



watershed resources registry



# The WRR- A Federal Perspective



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# Envisioning the future



**INTERSTATE 404**

**THE NEXT 90 MILES -  
AN AWARD WINNING  
GREEN HIGHWAY**

- 80% recycled materials used
- 4,650 wetland acres restored
- Stormwater runoff naturally cleansed
- 10,000 forest acres preserved
- Truckstop diesel emissions reduced 45%
- Alternative fuels available at truckstops





The Mid-Atlantic **Green Highways Partnership (GHP)** was formed to promote **innovative streamlining** and market-based approaches to **meet transportation needs while promoting environmental stewardship** so both are “*better than before,*” with an emphasis on **sustainability!**



# Origins of the WRR

## Green Highways Partnership (GHP)



- The GHP was initiated by the US Environmental Protection Agency (EPA) and the Federal Highway Administration (FHWA) (MSHA) out of a realization that *building safe, sound transportation systems and protecting and sustaining a clean and healthy environment* were not mutually exclusive, particularly in light of their common denominator, serving the “public good.”



# Why Form GHP?

- ***Common ground necessary to address citizens' needs for mobility & environmental protection***
- ***Increased complexity of transportation & environmental issues***
- ***Necessity for greater leveraging of public-private resources***
- ***Drive better, faster, cheaper solutions***
- ***Encourage innovators and early adopters***

