

# Mattawoman project Genesis

- **Proposed Cross County Connector**
- **Interest in developing an Ecosystem-based management approach to watershed resource protection**
- **Opportunity to influence the County Comprehensive Plan process and outcomes**
- **Recognition that Land Use is local**

# World class sport fishery.



# The Mattawoman is home to:

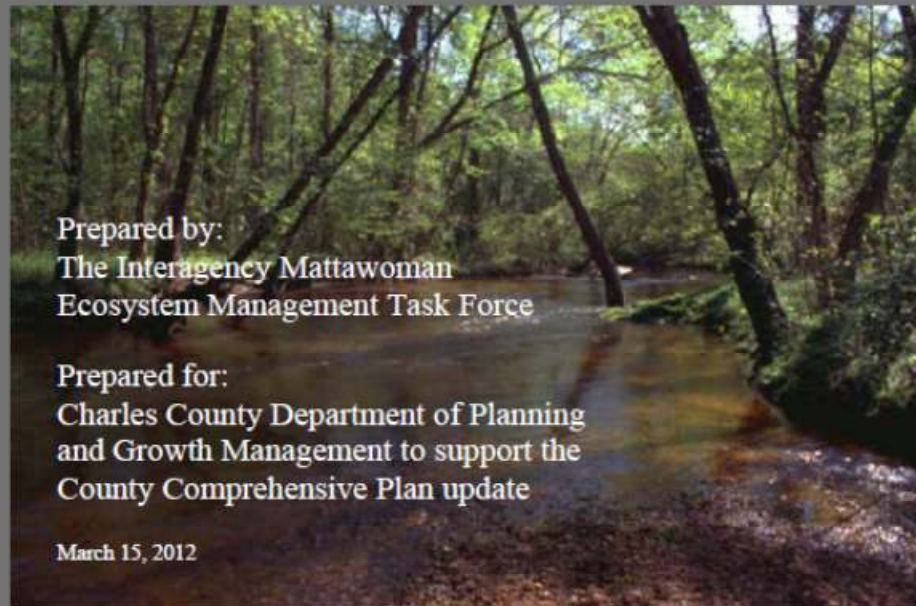
- sensitive fish spawning habitat;
- one of the state's premier sites for reptile and amphibian diversity.
- An especially high quality Mattawoman tributary (Old Woman's Run) and
- a globally rare Magnolia Bog.



Photo courtesy of George Wilmot

# **The Case for Protection of the Watershed Resources of Mattawoman Creek**

## **Recommendations and Management Initiatives to Protect the Mattawoman Ecosystem**



Prepared by:  
The Interagency Mattawoman  
Ecosystem Management Task Force

Prepared for:  
Charles County Department of Planning  
and Growth Management to support the  
County Comprehensive Plan update

March 15, 2012



## Targeted Watershed Ecosystem Management Initiative A Maryland DNR Pilot Program

### Mattawoman Ecosystem Management Interagency Task Force

#### DNR Project Management Group

Office for a Sustainable Future:	Christine Conn
Fisheries Service:	Jim Uphoff
Environmental Review Unit:	Tony Redman

#### Internal DNR Units Project Support Team

Community and Local Government Services:	Catherine Shanks
Watershed Assessment:	Ken Yetman
Land Acquisition and Planning:	Tom McCarthy
Tributary Strategies/WIP Coordinator):	Claudia Donegan
Natural Heritage Program:	Tim Larney, Kathy McCarthy, Lynn Davidson
Riparian and Wetland Restoration Services:	Erin McLaughlin
Ecosystem Analysis and Targeting:	Kevin Coyne
Critical Area Commission:	LeeAnne Chandler
Maryland Biological Stream Survey:	Scott Stranko, William Harbold, Dan Boward, Ron Klauda, Patrick Graves,
Coastal Zone Management Program:	Catherine McCall, Chelsie Papiez
Maryland Environmental Trust:	John Hutson, Ann Carlson
Fisheries Service:	Margaret McGinty, Marek Topolski, Ross Williams, Nancy Butowski, Justin Falls, Mary Groves, Joe Love, Bob Sadzinski
Boating Services:	Lisa Gutierrez
Forest Service:	Tim Culbreth, Brad Shoemaker
Park Service:	Butch Norden
Environmental Review Unit:	Greg Golden
Resource Assessment Service:	Tom Parham, Bill Romano, Cathy Wazniak
Office for a Sustainable Future:	Marcus Griswold

