



Maryland's **GreenPrint:**

A model for targeting and protecting the State's most ecologically valuable lands and watersheds

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Land Conservation in Maryland

Program Open Space (POS)

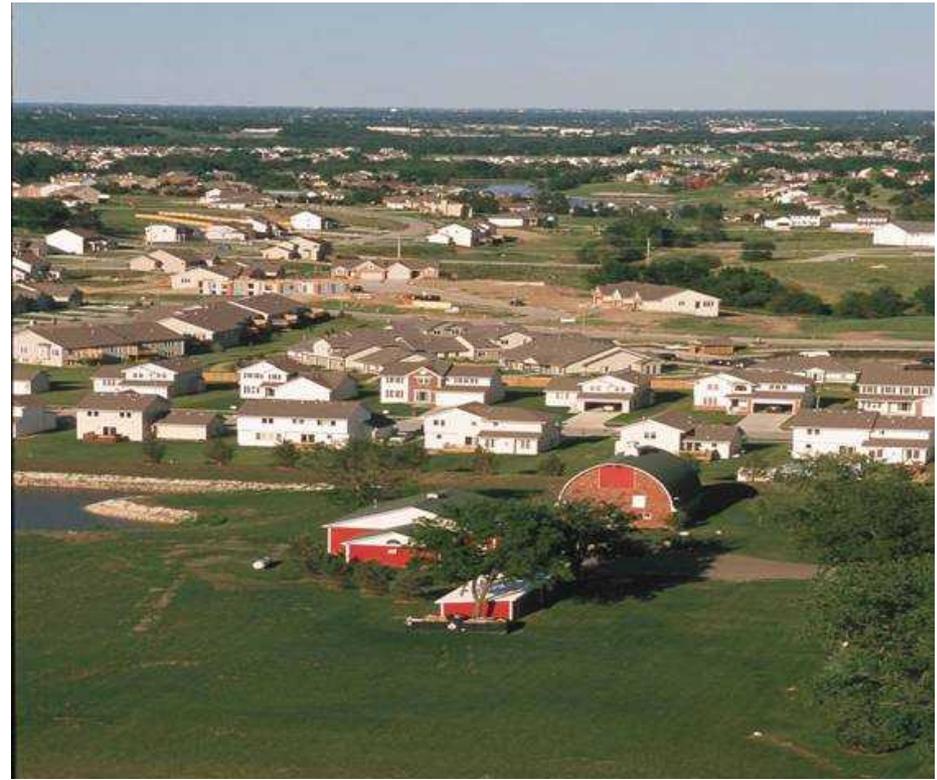
- Established in 1969
- Funded by 0.5% of the Real Estate Transfer Tax



- Currently, about 500,000 acres conserved and 4,000 parks created
- Conservation Objectives:
 - Ecological, Open Space and Recreation = POS/GreenPrint
 - Agricultural and Rural Landscapes

