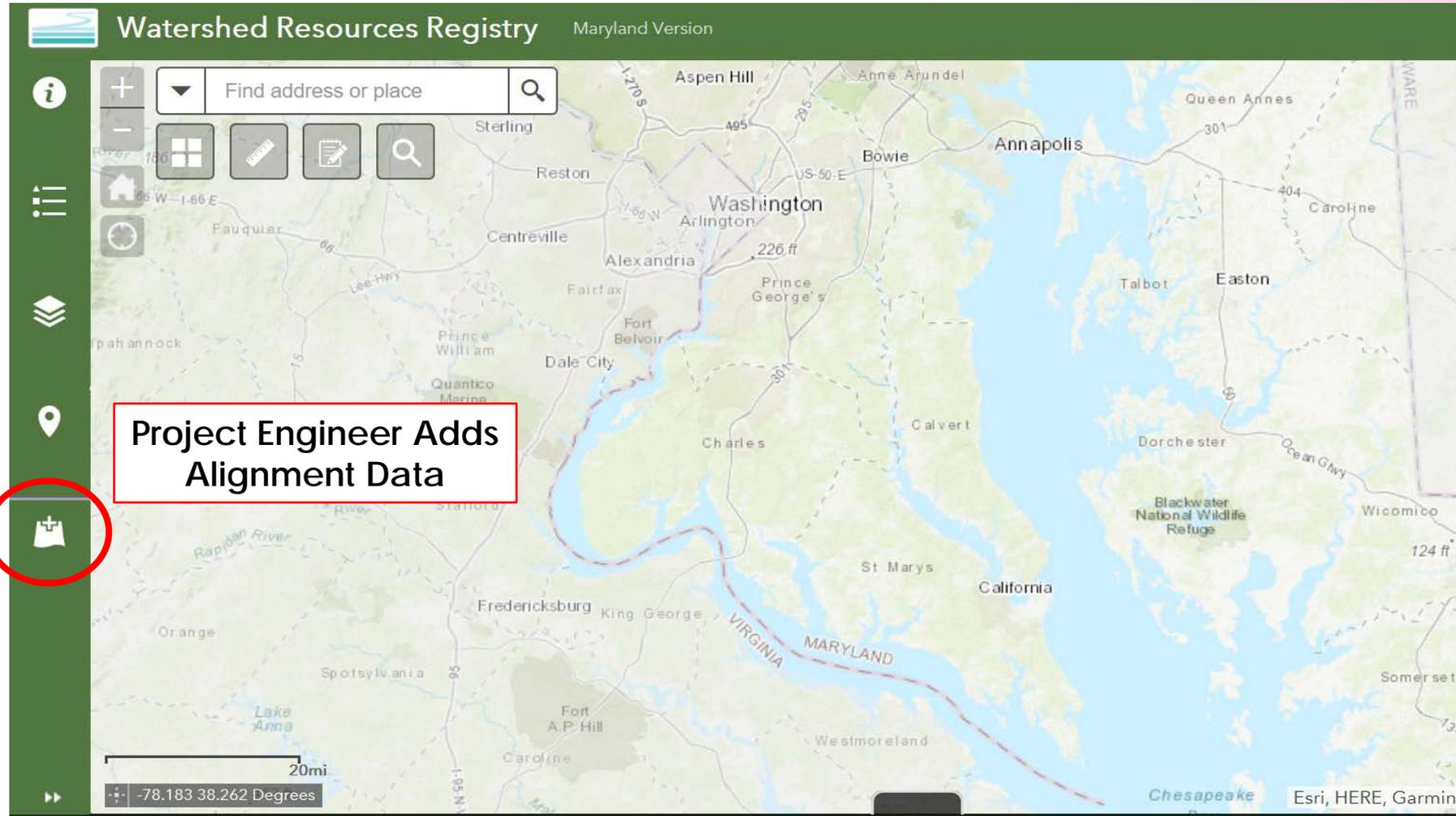
EIGHT GIS SPATIAL ANALYSES

- Wetland Preservation
- Wetland Restoration
- Stream / Riparian Zone Preservation
- Stream / Riparian Zone Restoration
- Terrestrial Habitat Preservation
- Terrestrial Habitat Restoration
- Preserving Natural Hydrology for Stormwater
- Restoring Natural Hydrology / Addressing Degraded Systems

USING THE WRR



SCENARIO: TRANSPORTATION PLANNER CONSIDERING NEW CONNECTOR ROAD



ALIGNMENTS UPLOADED TO WRR

The screenshot displays the Watershed Resources Registry (WRR) Maryland Version interface. On the left, the Layer List shows several layers, with three 'workshop_alt' layers (workshop_alt_4, workshop_alt_3, and workshop_alt_2) checked and highlighted with a red circle. The main map area shows a topographic map with three alternative alignments (Alt 2, Alt 3, and Alt 4) overlaid in purple. The map includes various roads, water bodies, and a search bar at the top. The bottom of the map shows a scale bar and coordinates.