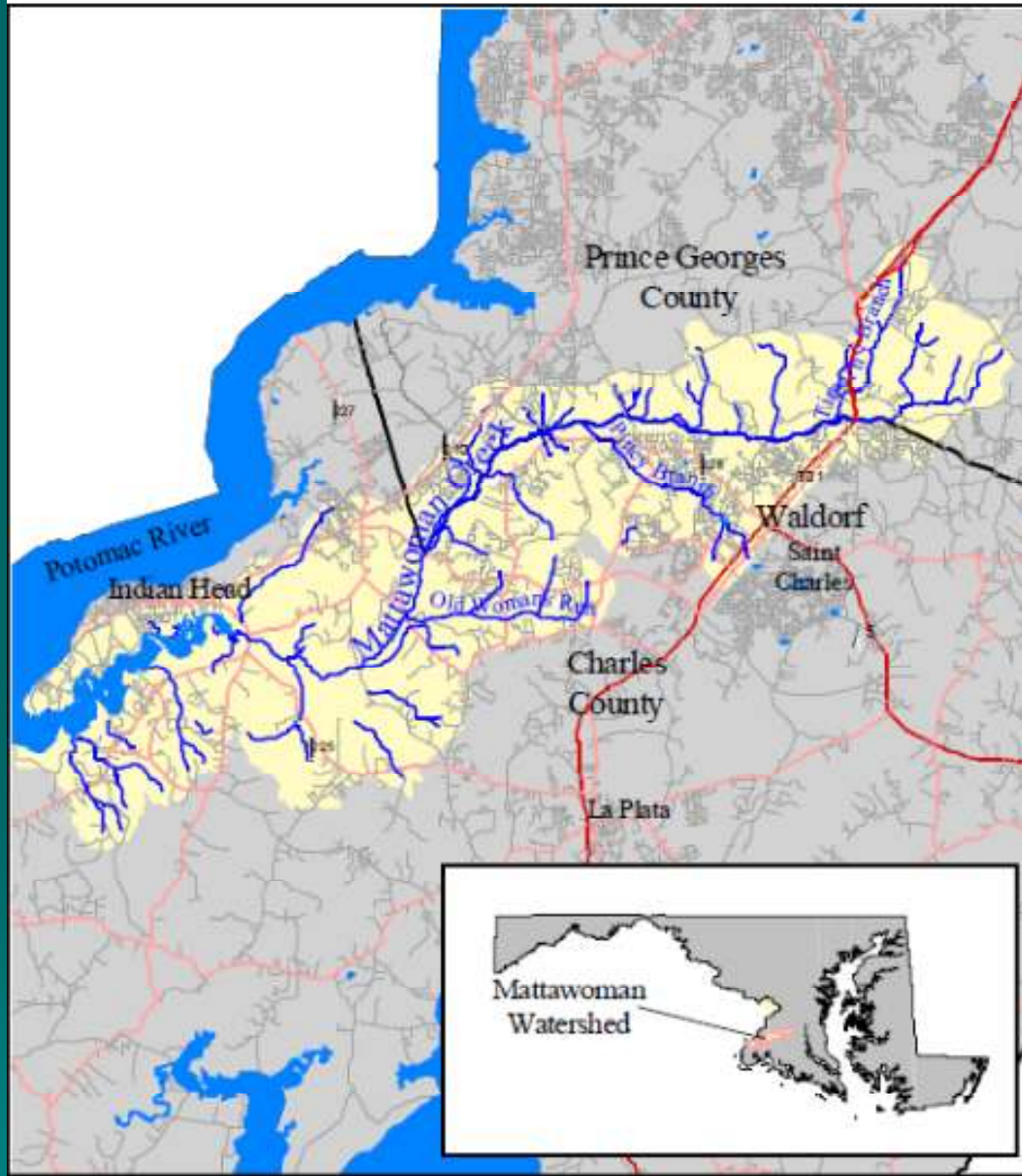
#### External Agencies Project Support Team composed of:

MD Department of Planning:	Peter Conrad, Mike Paone, Dan Baldwin, LaVerne Gray, Daniel Rosen, Ryan Sigworth
MD Department of Environment:	Jim George, Gregorio Sandi, Denise Clearwater, Adam Rettig, Matt Stover
MD State Highway Administration:	Donna Buscemi, Heather Lowe
USDOT (Federal Highway Administration):	Jeanette Mar, Mack Frost
US Fish and Wildlife Service:	Julie Slacum, Mitch Keiler, Dan Murphy
US EPA:	Ralph Spagnolo, Kevin Magerr
Interstate Commission Potomac River Basin:	Karen Bencala
UMD Anthropology Department:	Michael Paolisso, Elizabeth Van Dolah

# Report identifies Current Status, Threats and Recommendations for:

- Land Use
- Fisheries
- Streams
- Wetlands
- Coastal Resources and Climate Change
- Forest Resources
- Wildlife and Rare Species Habitat
- Stormwater Management

## Location of Mattawoman Creek



Source:

US Army Corps of  
Engineers,  
Mattawoman  
Creek Watershed  
Management Plan,  
2002

# Criteria for selecting target Watersheds

- ❖ **Degree of threat to watershed resources expected from development.** Is the volume of development anticipated so high that resources will certainly be damaged and is the threat imminent?
- ❖ **Watershed is within the GreenPrint**
- ❖ **Degree of importance of the Watershed's resources.** Is the targeted watershed special, home to a unique mix of resources, critical to support of fisheries, RTE species, or in some way a model watershed?