<http://www.greenprint.maryland.gov/programs.asp>

Accelerated Consumption and Fragmentation of Natural and Working Lands



The **GreenPrint** Process

Step 1

- Monitor and assess aquatic & terrestrial resources

Step 2

- Map location and condition of resource

Step 3

- Prioritize based on ecological value

Step 4

- Identify land conservation targets

Step 5

- Protect Land through acquisition or easement

Step 6

- Provide accountability and track success

GreenPrint Themes

Natural Resource Conservation

- Green Infrastructure & Forests Important for Protecting Water Quality



- Nontidal Streams & Fisheries

- Tidal Fisheries, Bay & Coastal Ecosystems

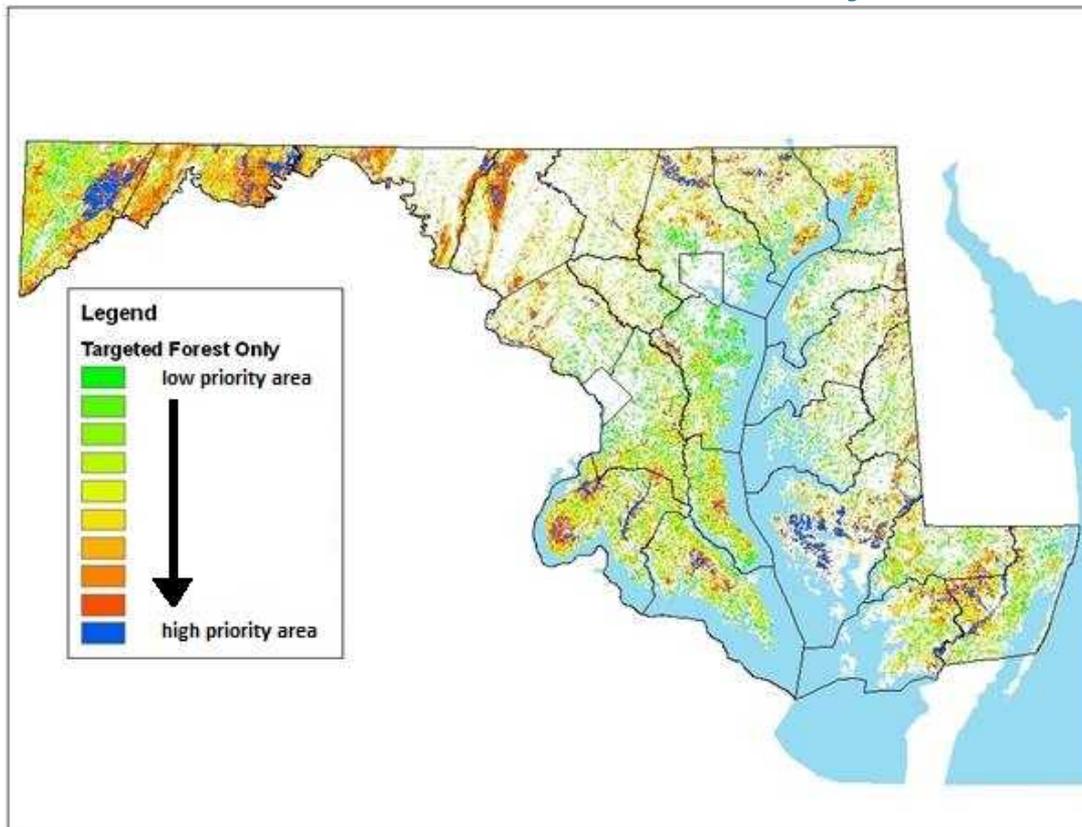


- Wildlife and Rare Species Habitat

- Areas Important for Climate Change Adaptation



Forests are the most cost effective land use for healthy waters

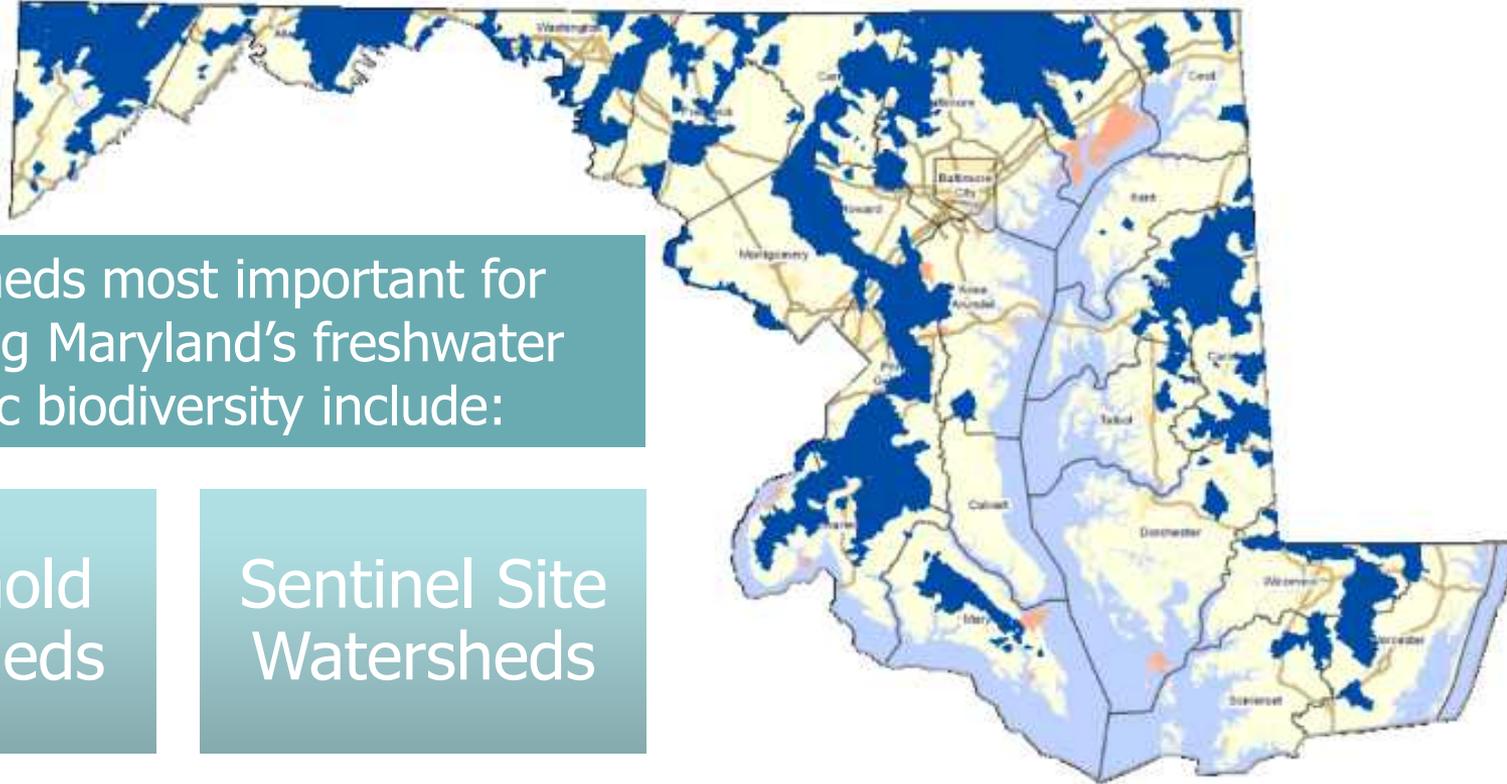


Factors Evaluated:

- Steep slopes
- Buffers, wetlands, floodplains
- % forest cover and impervious surfaces
- Drinking water
- Nutrient reduction efficiencies
- Living resources

GreenPrint Themes

Nontidal Streams and Fisheries



Watersheds most important for protecting Maryland's freshwater aquatic biodiversity include:

Stronghold Watersheds

Sentinel Site Watersheds

Tier II Watersheds

Cold Water Preservation Areas

The GreenPrint Process

Step 1: Monitor and Assess Resources

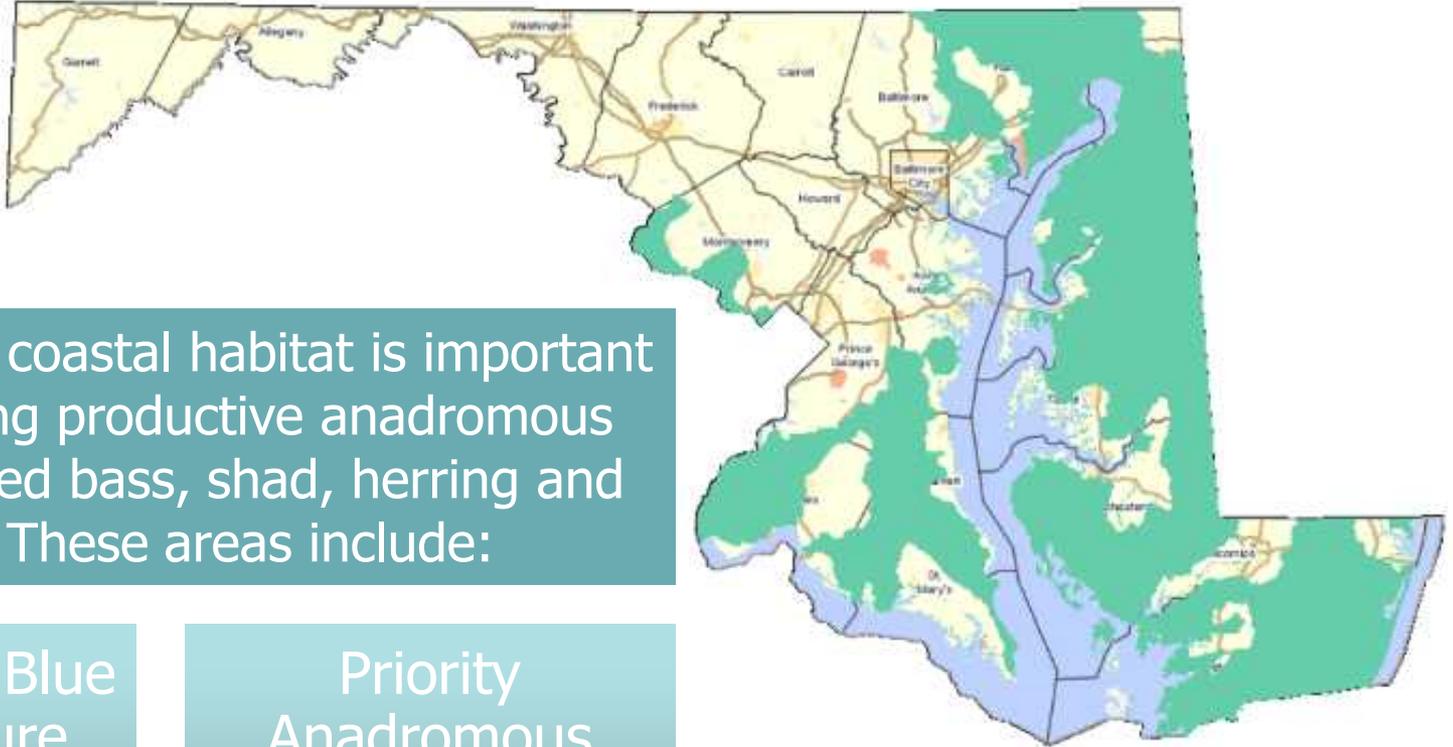
Maryland Biological Stream Survey (MBSS)