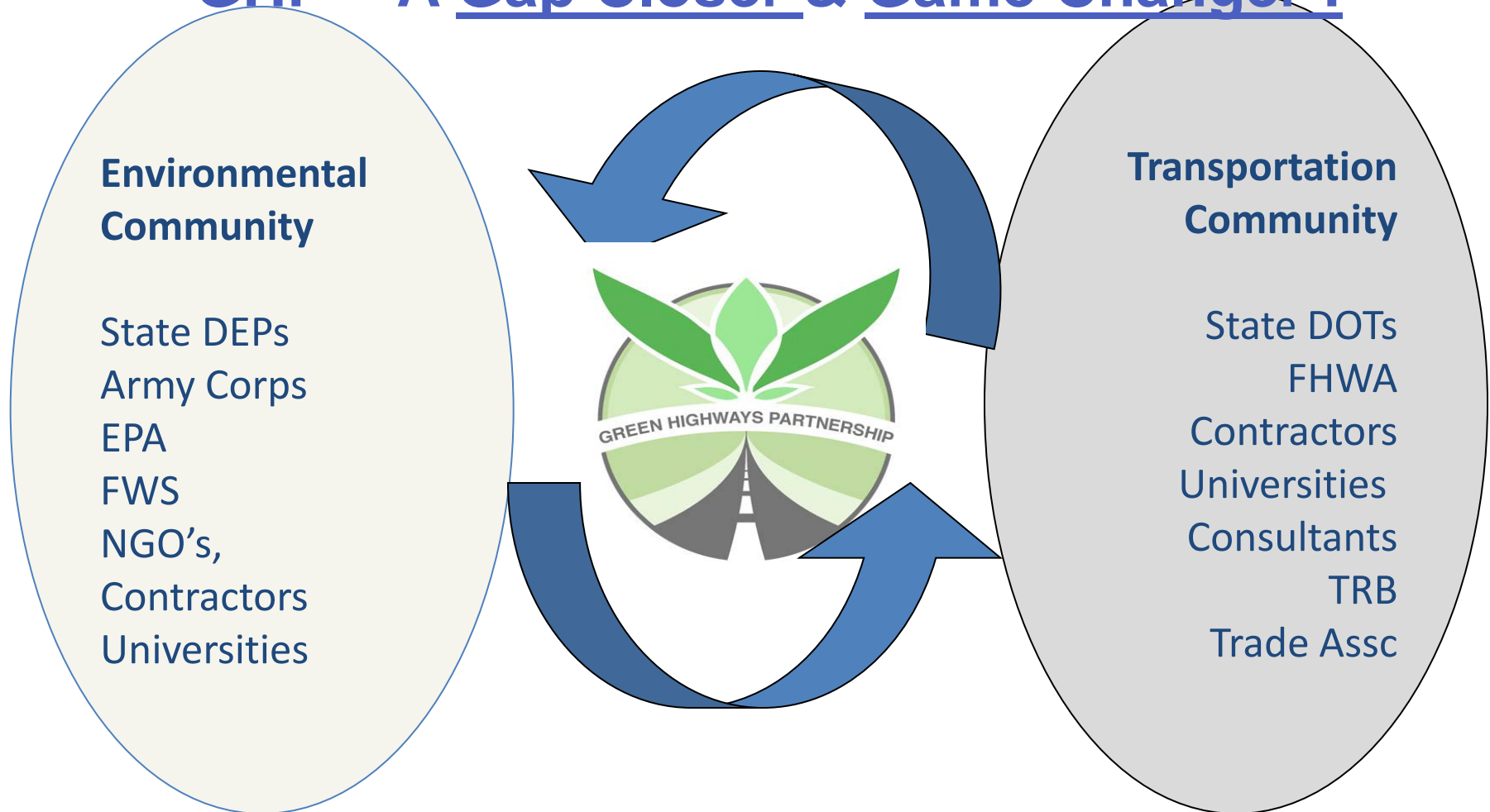


Stewardship  
Safety  
Sustainability

The Green Highways Partnership

# Origins of the WRR

## **GHP - A Gap Closer & Game Changer !**



***Building A Bridge between Environmental & Transportation Communities***

# Mid-Atlantic Green Highways Partnership

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- Broad Based Partnership
- Leveraging of *Knowledge, Experience, & Resources*
  - Sharing, capturing, researching, depository
- Doing Business *Differently*
- Leaving Things "*Better Than Before*"

# Pillars of GHP

Partnerships

Rewards & Recognition

Opportunities

## THEMES

Innovative Watershed-Driven Stormwater Management

Recycling and Reuse - *Industrial By-Products and Recycled Material*

Conservation and Ecosystem Management



# Origins of the WRR

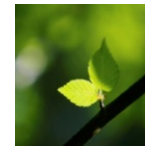
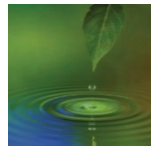


Stewardship  
Safety  
Sustainability

# GREEN HIGHWAYS PARTNERSHIP

GREEN ROADS, STREETS and TOWNS