Layer List:

- workshop_alt_4
- workshop_alt_3
- workshop_alt_2
- Site Description
- MD 12 Digit Watersheds
- MD 8 Digit Watersheds
- Federal 12-digit HU
- Federal 8-digit HU
- 319 Watersheds

Map Labels:

- Alt 2
- Alt 3
- Alt 4

Map Features:

- Search bar: Find address or place
- Map controls: Zoom in (+), Zoom out (-), Home, Refresh, Full Screen, Print, Measure, Search
- Scale bar: 1 mi
- Coordinates: -77.036 38.620 Degrees
- Map Data: M-NCPPC, VITA, Esri, HERE, Garmin, INCREMENT P, USGS, ME...
- Powered by: MD IMAP

DETERMINING IMPACTS

Watershed Resources Registry Maryland Version

Layer List

- MD Floodplain - Preliminary
- MD DNR Wetlands
- MD National Wetlands Inventory (NWI)
 - Estuarine
 - Lacustrine
 - Marine
 - Palustrine
 - Riverine
- gSSURGO Soils
- MD Geologic Formations
- MD Physiographic Provinces

Basemap Gallery (1 of 2)

Wetlands - National Wetlands Inventory: Palustrine

Decoder [More info](#)

Wetland Freshwater Forested/Shrub Wetland

Code PFO1A

[Zoom to](#)

OpenStreetMap

Imagery with Labels

Light Gray Canvas

National Geographic

Oceans

MD 6 Inch Cached

Streets

MD NAIP Imagery

Terrain with Labels

Topographic

USGS



AVOID AND MINIMIZE USING THE WRR

Considerations for Potential Alignments:

- Wetlands
- Streams
- Floodplains
- Green/Blue Infrastructure
- Land Use/Land Cover
- Forest Interior Dwelling Species
- Targeted Ecological Areas
- Sensitive Species Area
- Chesapeake Bay Critical Area
- Property Owner Information