- Survey system to characterize the health of freshwater streams through collection of **high-quality biological, physical and chemical data**
- Since 1995 MBSS has surveyed **3,405 sites**
- MBSS identifies watersheds with the greatest aquatic biodiversity and designates them as **Stronghold Watersheds**
- These are areas where aquatic species are **most sensitive** to environmental degradation



GreenPrint Themes

Tidal Fisheries, Bay, and Coastal Ecosystems



A high quality coastal habitat is important for supporting productive anadromous fish like striped bass, shad, herring and perch. These areas include:

High Priority Blue
Infrastructure
Shorelines and
Watersheds

Priority
Anadromous
Spawning
Watersheds

The GreenPrint Process

Step 1: Monitor and Assess Resources

Blue Infrastructure Near-Shore Assessment

**Sensitive Species + Shoreline-
dependent Species, key
spawning & nursery areas**



**Hardened shorelines,
fish blockages, point
source discharge**



**Protected Lands +
Impervious surface**



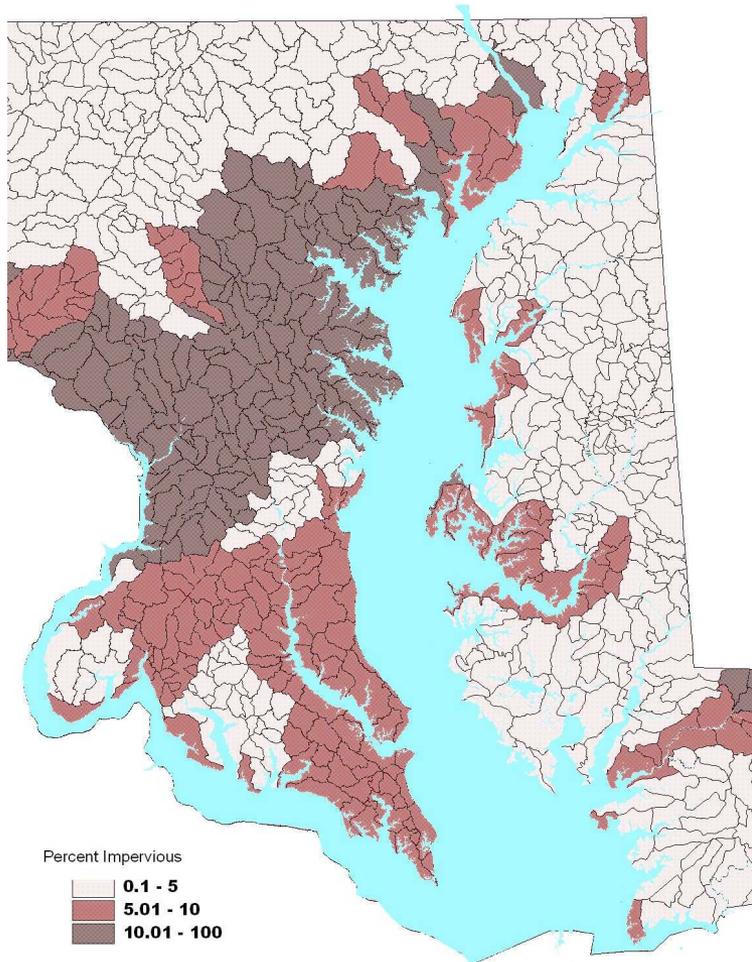
**Coastal marshes, SAV, oyster
bars, beaches,
sandy bottom**

Identifying stressors in Priority Anadromous Spawning Watershed

Impervious Surface Impacts:

- Influences fresh water stream habitat
- Reduces spawning of anadromous fish
- Reduces yellow perch egg-larval survival & feeding success
- Increases hypoxia in brackish sub-estuaries; loss of bottom habitat
- Alters fish community
- Reduces fishing opportunity





Protecting Key Spawning Areas

10% Impervious threshold applied

Land Management context:

0-5 protect

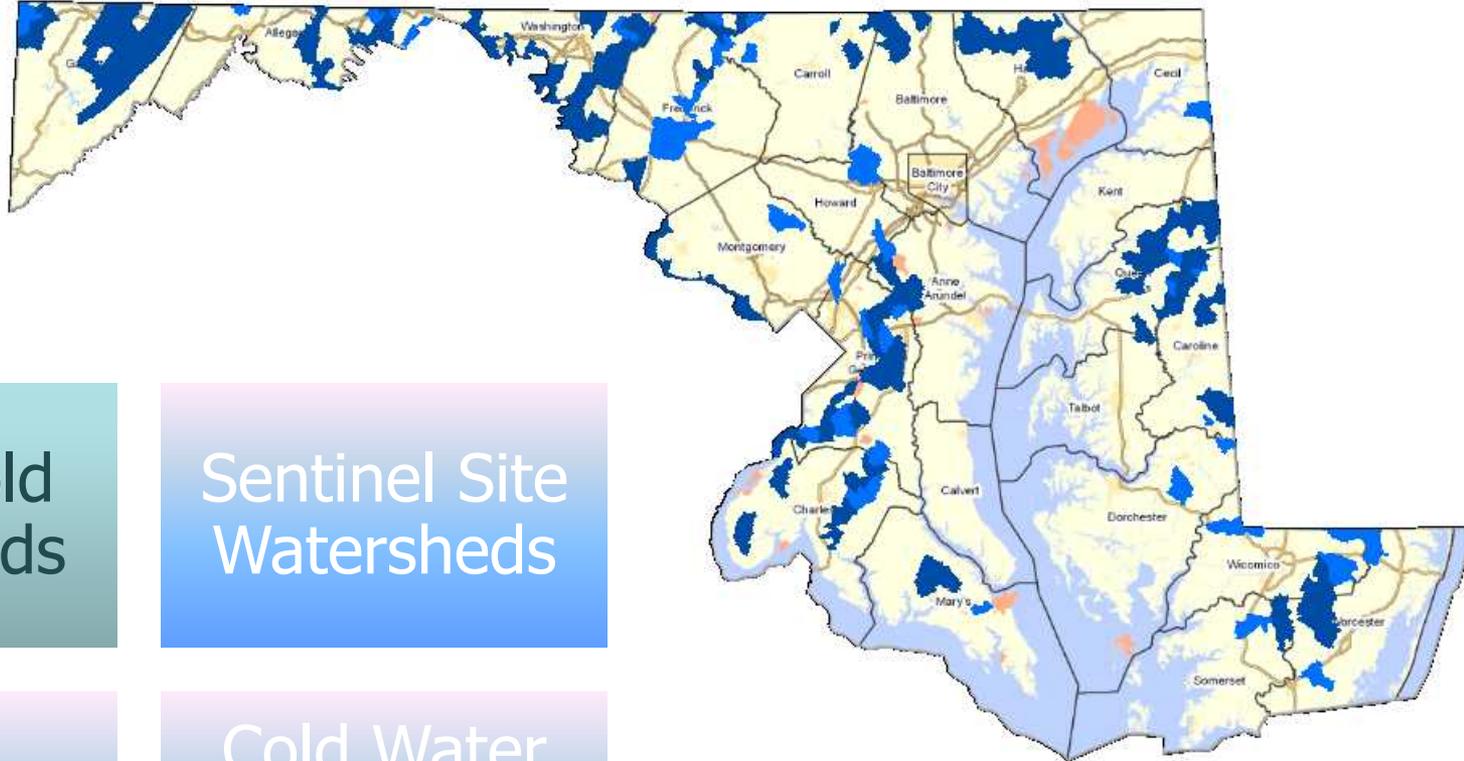
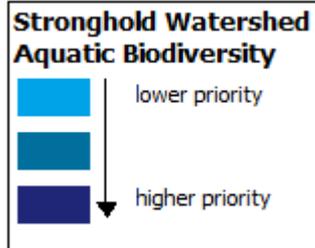
5-10 restore

>10 enhance

The GreenPrint Process

Step 3: Prioritize based on Ecological Value

GreenPrint Theme: Nontidal Streams and Fisheries



Stronghold Watersheds

Sentinel Site Watersheds

Tier II Watersheds

Cold Water Preservation Areas

The GreenPrint Process

Step 4: Identify Land Conservation Targets

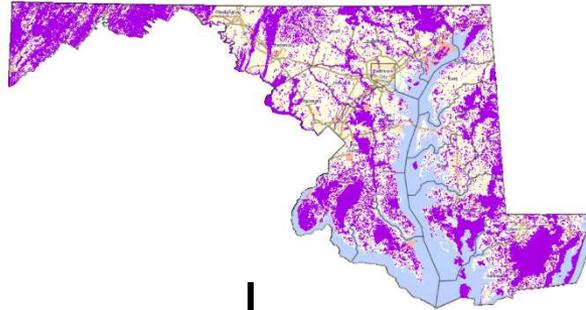
Combine the most ecologically important areas to identify Targeted Ecological Areas (TEAs)

“The Best of The Best”

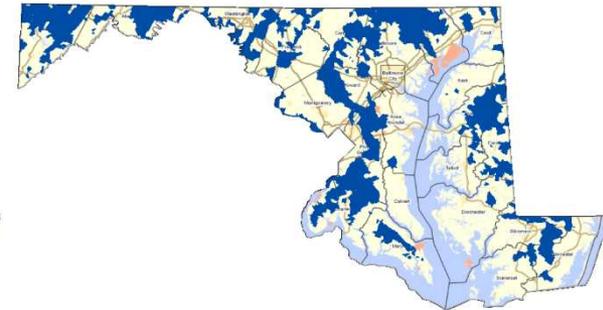
Green Infrastructure and Important Forests



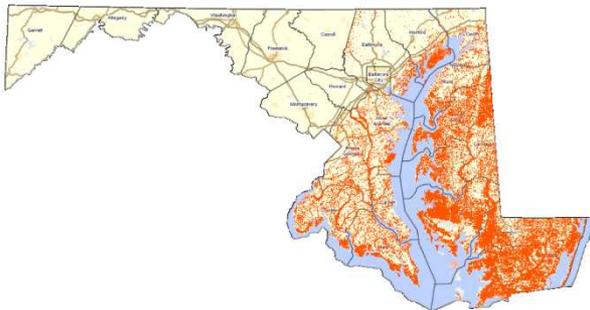
Wildlife and Rare Species Habitat



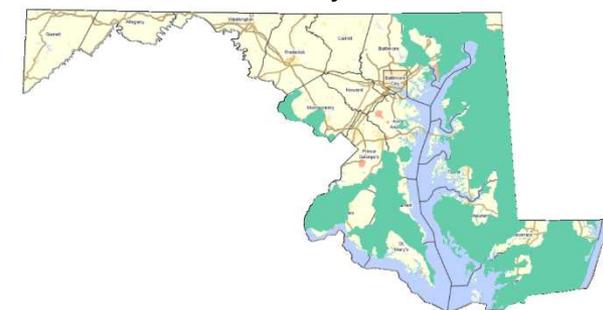
Nontidal Streams and Fisheries



Wetland Adaptation Areas



Tidal Fisheries, Bay and Coastal Ecosystems



The GreenPrint Process

Step 4: Identify Land Conservation Targets

Targeted Ecological Areas (TEAs)

Removing development from TEAS

- Development can be found within certain GreenPrint areas, especially if the area is a priority watershed, or if development has recently occurred.
- Since highly developed areas would not be eligible for Stateside POS funding, they were removed from the map.