The Green Highways Partnership is dedicated to transforming the relationship between the environment and transportation infrastructure



[\*www.greenhighwayspartnership.org/\*](http://www.greenhighwayspartnership.org/)

# Why Should We Care About This Type of Partnering Approach **TODAY?**

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- **CLIMATE** Change Impacts! Increased Flooding, Droughts, etc.
- **ASCE**- Grade "D" - Deteriorated Infrastructure - Increasingly High Price Tag!!
- Growing Public/Community Demands -Driving Need to Work "Smarter." Leverage, Leverage, Leverage!!
- Markets Are Loaded with \$\$\$ - Need to Take Advantage of Opportunities to Leverage Limited Public Resources & Capacity
- Pollutant & Transportation Needs are Shifting - Need New Paradigms - New Ways of Doing Business to Solve New Problems
- Sustainability- Growing Cornerstone of our Work - Leaving Things *"Better Than Before"*



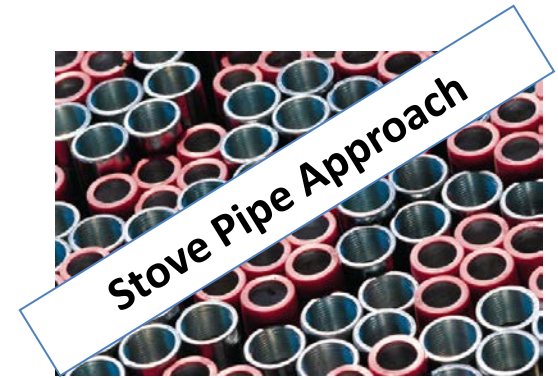
**Coming together is a beginning; keeping together is progress; working together is success.**

**Henry Ford**

The **WRR**  
- A Major  
Outcome of  
the **GHP** !