# Criteria for selecting target Watersheds

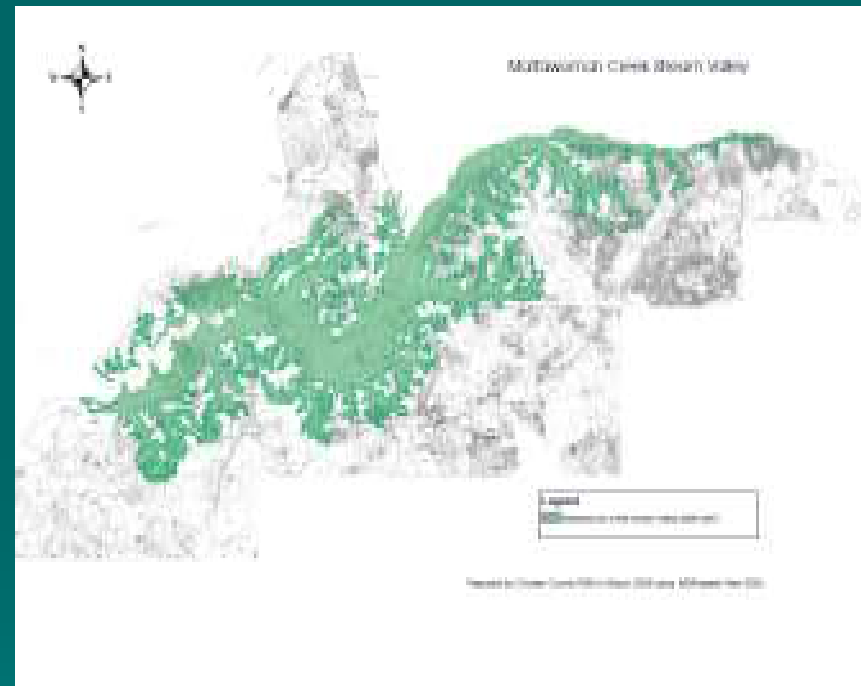
- ❖ **Likelihood of success.** Can a positive outcome be anticipated as a result of engaging in process and dialogue with the target community. For example, do they already support protection of the watershed resources through adopted objectives and policies but simply lack the implementation program elements necessary to do the job.
- ❖ **Not too late.** This would be a prevention program. In locations where impervious surface exceeds 10 to 12% in a watershed or urbanization has already taken place, restoration programs would be more appropriate.