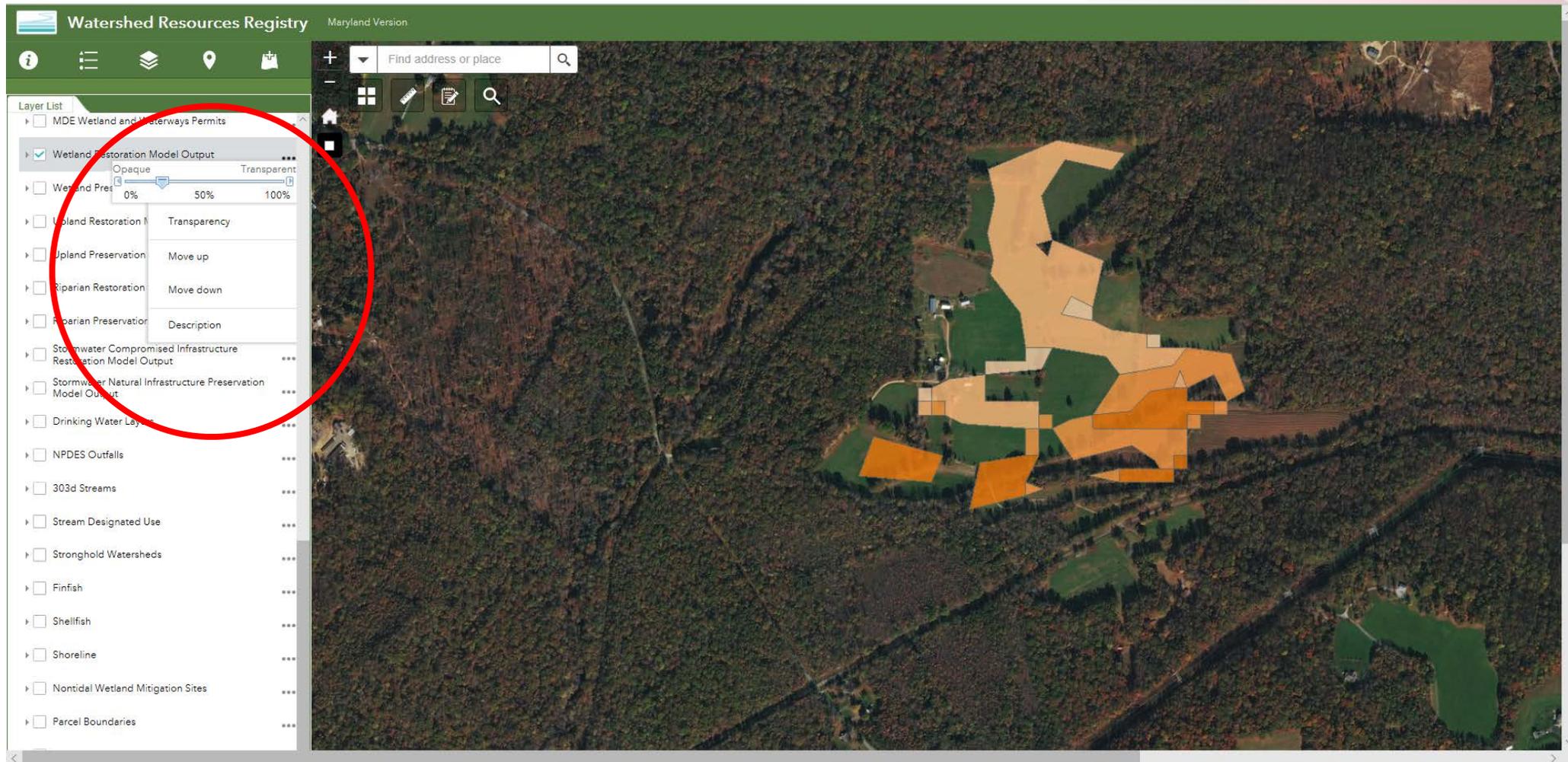
EVALUATE IMPACTS

- Tier II Watersheds
 - Piney Branch
 - Mattawoman
 - Port Tobacco
- Wetlands/Streams
 - 1.03 acres PFO wetland
 - 940 lf stream
- Mitigation required
 - 2.06 acres PFO wetland
 - 940 lf stream