# WRR Origin

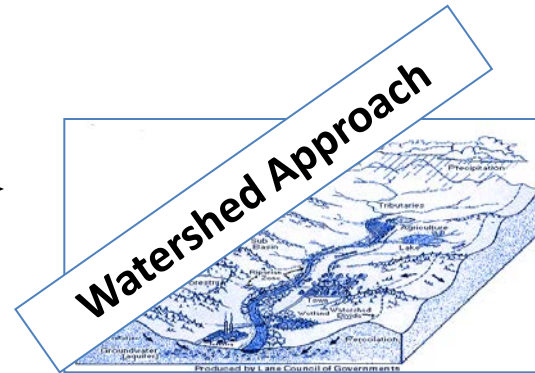


- Limitations of the traditional regulatory framework –  
*“my resource is most important”*
- Needed broad-based collaborative planning and protection of the watersheds to “Green” Route 301.
- Watershed-driven compensatory mitigation rule
- Green Infrastructure approach to stormwater mgmt
- Limited number of tools existed to assist regulators and others in deciding both *what* activity might be most beneficial to the watershed and *where* that activity ought to occur

# What is the WRR?

- It is a comprehensive replicable framework and GIS-based targeting tool that:
  - Integrates and streamlines regulatory programs
  - Guides resource planners
  - Saves time and \$, and increases program efficiencies
  - Screens for preferred actions and maximizes watershed benefits
  - Is transparent, predictable and reliable
  - Facilitates multiagency input and coordination