The GreenPrint Process

Step 4: Identify Land Conservation Targets

Targeted Ecological Areas (TEAs)

Adjusting TEAs for Sea Level Rise

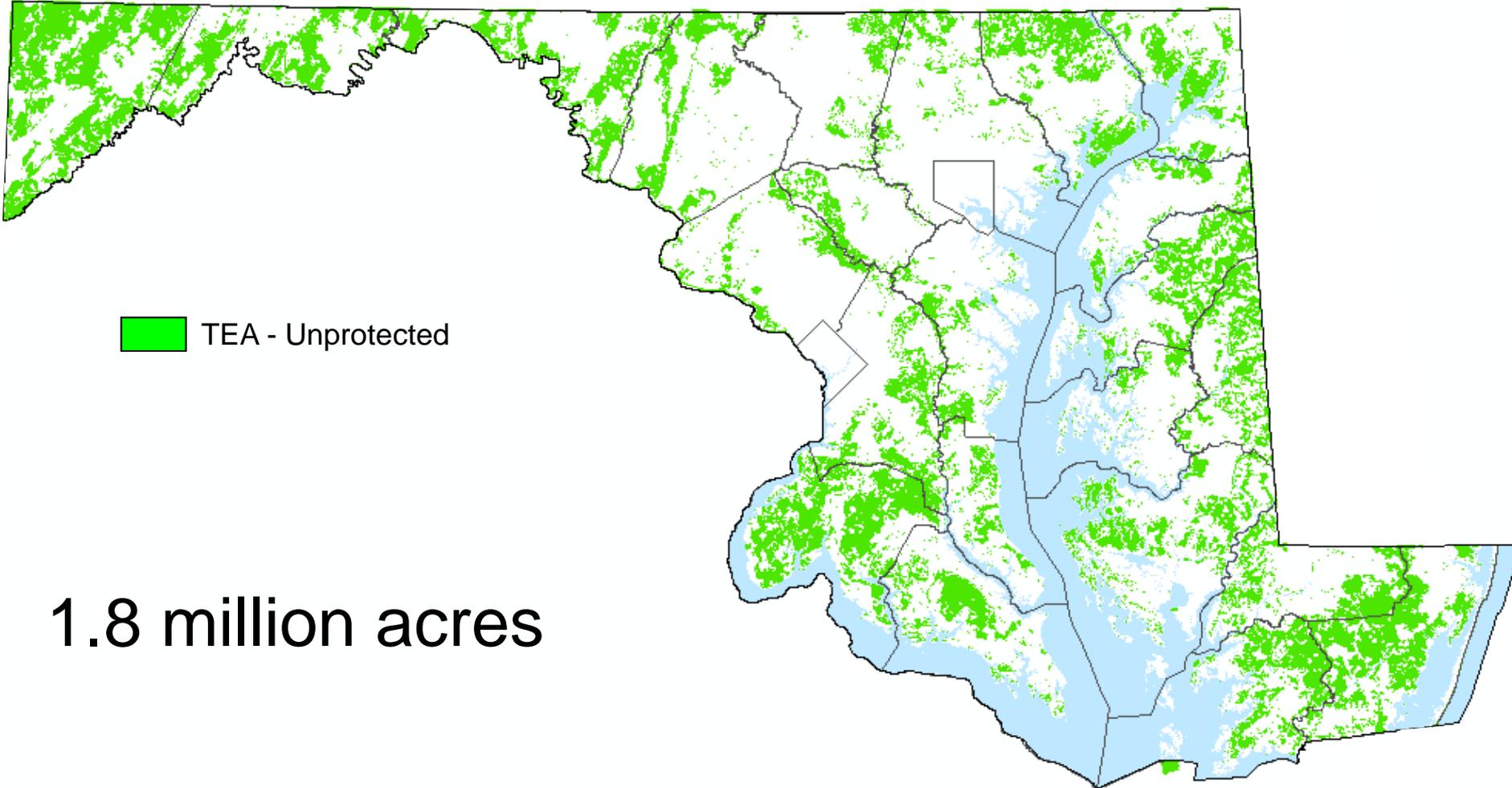
- Sea level is rising due to a combination of regional land subsidence and changes in climate.
- Based on current projections, sea level is expected to rise at least 1.7 feet by 2050.
- Coastal areas subject to sea level rise within a 0-2 foot elevation zone were removed from the map to avoid spending limited funds in areas likely to be submerged.



The GreenPrint Process

Step 5: Protect land through acquisition or easement

Targeted Ecological Areas (2011) preferred for POS funding



**Interactive
MAP**

ABOUT GREENPRINT

- Measuring Success
- Significance of BayStat
- Frequently Asked Questions

GreenPrint Survey

PARTICIPANTS

- Department of Natural Resources
- Department of Planning
- Department of Agriculture
- Office of the Governor

Land Conservation Programs

Question...

What are the most ecologically valuable lands in Maryland and what are we doing to protect them for future generations?

There is not a simple answer to that question. The fact is that there are [many programs](#) within our State government that contribute to this effort: "to strategically target and protect the most ecologically valuable areas in Maryland."

This is an effort to keep portions of Maryland as ecologically sound as possible, to ensure a healthy population of plants and animals, to keep our State beautiful, and to ensure our lands for our children before they are consumed by sprawling development.

Using tools like GreenPrint we can more effectively manage how our State takes care of its lands and its people.

Greenprint Underscores Governor O'Malley's Commitment to Land Conservation

[Compare annual land conservation accomplishments from 2003 to date](#)



What's New

Combining color-coded maps, information layers, and arial photography with public openness and transparency, this valuable new tool applies the best environmental science and geographic information systems to the urgent work of preserving and protecting environmentally critical lands today. Greenprint is not only informing our land conservation decisions today, but also building a broader and better informed public consensus for sustainable growth and land preservation decisions into the future.