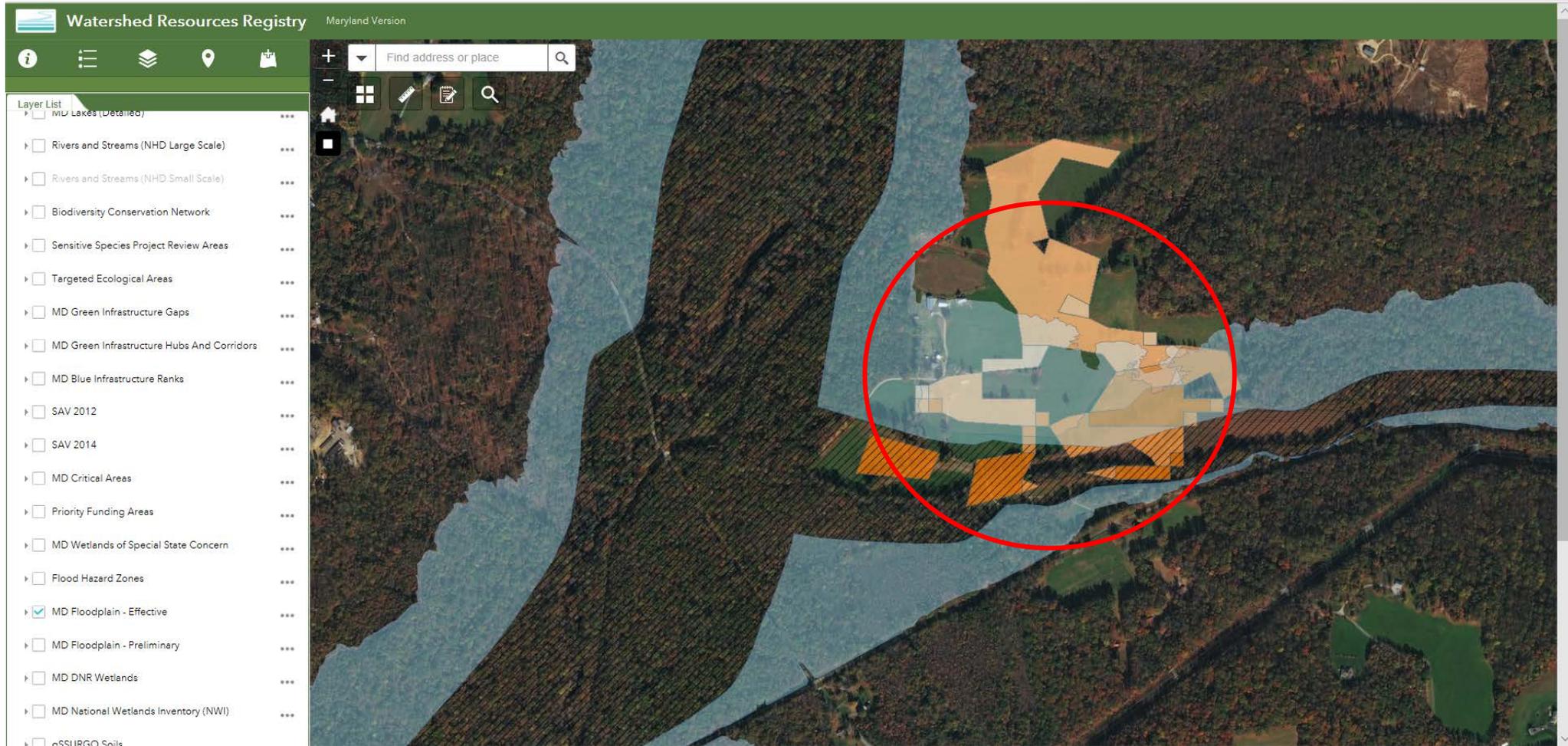
MITIGATION SITE SEARCH

The screenshot displays the 'Watershed Resources Registry - Maryland Version' web application. On the left, a 'Layer List' sidebar contains various map layers, with a red circle highlighting the 'Wetland Restoration Model Output' layer. The main map area shows a topographic view of a watershed with roads like Berry Rd and Mattawoman Creek. A 'Find Tool' dialog box is open, allowing users to search for opportunities. The tool includes filters for county, watershed type (Federal HUC 12, Federal HUC 8, Maryland HUC 8), and watershed selection. It also features radio buttons for different restoration types (Upland, Wetland, Riparian, Stormwater) and a star-based 'Select Score' system. A 'Search' button is located at the bottom of the dialog.