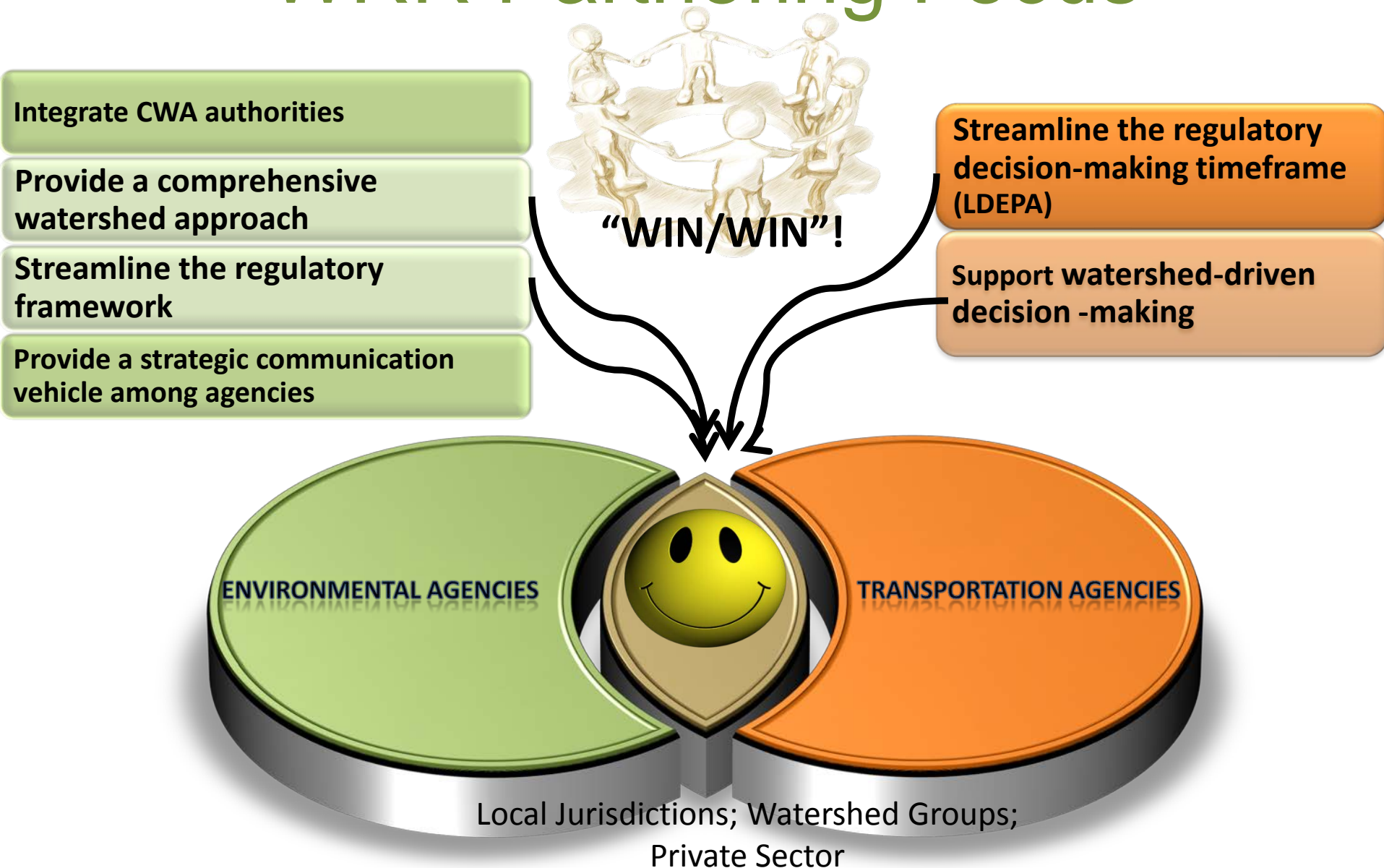
## WRR Origin



## Advantages of a Watershed Approach

- Interdisciplinary approach that integrates solutions
- Addresses complex environmental relationships
- Uses naturally defined areas
- Holistically targets problems
- Ecologically based
- Promotes stakeholder & public involvement
- Compatibility with other programs

# WRR Partnering Focus



# WRR : Goals

- A collaborative national/regional pilot that grew out of the **Green Highways Partnership** and the Maryland State Highway Administration (MDSHA) proposal for making the Route 301 Project the **1<sup>st</sup> Green Highway** in Maryland.
- **Purpose 1:** Develop transferable framework for integrated watershed management to be to address the Federal Compensatory Mitigation Rule – ultimately enabling creation of “watershed banking” capability.
- **Purpose 2:** Achieve increased regulatory efficiencies through integration of CWA Sections 401, 402, and 404 (303(d), 319, etc.) in a watershed context – thereby also enabling greener (more sustainable) stormwater management.



**US Army Corps  
of Engineers®**



# Collaboration

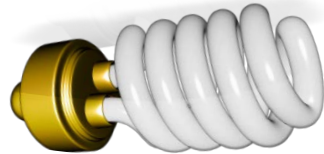
## Current partner agencies:

- U.S. Environmental Protection Agency (EPA), Region III
- U.S. Army Corps of Engineers , Baltimore District
- Maryland Department of the Environment (MDE)
- State Highway Administration
- U.S. Fish and Wildlife Services
- Maryland Environmental Services
- Maryland Department of Natural Resources
- U.S. Federal Highway Administration
- Maryland Department of Planning
- Natural Resources Conservation Service
- Prince Georges County
- Charles County
- Mattawoman Watershed Society
- Interstate Commission on the Potomac River Basis

# WRR: Three Key Elements



- WRR: **a collaborative, ongoing partnership** with EPA Region 3, several MD agencies, the Corps (Baltimore District and HQ) and several others