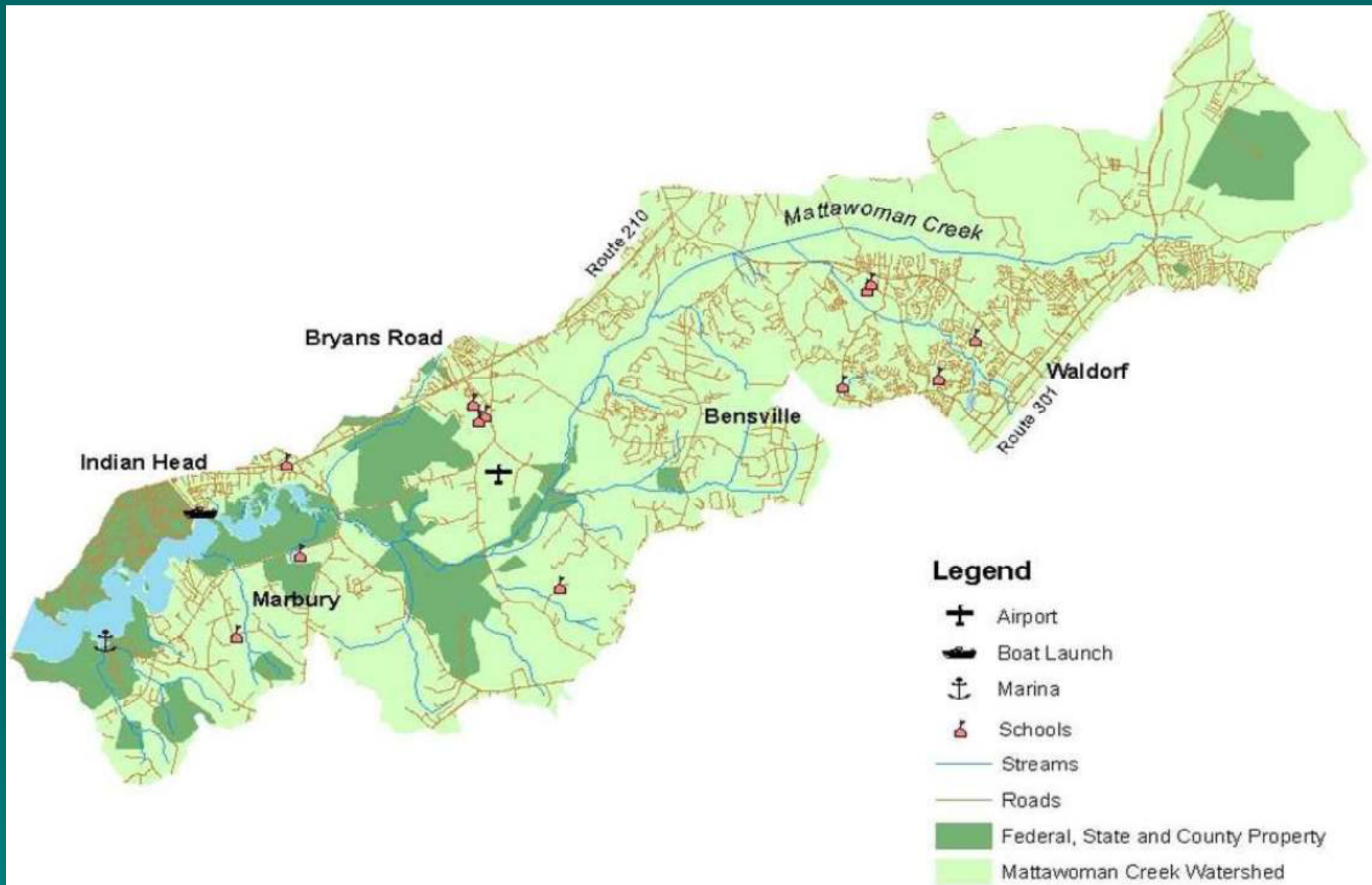
# Key Objectives/expected benefits:

- ❖ Protect “most threatened” watershed resources/ecosystems and conditions before it’s too late.
- ❖ Sustain low levels of impervious surface cover in watersheds currently subject to development pressure.
- ❖ Reduce future watershed forest fragmentation

# Key Objectives/expected benefits:

- ❖ Protect terrestrial and aquatic habitats that are currently “special” and support wildlife and plant species and protect fisheries diversity.
- ❖ Reduce planned future development densities in targeted resource dominant locations where such development will jeopardize accomplishing resource protection objectives.