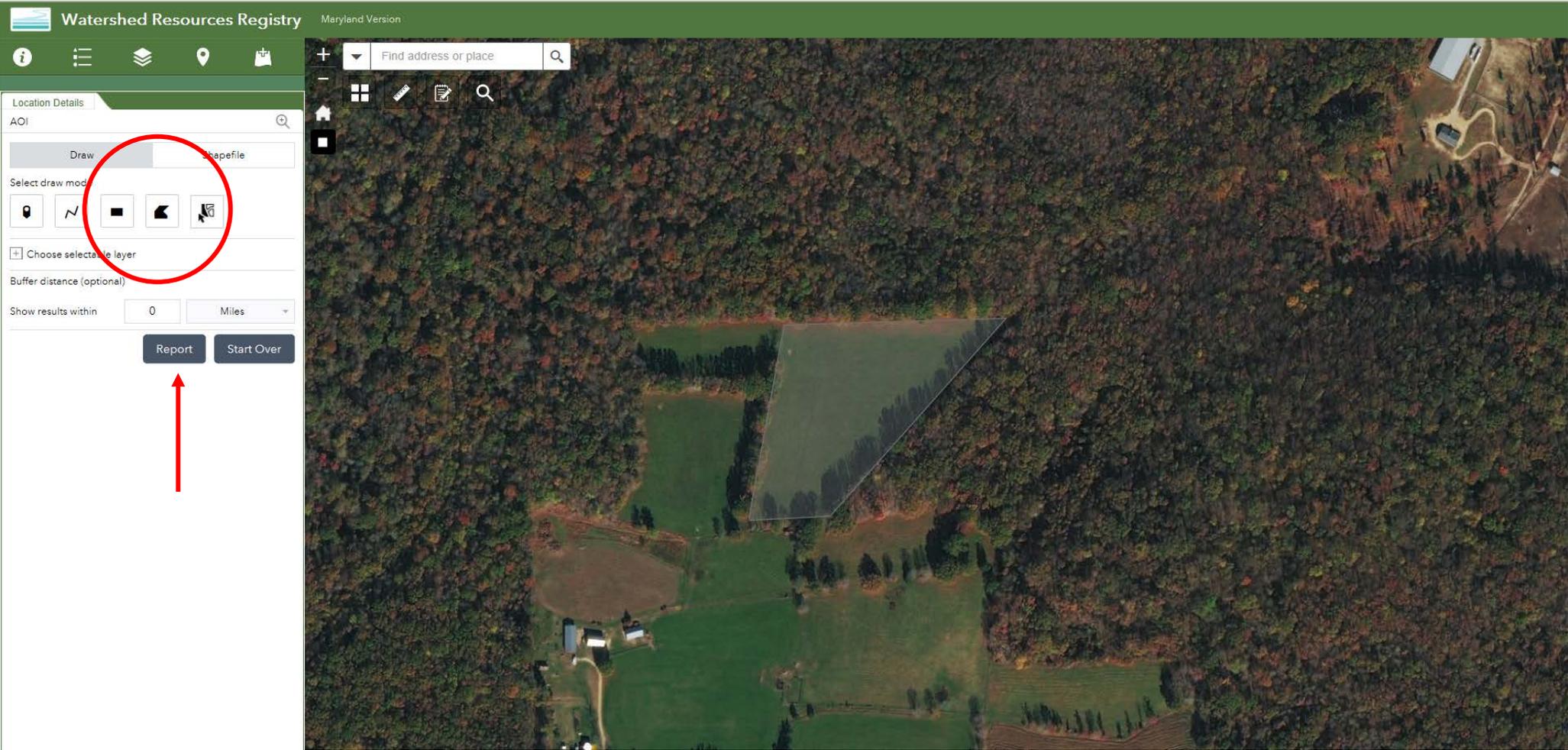
DESKTOP REVIEW OF SITE CONDITIONS



REVIEW EXISTING RESOURCES



EVALUATE SITE USING LOCATION DETAILS



LOCATION DETAILS REPORT

The screenshot displays the 'Watershed Resources Registry - Maryland Version' interface. The main content area shows a satellite map of a watershed. On the left, a sidebar titled 'Location Details' contains a 'Report' section with a 'Back' button and a 'Show areas in Metric Units' link. Below this is a list of resource categories, each with a plus icon, a count, and a settings gear icon. A red circle highlights the download and print icons next to the 'Area: 9.02 acres' text. The top navigation bar includes a search bar and various utility icons.

Resource Category	Count
8 Digit Watershed	(1)
12 Digit Watershed	(1)
Geology	(2)
Wetlands NWI	(0)
Wetlands of Special State Concern	(0)
MD DNR Wetlands	(1)
Blue Infrastructure	(0)
Green Infrastructure	(1)
DNR lands	(0)
Local Protected Land	(0)
Federal Protected Land	(0)
Impaired Waters	(0)
Upland Preservation Opportunities	(6)
Upland Restoration Opportunities	(1)
Wetland Preservation Opportunities	(0)
Wetland Restoration Opportunities	(1)

SHARING SITE INFORMATION

Screening Report

Area of Interest (AOI) Information
Area : 9.02 acres



April 2, 2014

1:5,440

0 50 100 150 ft

0 0.04 0.07 0.14 km

Source: Aerial Imagery, Digital Elevation, Contour, Topographic, Hydrology, GIS, USGS, USDA, Maryland, GIS, and other GIS data sources.

Enter comments here

Summary

Name	Count	Area (acres)	Length (mi)
8 Digit Watershed	1	9.02	N/A
12 Digit Watershed	1	9.02	N/A
Geology	2	9.03	N/A
Wetlands NWI	0	0	N/A
Wetlands of Special State Concern	0	0	N/A
MD DNR Wetlands	1	9.02	N/A
Blue Infrastructure	0	0	N/A
Green Infrastructure	1	8.45	N/A
DNR lands	0	0	N/A
Local Protected Land	0	0	N/A
Federal Protected Land	0	0	N/A
Impaired Waters	0	N/A	0
Upland Preservation Opportunities	6	9.03	N/A
Upland Restoration Opportunities	1	7.18	N/A
Wetland Preservation Opportunities	0	0	N/A
Wetland Restoration Opportunities	1	3.57	N/A
Riparian Preservation Opportunities	2	2.21	N/A
Riparian Restoration Opportunities	1	1.23	N/A
Stormwater Preservation Opportunities	2	9.02	N/A
Stormwater Restoration Opportunities	1	7.17	N/A
Grandfathered Mitigation	0	N/A	N/A
In Lieu Fee Program Mitigation	0	N/A	N/A
Permitte Responsible Mitigation and Banks	0	N/A	N/A
Stream Use	0	N/A	0
Stronghold Watersheds	1	9.02	N/A
gSSURGO Data	2	9.03	N/A