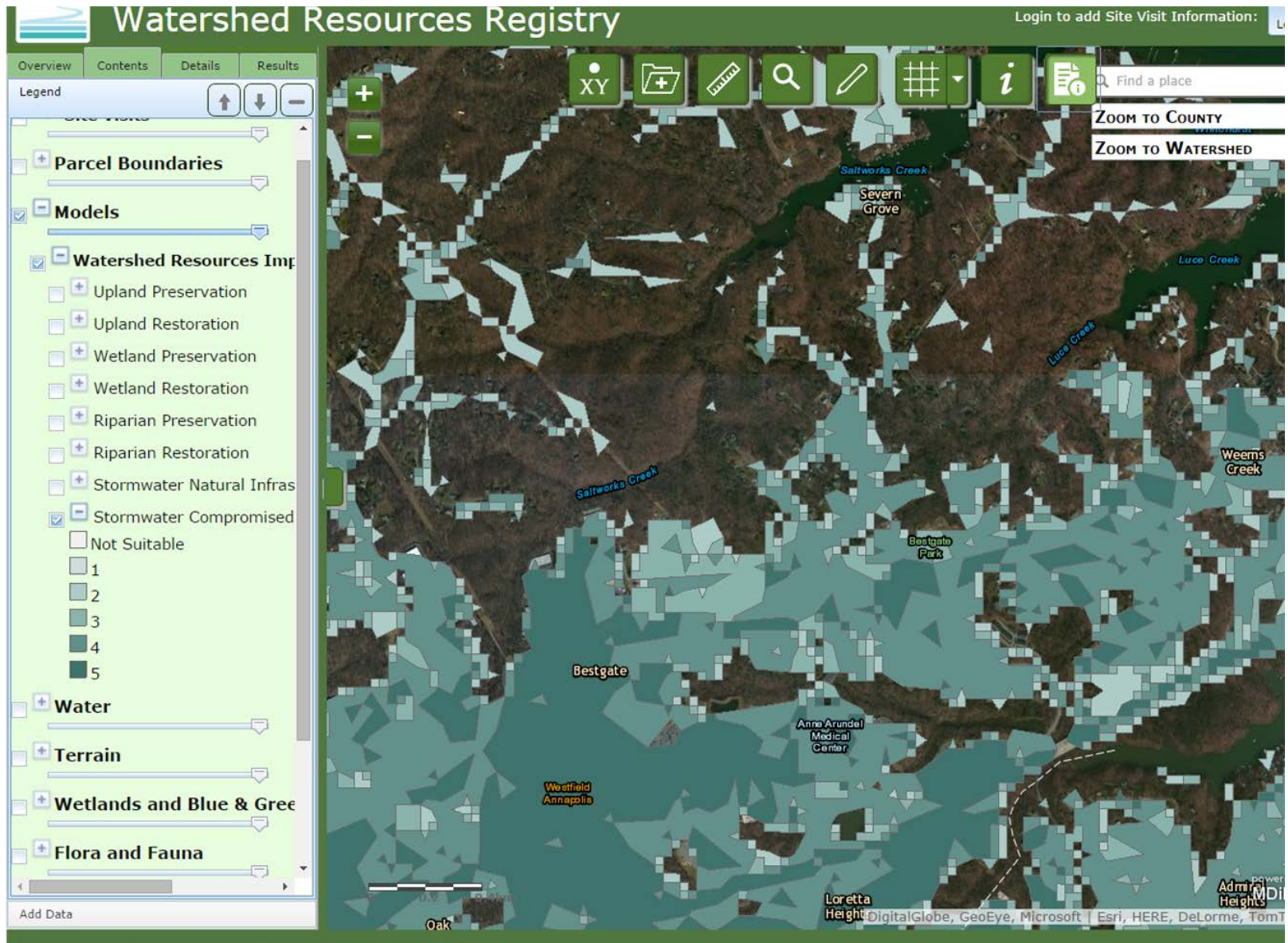


- WRR: **replicable scientific analysis framework** via a set of eight suitability analyses