1. Check out the Map



2. View Progress Protecting Land



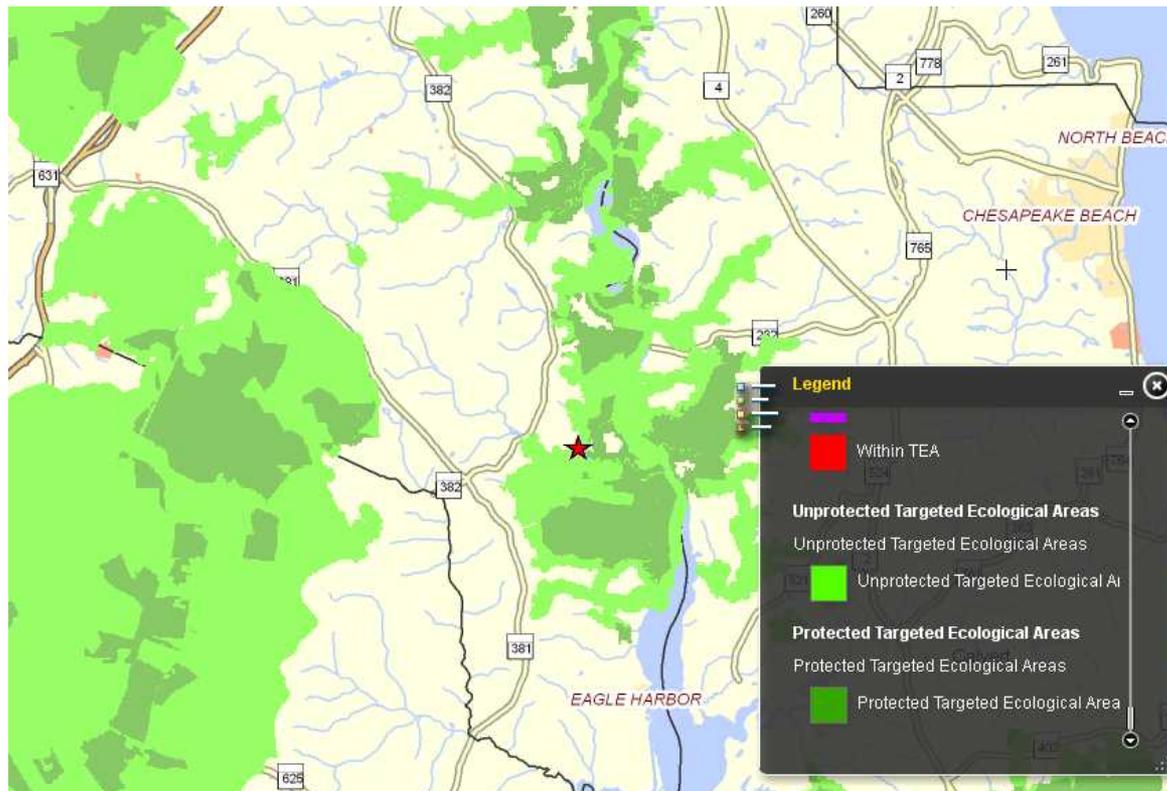
3. Interact with This Map



The GreenPrint Process

Step 5: Protect land through acquisition or easement

Targeted Ecological Areas are the most ecologically important areas in the State



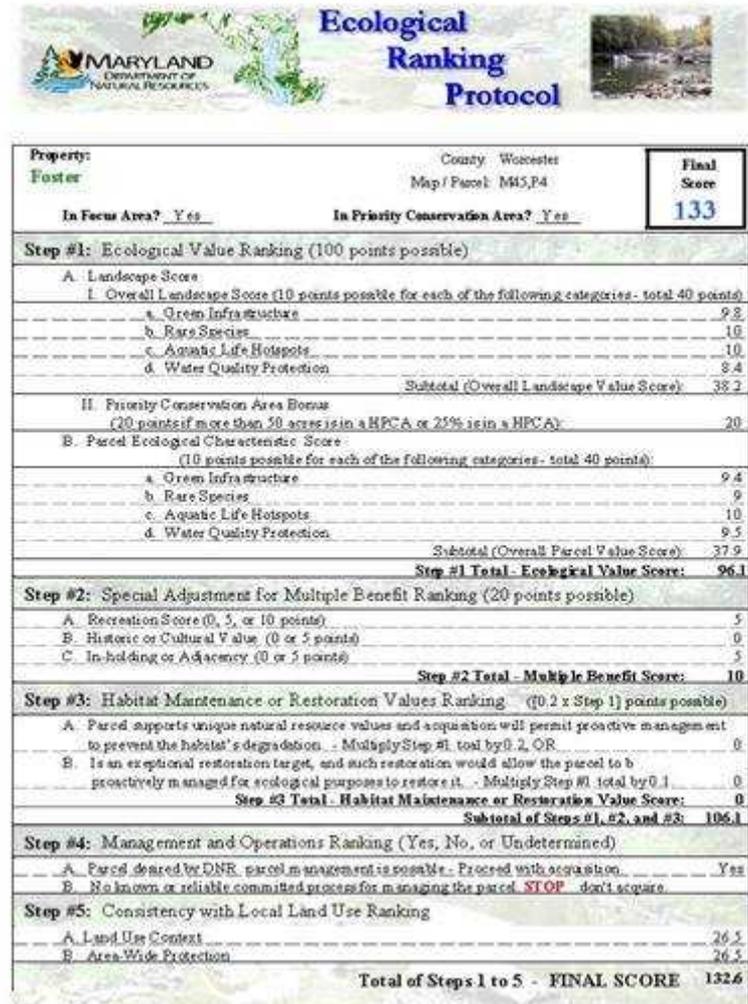
Preferred for Stateside Program Open Space funds

Conservation Scorecards

Project scorecards and maps provided to the Board of Public Works

Provides transparency and accountability

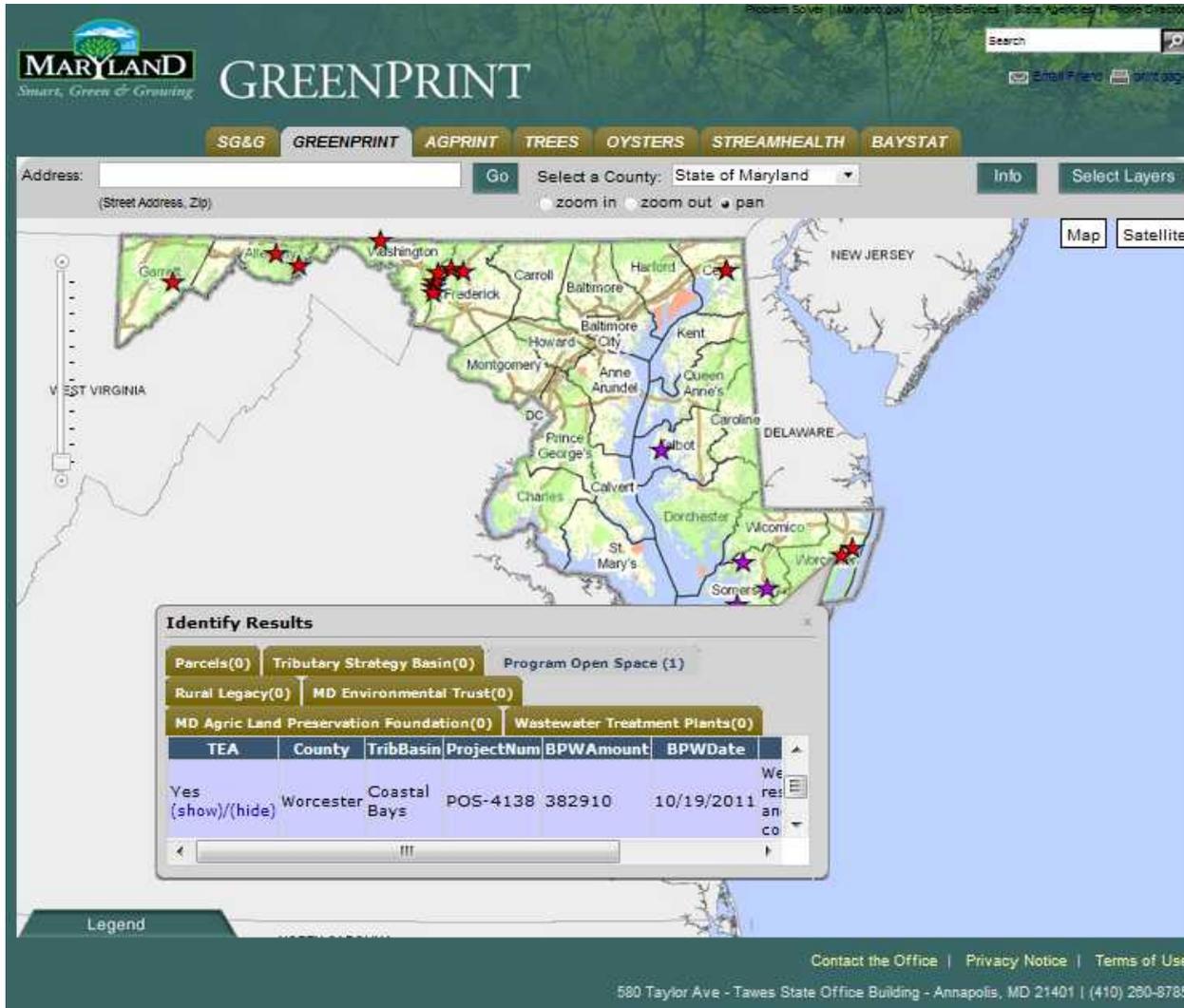
Decisions based on ecologically defensible criteria