Source: Vista Design, Inc., August, 2003: Charles County NPDES Program

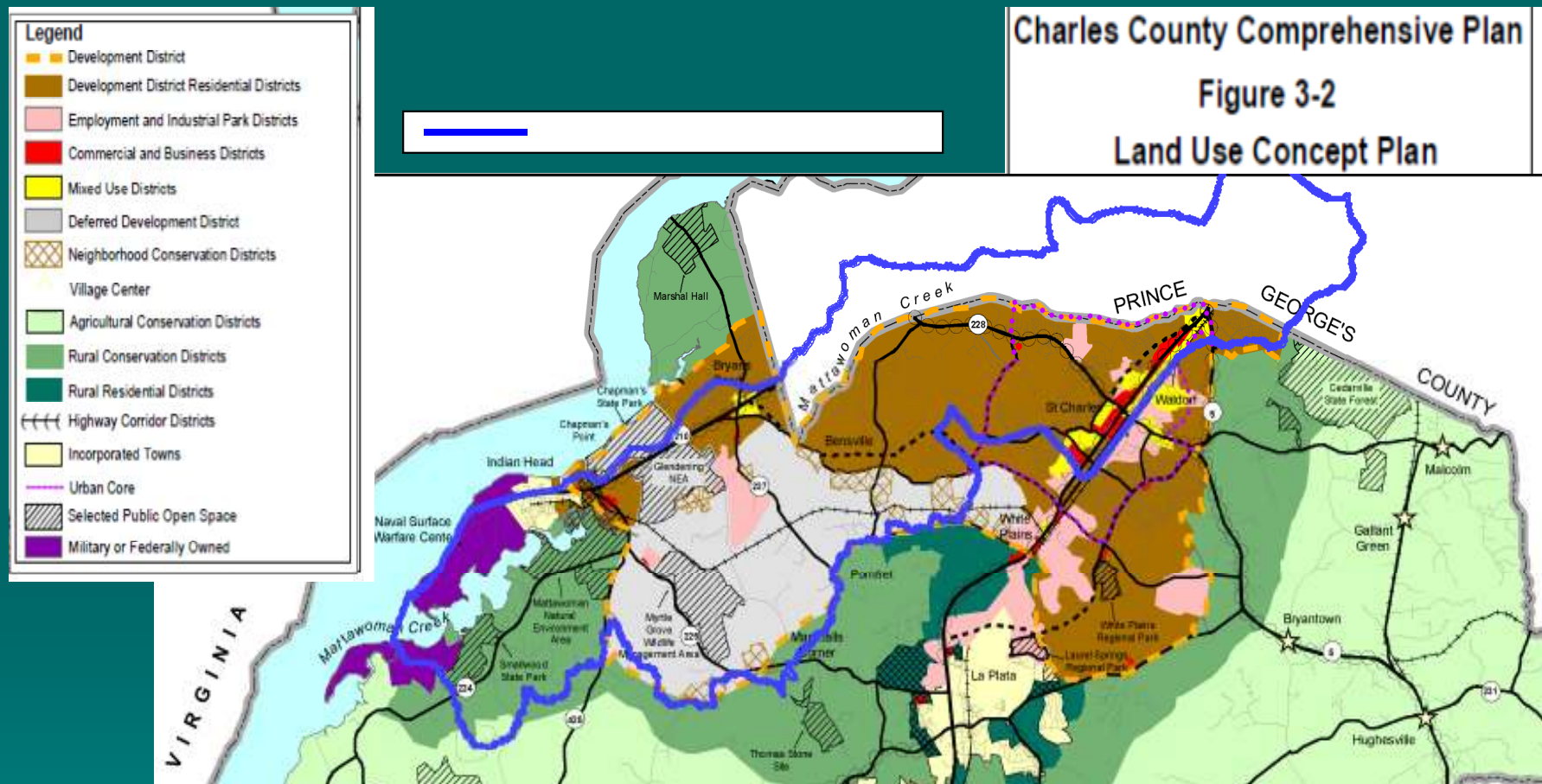


# Existing Conditions

## Charles County Comprehensive Plan

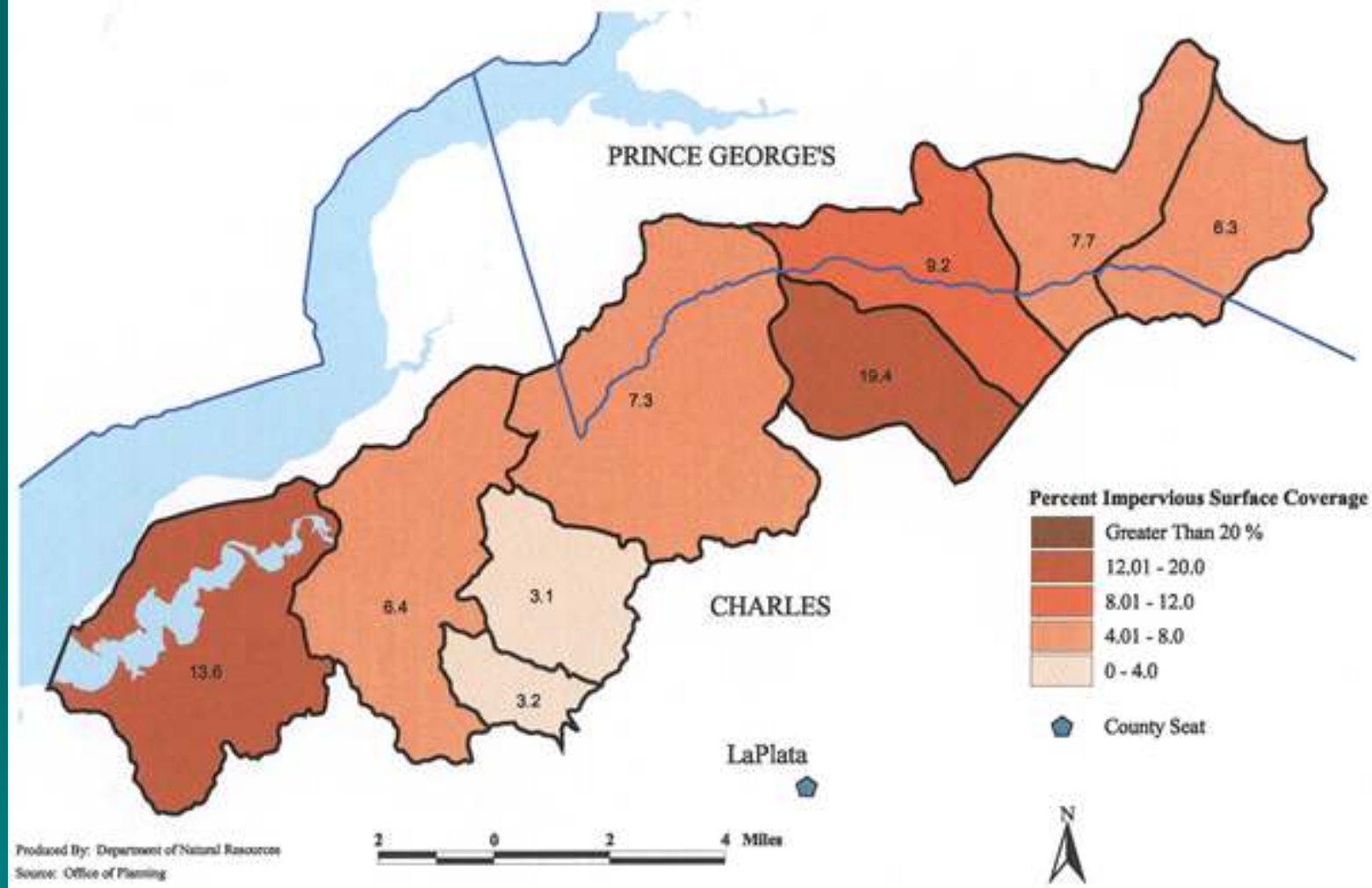
Figure 3-2

### Land Use Concept Plan



## Impervious Surface Cover Mattawoman Creek Subwatersheds

Figure 3-2



Source: ACOE Mattawoman Watershed Management Plan, August, 2003



# 2012 Charles County Comprehensive Plan Land Use/Land Cover Status

As of January 1, 2011  
Map Prepared May 2, 2011