- WRR: an **interactive website** that provides all users, including the general public, access to the findings

# Predictability; Transparency; Consistency!





# Watershed Resources Registry

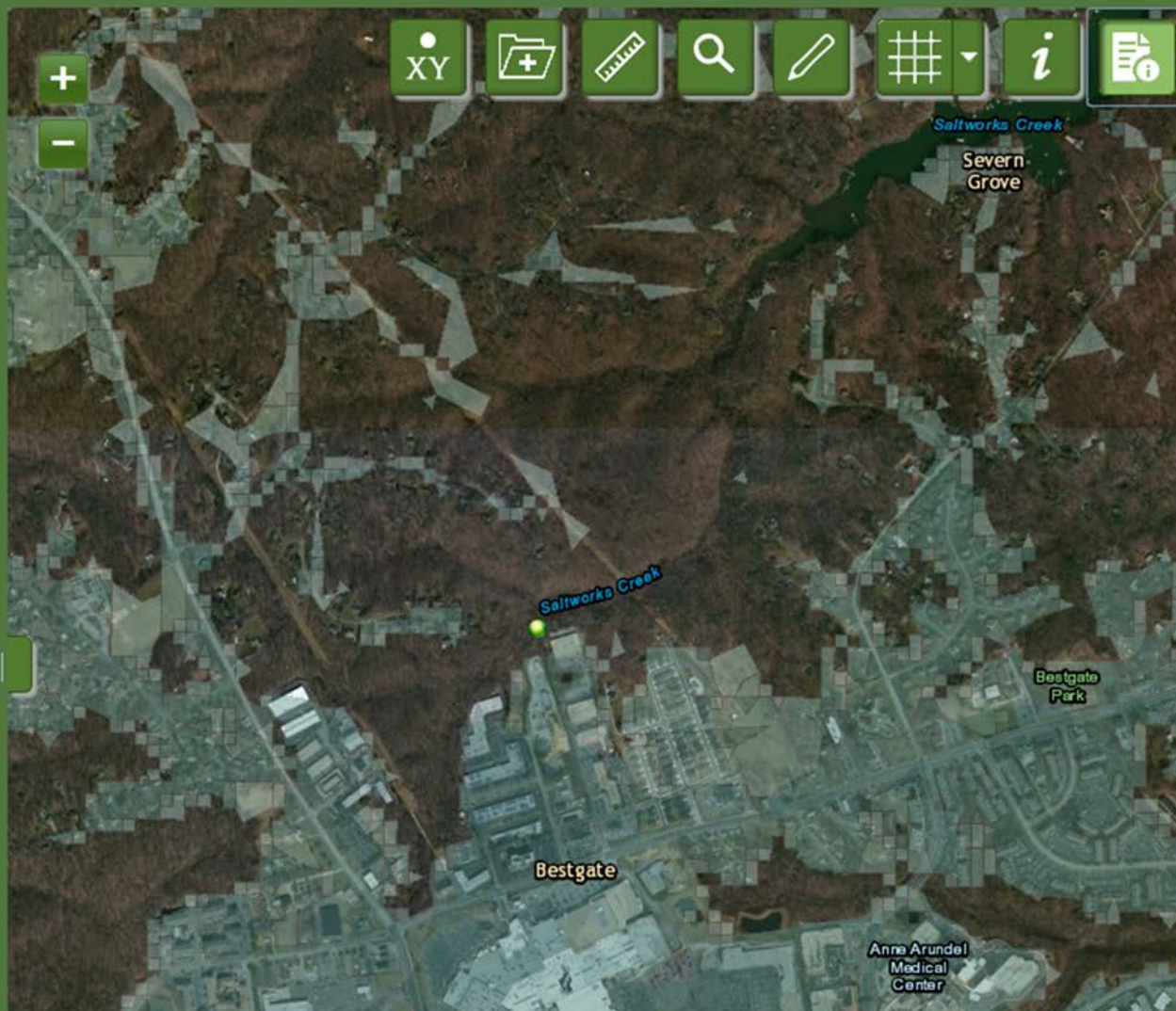
Login to account

Overview Contents Details

Legend



- ☐ Parcel Boundaries
- ☒ Models
  - ☒ Watershed Resources
    - ☐ Upland Preservation
    - ☐ Upland Restoration
    - ☐ Wetland Preservation
    - ☐ Wetland Restoration
    - ☐ Riparian Preservation
    - ☐ Riparian Restoration
    - ☐ Stormwater Natural Infiltration
    - ☒ Stormwater Compromised
      - ☐ Not Suitable
      - ☐ 1
      - ☐ 2
      - ☐ 3
      - ☐ 4
      - ☐ 5
- ☐ Water





# Watershed Resources Registry

Login to add Site Visit Information:

Log In

Contents Details Results

Print Report

## Watershed Resources Improvement Opportunities

[Upland Preservation](#): Not Suitable  
[Upland Restoration](#): Not Suitable  
[Wetland Preservation](#): 1  
[Wetland Restoration](#): Not Suitable  
[Riparian Preservation](#): 2  
[Riparian Restoration](#): Not Suitable  
[Stormwater Natural Infrastructure Preservation](#): 4  
[Stormwater Compromised Infrastructure Restoration](#): Not Suitable

## Watershed Characteristics:

[View Watershed Profile](#)

HUC: 020600040203  
HUC Name: Whitehall Creek-Severn  
River-Chesapeake Bay  
Maryland 8 Digit Watershed: 02131002  
Maryland 12 Digit Watershed:  
021310020997

Metadata: [HUC](#) | [MD Watershed](#) |  
[Stronghold](#)

## Waterways

Nearest Stream: Saltworks Creek  
Stream Use Designation: I  
Distance: 178 ft

Metadata: [Stream Use Designations](#)