Property: Foster		County: Worcester	Final Score 133
Map/Parcel: M45,P4			
In Focus Area? <u>Yes</u>		In Priority Conservation Area? <u>Yes</u>	
Step #1: Ecological Value Ranking (100 points possible)			
A. Landscape Score			
I. Overall Landscape Score (10 points possible for each of the following categories - total 40 points)			
a. Green Infrastructure		9.8	
b. Rare Species		10	
c. Aquatic Life Hotspots		10	
d. Water Quality Protection		8.4	
			Subtotal (Overall Landscape Value Score): 38.2
II. Priority Conservation Area Bonus (20 points if more than 50 acres is in a HPCA or 25% is in a HPCA): 20			
B. Parcel Ecological Characteristic Score (10 points possible for each of the following categories - total 40 points)			
a. Green Infrastructure		9.4	
b. Rare Species		9	
c. Aquatic Life Hotspots		10	
d. Water Quality Protection		9.5	
			Subtotal (Overall Parcel Value Score): 37.9
Step #1 Total - Ecological Value Score: 96.1			
Step #2: Special Adjustment for Multiple Benefit Ranking (20 points possible)			
A. Recreation Score (0, 5, or 10 points)		5	
B. Historic or Cultural Value (0 or 5 points)		0	
C. In-holding or Adjacency (0 or 5 points)		5	
			Step #2 Total - Multiple Benefit Score: 10
Step #3: Habitat Maintenance or Restoration Values Ranking (0.2 x Step 1) points possible)			
A. Parcel supports unique natural resource values and acquisition will permit proactive management to prevent the habitat's degradation. - Multiply Step #1 total by 0.2, OR			
B. Is an exceptional restoration target, and such restoration would allow the parcel to be proactively managed for ecological purposes to restore it. - Multiply Step #1 total by 0.1			
			0
Step #3 Total - Habitat Maintenance or Restoration Value Score: 0			
Subtotal of Steps #1, #2, and #3: 106.1			
Step #4: Management and Operations Ranking (Yes, No, or Undetermined)			
A. Parcel desired by DNR, parcel management is possible - Proceed with acquisition <u>Yes</u>			
B. No known or reliable committed process for managing the parcel. STOP - don't acquire			
Step #5: Consistency with Local Land Use Ranking			
A. Land Use Context 26.5			
B. Area-Wide Protection 26.5			
			Total of Steps 1 to 5 - FINAL SCORE 132.6

The GreenPrint Process

Step 6: Provide accountability and track success



MARYLAND GREENPRINT
Smart, Green & Growing

SG&G GREENPRINT AGPRINT TREES OYSTERS STREAMHEALTH BAYSTAT

Address: _____ Go Select a County: State of Maryland Info Select Layers

Map Satellite

Identify Results

Parcels(0) Tributary Strategy Basin(0) Program Open Space (1)

Rural Legacy(0) MD Environmental Trust(0)

MD Agric Land Preservation Foundation(0) Wastewater Treatment Plants(0)

TEA	County	TribBasin	ProjectNum	BPWAmount	BPWDate
Yes (show)/(hide)	Worcester	Coastal Bays	POS-4138	382910	10/19/2011

Legend

Contact the Office | Privacy Notice | Terms of Use
580 Taylor Ave - Tawes State Office Building - Annapolis, MD 21401 | (410) 280-8785