	Land Area (acres)	Capacity (Units)
Developed	67,305	0
Committed	22,681	24,198
Protected	86,646	0
Undeveloped	118,074	28,111
<b>Total</b>	<b>294,705</b>	<b>52,309</b>

## Legend

- Municipalities
- Major Streams

## Developed

Shows all residential and nonresidential development, including rural residential.

## Committed/Redevelopment

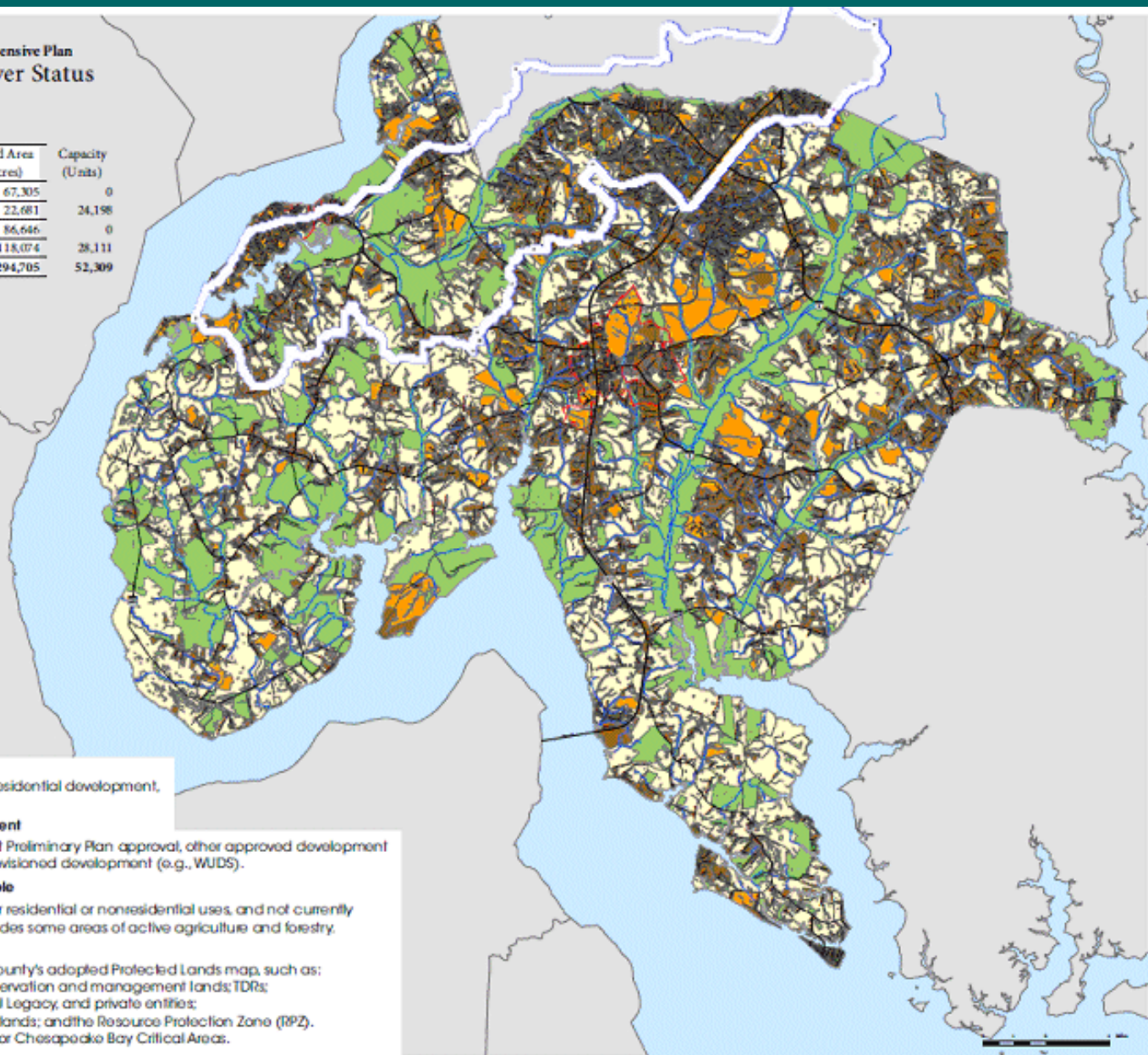
Shows subdivisions with at least Preliminary Plan approval, other approved development (e.g., St. Charles), and other envisioned development (e.g., WUDS).