## Physiographic Region

[Metadata](#)  
Province: Atlantic Coastal Plain Province

## Geology

[Metadata](#)  
Name: Aquia Formation

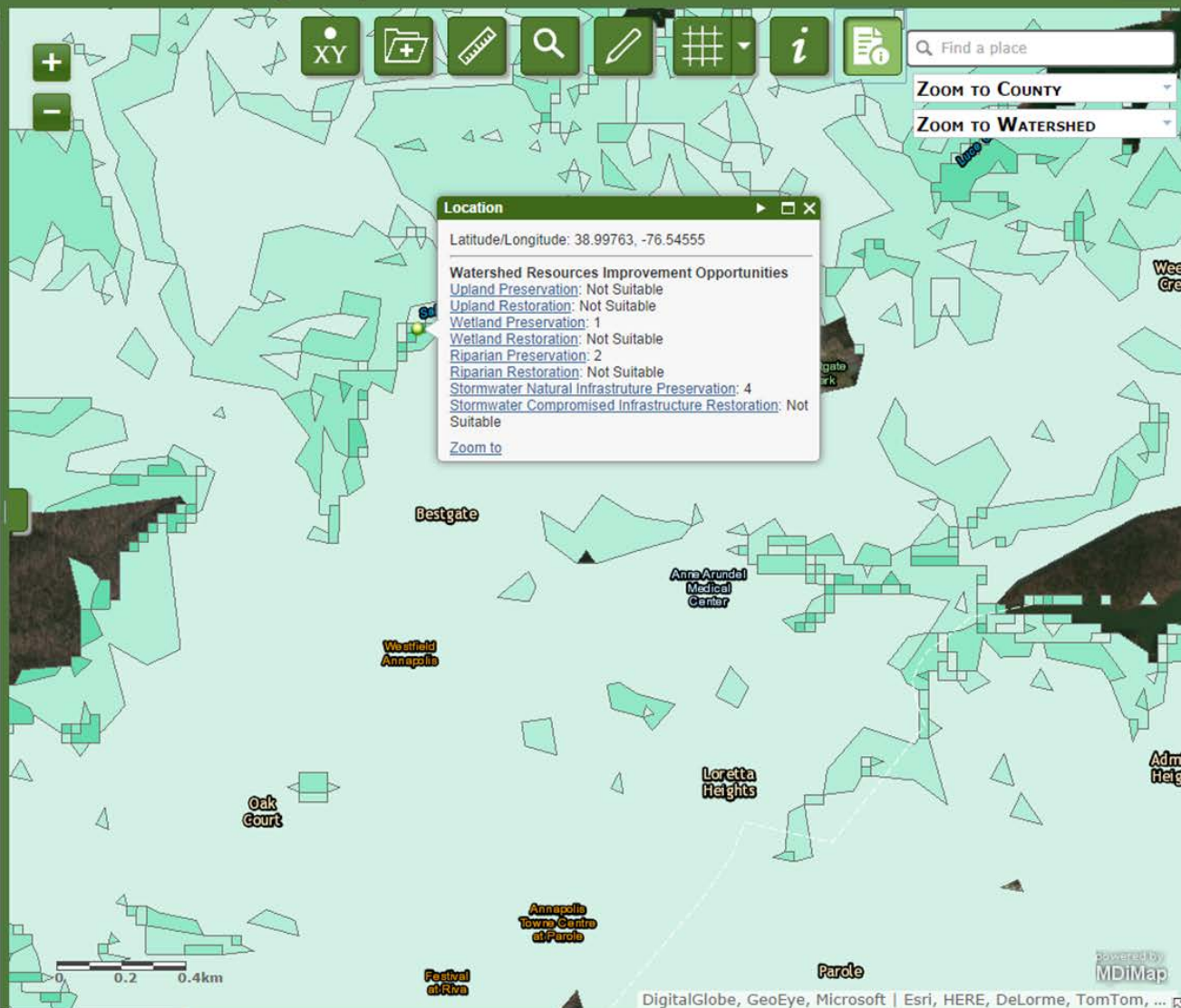
## Wetlands

Wetlands of Special State Concern: None  
within 500 ft.  
DNR: Type - PFO1Fb.  
NWI: Distance - 98 ft,  
Type - undefined.

Metadata: [WSSC](#) | [DNR](#) | [NWI](#)

## Soils


[Metadata](#)  
Mapunit Symbol: AsF  
Mapunit Name: Annapolis fine sandy  
loam, 25 to 40 percent slopes  
Slope Gradient: null  
Drainage Class: Well drained



DigitalGlobe, GeoEye, Microsoft | Esri, HERE, DeLorme, TomTom, ...

# Spotlight on the WRR

***“If You Build It, They Will Come!”***

- 
- **US EPA National Best Practice** by Office of Water
  - **Tool for Improving Watershed Outcomes** Environmental Law Institute - National Wetlands Newsletter Feature ; Society of Wetland Scientists
  - Public Noticed by USACE as **Important New Tool** – to map high value wetland and riparian areas
  - **AASHTO Innovation Initiative Grant**
  - Featured - **MD Governor’s Stormwater Management Workshop; Chesapeake Research Consortium; TRB; Delaware Estuary Science Forum**
  - **Component of the National Federal GI Collaborative and President’s Climate Strategy**

# WRR Transferability- A Few Considerations



The more a “new” collaborative process can be integrated into an organization’s culture, the quicker the uptake by the organization.

Matrix management is a must when facilitating an effort involving actions from multiple agencies/organizations. It also allows for greater transparency.

Multiple “champions” and “brokers” need to constantly “shepherd” the process, sharing successes, while managing against pitfalls.

***“Teamwork”-  
where there’s a  
will, there’s a  
way!***

**Thank you!**