8 Digit Watershed

#	Watershed Number	Watershed Name	Area (acres)
1	021401	LOWER POTOMAC RIVER	9.02

12 Digit Watershed

#	Watershed Number	Area (acres)
1	021401110784	9.02

Geology

#	Geologic Era	Physiographic Province	Geologic Period	Area (acres)
1	Cenozoic	Coastal Plain	Quaternary, Pleistocene epoch	8.83
2	Cenozoic	Coastal Plain	MC = Tertiary, Paleocene to Eocene epoch, N = Tertiary, Eocene epoch.	0.2

MD DNR Wetlands

#	Wetland Type	Wetland Class	Area (acres)
1	Upland	U	9.02

Green Infrastructure

#	Element	Area (acres)
1		8.45

Upland Preservation Opportunities

#	Score	Area (acres)
1	2	7.57
2	3	0.86
3	4	0.6

Upland Restoration Opportunities

#	Score	Area (acres)
1	2	7.18

Wetland Restoration Opportunities

#	Score	Area (acres)
1	3	3.57

Riparian Preservation Opportunities

#	Score	Area (acres)
1	2	1.56
2	3	0.65

Riparian Restoration Opportunities

#	Score	Area (acres)
1	2	1.23

Stormwater Preservation Opportunities

#	Score	Area (acres)
1		8.15
2		0.88

Stormwater Restoration Opportunities

#	Score	Area (acres)
1	2	7.17

Stronghold Watersheds

#	MDEANAME	MDEANAME	DNR12DIG	Area (acres)
1	Mattawoman Creek	LOWER POTOMAC RIVER	021401110784	9.02

gSSURGO Data

#	Mapunit Name	MUSYM	Drainage Class Dominant Condition	Hydrologic Group Dominant Conditions
1	Palisado-Issue complex, frequently flooded	Fu	Poorly drained	S/D
2	Issue silt loam, occasionally flooded	Is	Somewhat poorly drained	B/D

#	Slope Gradient Dominant Component	Hydric Classification Presence	Area (acres)
1	75		4.78
2	10		4.26

EVALUATE SITE . . . PROPERTY OWNER INFORMATION

Watershed Resources Registry Maryland Version

Find address or place

Layer List

- Stormwater Natural Infrastructure Prescription Model Output
- Drinking Water Layers
- NPDES Outfalls
- 303d Streams
- Stream Designated Use
- Stronghold Watersheds
- Finfish
- Shellfish
- Shoreline
- Parcel Boundaries**
- SWP_2016 - QuarterlyGradingPmtInfo
- SWP_2016 - SWM
- SWP_2016 - StrRestProtocols
- SWP_2016 - RestBMPInspections
- SWP_2016 - ShorelineManagementPractices
- SWP_2016 - PermitInfo
- SWP_2016 - NarrativeFiles

DEPARTMENT OF ASSESSMENTS & TAXATION

HOME ABOUT REAL PROPERTY BUSINESSES FORMS & APPLICATIONS STATS & REPORTS SERVICES

Real Property Data Search (v3) Guide to searching the database

Search Result for CHARLES COUNTY

View Map View GroundRent Redemption View GroundRent Registration

Account Identifier: District - 06 Account Number - 037232

Owner Information

Owner Name:		Use:	AGRICULTURAL
Mailing Address:		Principal Residence:	YES
		Deed Reference:	/09238/ 00195

Location & Structure Information

Premises Address:	4250 FOXBURROW PL POMFRET 20675-0000	Legal Description:	220.075 ACRES NE 1/4 RT 227			
Map:	Grid: Parcel: Sub District: Subdivision: Section: Block: Lot: Assessment Year: Plat No:					
	0013 0019 0146 0000 2017					
Special Tax Areas:	Town: NONE					
	Ad Valorem:					
	Tax Class:					
Primary Structure Built	Above Grade Living Area	Finished Basement Area	Property Land Area	County Use		
1905	5,138 SF		225,1550 AC			
Stories	Basement	Type	Exterior	Full/Half Bath	Garage	Last Major Renovation
2 1/2	NO	STANDARD UNIT	FRAME	1 full/ 1 half		

Parcel Boundaries: 0906037232

Parcel Account Number: 0906037232

SDAT URL: [More info](#)