## Undeveloped/Developable

Shows areas not developed for residential or nonresidential uses, and not currently committed to those uses. Includes some areas of active agriculture and forestry.

## Protected

Shows lands included in the County's adopted Protected Lands map, such as: parks; local/state/federal conservation and management lands; TDRs; easements for MALPE, MET, Rural Legacy, and private entities; historic/cultural properties; Wetlands; and the Resource Protection Zone (RPZ). Does not include steep slopes or Chesapeake Bay Critical Areas.



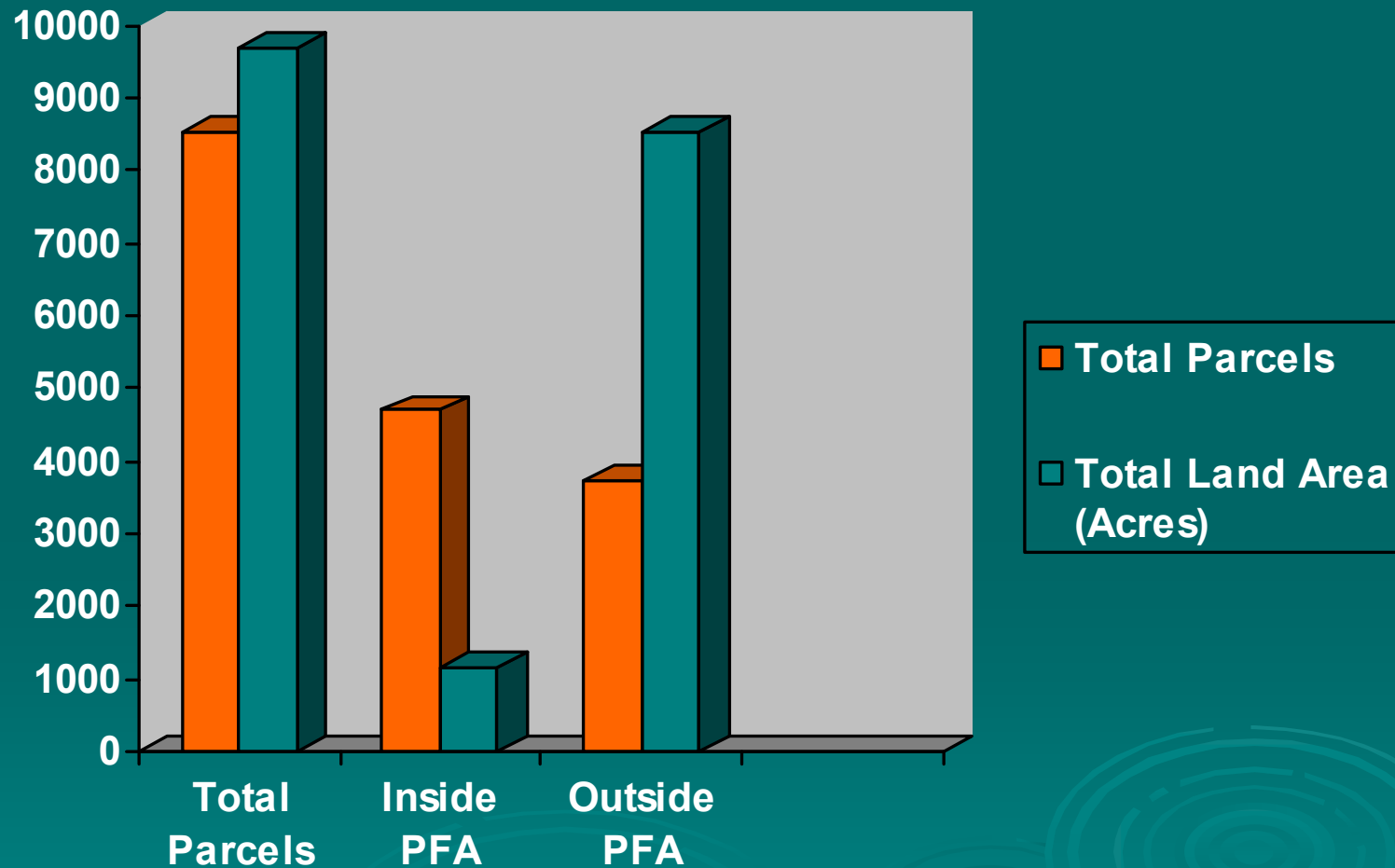
Source: Charles County Planning Dept, May, 2011 and MD DNR, September, 2011