Step 1: Click the info button 

Step 2: Click on your location of interest



Step 3: Choose Program Open Space in the "Identify Results" pop-up window

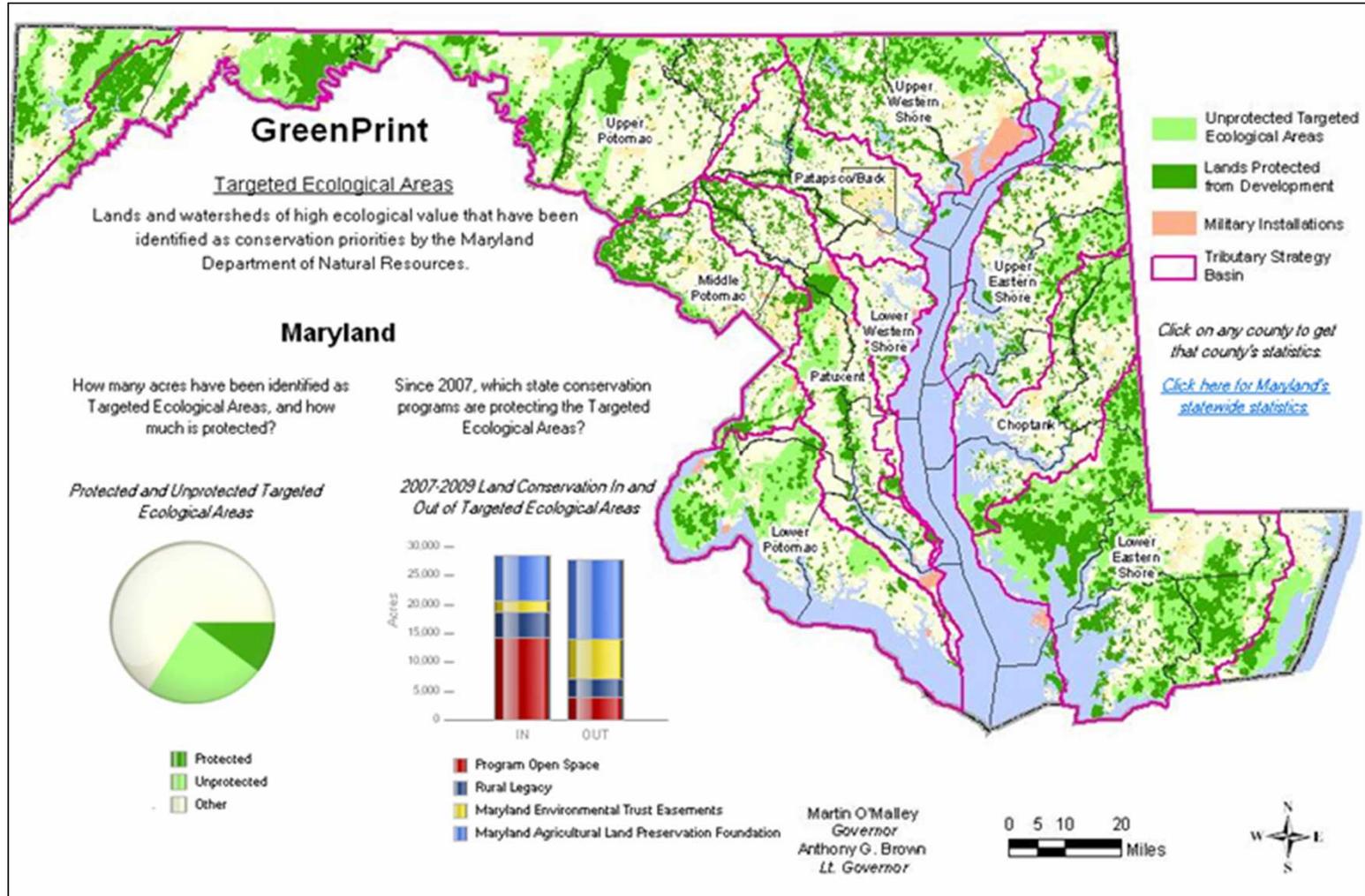
Program Open Space (1)

Step 4: Scroll down to determine the purchase price for land parcel (BWP amount)

BPWAmount
382910

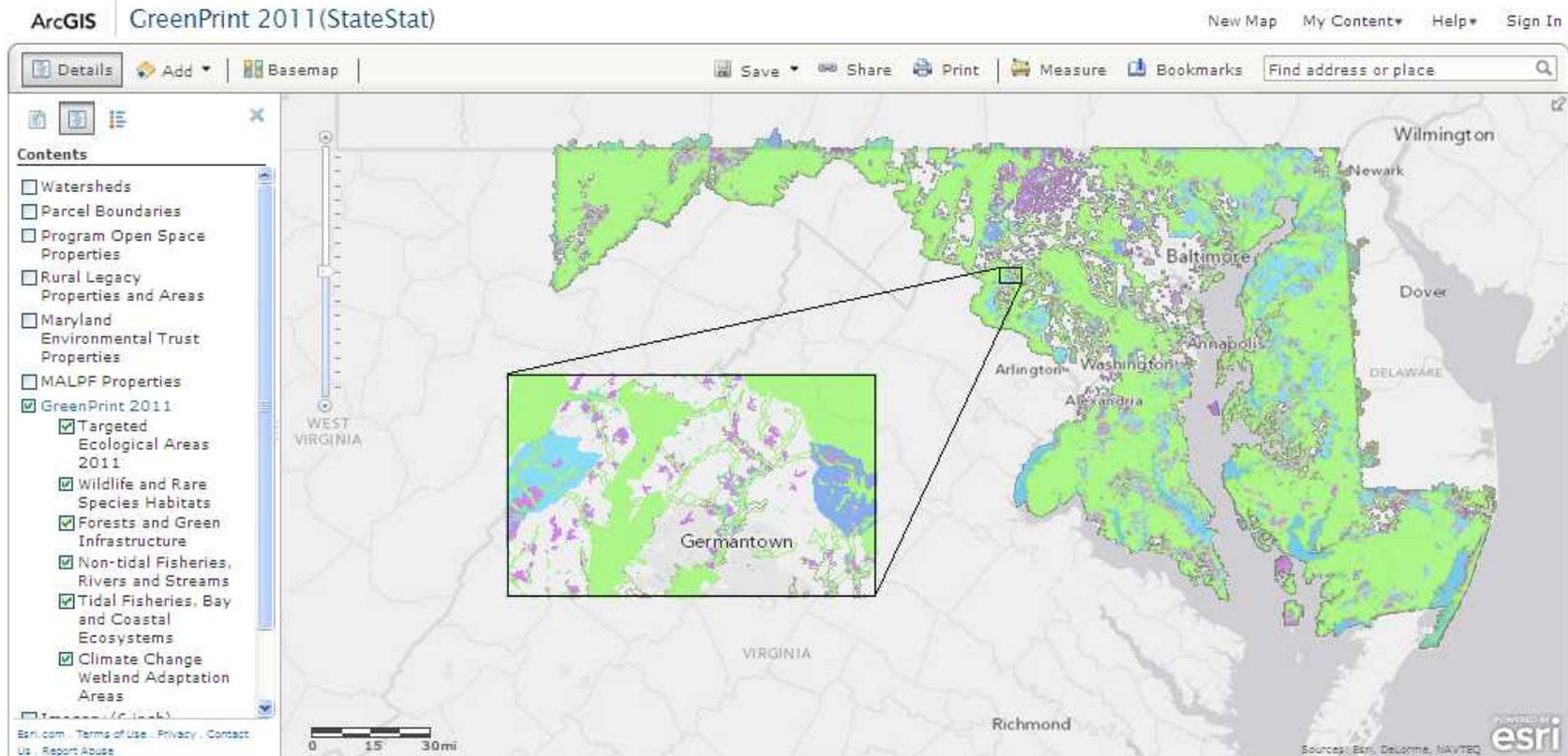
The GreenPrint Process

Step 6: Provide accountability and track success



Expanded GreenPrint Applications

Land Use Planning
Environmental Review
Citizen and Non-Profit Advocacy





GreenPrint

www.GreenPrint.Maryland.gov