Jurisdiction Code: CHAR

ACRES_POLY: 223.3

EXISTING: MDPV 2013_14

POLYDATE: 2015SEP

[Zoom to](#) ***

EVALUATE SITE . . . SITE VISIT INFORMATION

Watershed Resources Registry Maryland Version

Find address or place

Layer List

- workshop_alt_4
- workshop_alt_3
- workshop_alt_2
- Site Description
- MD 12 Digit Watersheds
- MD 8 Digit Watersheds
- Federal 12-digit HU
- Federal 8-digit HU
- 319 Watersheds
- MD Tier II Catchments
- MD Lakes (Detailed)
- Rivers and Streams (NHD Large Scale)
- Rivers and Streams (NHD Small Scale)
- Biodiversity Conservation Network
- Sensitive Species Project Review Areas
- Targeted Ecological Areas
- MD Green Infrastructure Gaps
- MD Green Infrastructure Hubs And Corridors
- MD Blue Infrastructure Ranks



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Maryon Property - Mattawoman Creek Migration Site City/County: Charles County Sampling Date: 3/2/16

Applicant/Owner: Miken Morgan/Morgan/Doherty Realty Trust Section, Township, Range: Charles County Sampling Point: EP-1

Investigator(s): Mik and Jacob McCarty Local relief (concave, convex, none): None Slope (%): 0

Landform (ridges, terraces, etc.): Terrace

Subregion (BAR or MBAR): J2C3 X AB DA 141A Lat: 38°57.16N Long: 77°52.42W Datum: NAD83

Soil Map Unit Name: Palustrine (soils) - frequently flooded (2) Wetland Classification: PEM1AC

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are diatomic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.)

Are Vegetation: No, Soil: No, or Hydrology: No significantly disturbed? Yes No

Are Vegetation: Yes, Soil: Yes, or Hydrology: Yes naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks: DP-1 is in cow pasture where slight changes in elevation correspond to changes in plant community and soil. DP-1 is located in the west pasture segment near the western tree line.

HYDROLOGY

Wetland Hydrology Indicators (presence of one is required, check all that apply)	Secondary Indicators (presence of two is required)
Surface Water (A1)	Surface Soil Cracks (B6)
High Water Table (A2)	Sparingly Vegetated Concave Surface (B8)
Sediment Deposits (A3)	Mass Tree Lines (B9)
Water Marks (B1)	Dry-Season Water Table (C2)
Presence of Reduced Iron (C4)	Crustlike Biofilms (C5)
Dark Deposits (B3)	Saturation Visible on Aerial Imagery (C3)
Algal Mat or Crust (B4)	Conspicuous Position (C6)
Iron Deposits (B5)	Shallow Aquifer (C7)
Inundation Visible on Aerial Imagery (B7)	FAC-Nitrate Test (C8)
Water-Colored Leaves (B2)	Sphagnum moss (C9) (BAR 1, 10)

Field Observations:

Surface Water Present? Yes No Depth (inches): -

Water Table Present? Yes No Depth (inches): 12

Saturation Present? Yes No Depth (inches): Surface

Wetland Hydrology Present? Yes No

Distinctive Features: Data (stream gauge, monitoring well, aerial photos, previous inspections), if available.

Site Visit Information

First Name: Kelly Last Name: Neff

Date of Site Visit: 3/24/2016 Approximate Size of Area Assessed: 60 acres

Entity: State Organization: MDE

Email: kelly.neff@maryland.gov Phone: 410-537-4018

Consent to having contact information being made public?

Aquatic Resources Observed Onsite

Waterways

- Rivers
- Ephemeral Streams
- Tidal Streams
- Intermittent Streams
- Perennial Streams
- Braided Stream

Comments: also several agricultural ditches

Wetlands

- Forested Wetlands
- Scrub-shrub Wetlands
- Emergent Wetlands
- Tidal Wetlands

Comments: also farmed wetland

Additional Aquatic Resources Observed Onsite

- Pond
- Springs/Seeps
- Vernal Pools

Comments:

Was there a wetland delineation performed?

Are hydric soils present? Yes

Was there evidence of active flooding?

Active Flooding Comments:

Aquatic Impairments Observed Onsite

- Lateral Instability (Stream)
- Stream incision (reduced floodplain connectivity)
- Scarce Fish Shelter
- Channel Straightened
- Evidence of Wetland Drainage (e.g., Observed Tiles or Ditches)
- Nutrient Pollution?
- Livestock
- Excessive Algal Blooms
- Barriers to Fish Migration (>1ft Drops)
- Vertical Instability (Headcuts threaten wetland or stream)
- Evidence of excessive Iron
- Trash/Excessive Woody Debris/Sediment
- Excessive DOC Odor (Dissolved Organic Carbon-sewer Odor)
- Sewage Treatment Outfall
- Other

Comments:

Print Close

LOOK FOR WETLAND RESTORATION . . . USING "FIND OPPORTUNITIES"

Watershed Resources Registry Maryland Version

Find Tool

Find Opportunity Find Visit Information

Select a county: Charles

Select watershed type to filter by:
 Federal HUC 12 Federal HUC 8 Maryland HUC 8

Select a Watershed: Piney Branch-Mattawoman Creek: 020700110101

Upland Preservation Upland Restoration
 Wetland Preservation Wetland Restoration
 Riparian Preservation Riparian Restoration
 Stormwater Natural Infrastructure Preservation Stormwater Compromised Infrastructure Restoration

Select Score:

Select Score Operator:

Where Acres is Greater Than (>):

Where Acres is Less Than (<):

Search

Found Opportunities State Boundaries

Options Filter by map extent Zoom to Clear selection Refresh

Shape	HUC Code	Score	County	Acres	OBJECTID_1	Federal 8 Digit Watershed	Federal 8 Digit Watershed Name	Maryland 8 Digit Watershed	Maryland 8 Digit Watershed Name
	020700110101	3	Charles	1.08006737662		02070011	Lower Potomac	02140111	Mattawoman Creek
	020700110101	4	Charles	1.23283625792		02070011	Lower Potomac	02140111	Mattawoman Creek
	020700110101	4	Charles	1.25466309557	68562	02070011	Lower Potomac	02140111	Mattawoman Creek
	020700110101	4	Charles	1.44768385154	69981	02070011	Lower Potomac	02140111	Mattawoman Creek
	020700110101	5	Charles	2.88804092328	71133	02070011	Lower Potomac	02140111	Mattawoman Creek
	020700110101	5	Charles	3.08604515783	71084	02070011	Lower Potomac	02140111	Mattawoman Creek

13 features 0 selected

LOOK FOR WETLAND RESTORATION . . . USING "FIND OPPORTUNITIES"

Watershed Resources Registry Maryland Version

Find address or place

Found Opportunities State Boundaries

Options Filter by map extent Zoom to Clear selection Refresh

Shape	FWC Code	Score	County	Acres	OBJECTID_1	Federal 8 Digit Watershed	Federal 8 Digit Watershed Name	Maryland 8 Digit Watershed	Maryland 8 Digit Watershed Name
	020700110101	4	Charles	3.8485685477	67549	02070011	Lower Potomac	02140111	Mattawoman Creek
	020700110101	3	Charles	4.12212317013	68563	02070011	Lower Potomac	02140111	Mattawoman Creek
	020700110101	3	Charles	4.22202710367	71001	02070011	Lower Potomac	02140111	Mattawoman Creek
	020700110101	4	Charles	4.61555963434	71063	02070011	Lower Potomac	02140111	Mattawoman Creek
	020700110101	4	Charles	5.14540032819	70984	02070011	Lower Potomac	02140111	Mattawoman Creek
	020700110101	3	Charles	21.724626471	70930	02070011	Lower Potomac	02140111	Mattawoman Creek

13 features 0 selected

THE WRR CAN BE USED BY REGULATORY/RESOURCE AGENCIES AND APPLICANTS TO EVALUATE IMPACTS...

- Proposed impacts (e.g., linear projects)
- Impact alternatives (e.g., alternate alignments)
- Site visit pre-screening

AND TO EVALUATE COMPENSATORY MITIGATION . . .

- Locate a mitigation site
- Evaluate ecological benefits of a proposed mitigation site (Bank, In-Lieu Fee, or Permittee-Responsible)
- Compare different proposed mitigation sites

ADDITIONAL BENEFITS

- Help meet Federal Mitigation Rule requirements
 - Site selection based on watershed approach
 - “Environmentally preferable” mitigation option
 - “12 Elements” requirements
 - In-Lieu Fee Program – Compensation Planning Framework
- Allows multiple users to enter site data – registry
- Improves likelihood of agency concurrence on proposed projects

SUMMARY

- MDOT uses the WRR to better evaluate project impacts and mitigation opportunities
- WRR is a good screening tool to locate and evaluate proposed impacts and mitigation
- While it shows technical feasibility of projects, the main goal of the WRR is to show the landscape value

THANK YOU!

Sandy Hertz, Assistant Director
Office of Environment
Maryland Department of Transportation
410-865-2780

shertz@mdot.state.md.us

www.watershedresourcesregistry.com