# Mattawoman Trends





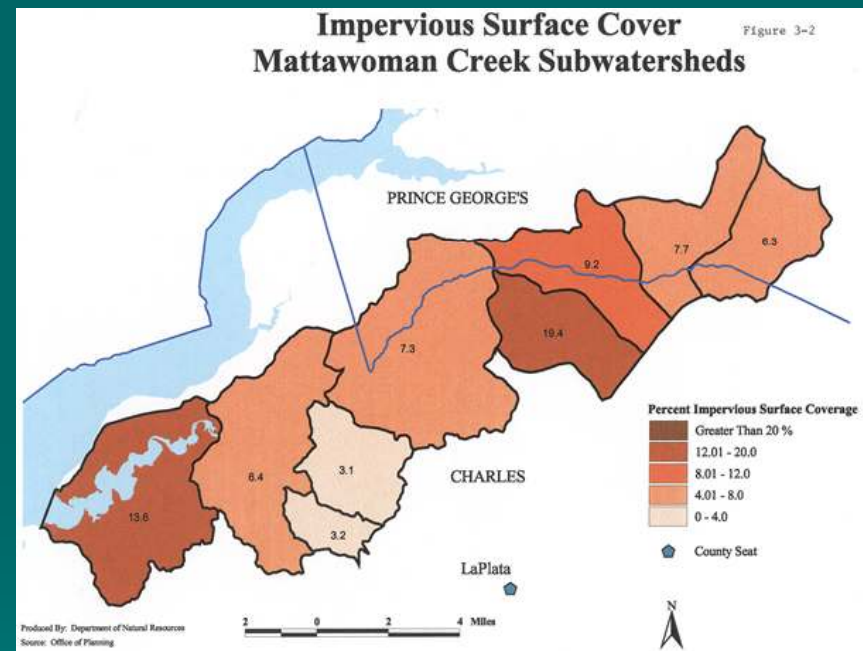
# Charles County Improved Residential Parcels 2000- 2007



Data Source: MDP and TDR Report prepared by Dr. Tom Daniels for Charles County

# Mattawoman Trends

- USACOE study in 2004 projected impervious surface in the Watershed would increase from 8.2% (at that time) to 23 % at build-out



Source: ACOE Mattawoman Watershed Management Plan, August, 2003

# Population Growth in the Mattawoman Watershed

➤ Year	Estimated Population
➤ 1990	34,978
➤ 2000	44,876
➤ 2010	51,789
➤ 2020	59,708

Projected to almost double over the 30 year period

Source: ACOE Mattawoman Watershed Management Plan, August, 2003

# Demographics, 2010-40

	Countywide	2006 Plan Development Districts	2006 Plan Deferred Development District	Remainder of County
Population 2010	<b>146,551</b>	98,210	7,034	41,308
Population 2040*	<b>221,950</b>	154,601	7,777	59,572
Housing Units 2010	<b>54,963</b>	36,553	2,683	15,772
Housing Units 2040*	<b>87,171</b>	60,720	3,054	23,397
Employment 2010	<b>62,199</b>	50,453	884	10,863
Employment 2040*	<b>83,097</b>	66,203	1,289	15,605

Notes:

\* Under 2006 Comprehensive Plan, as Amended—subject to change through future policy.

Source: MDP, U.S. Census Bureau, CRA



# Watershed population estimates/projections

Year	2010	2040
Mattawoman Watershed Population Estimates	52,622	81,189

2010 estimate and 2040 projection developed utilizing MDP and County projections but assume ½ of all development in the Development District and Deferred Development District to be located in the Watershed presently and in the year 2040.

# Findings & Conclusions



# Findings/Conclusions

- Charles County Rural Zoning is among the least protective in the State due to residential densities permitted.
- A change in zoning to limit development to one unit per 20 acres in the Deferred Development District would decrease development potential in Old Womans Run by almost half and reduce future nutrient loads/impacts by more than half.

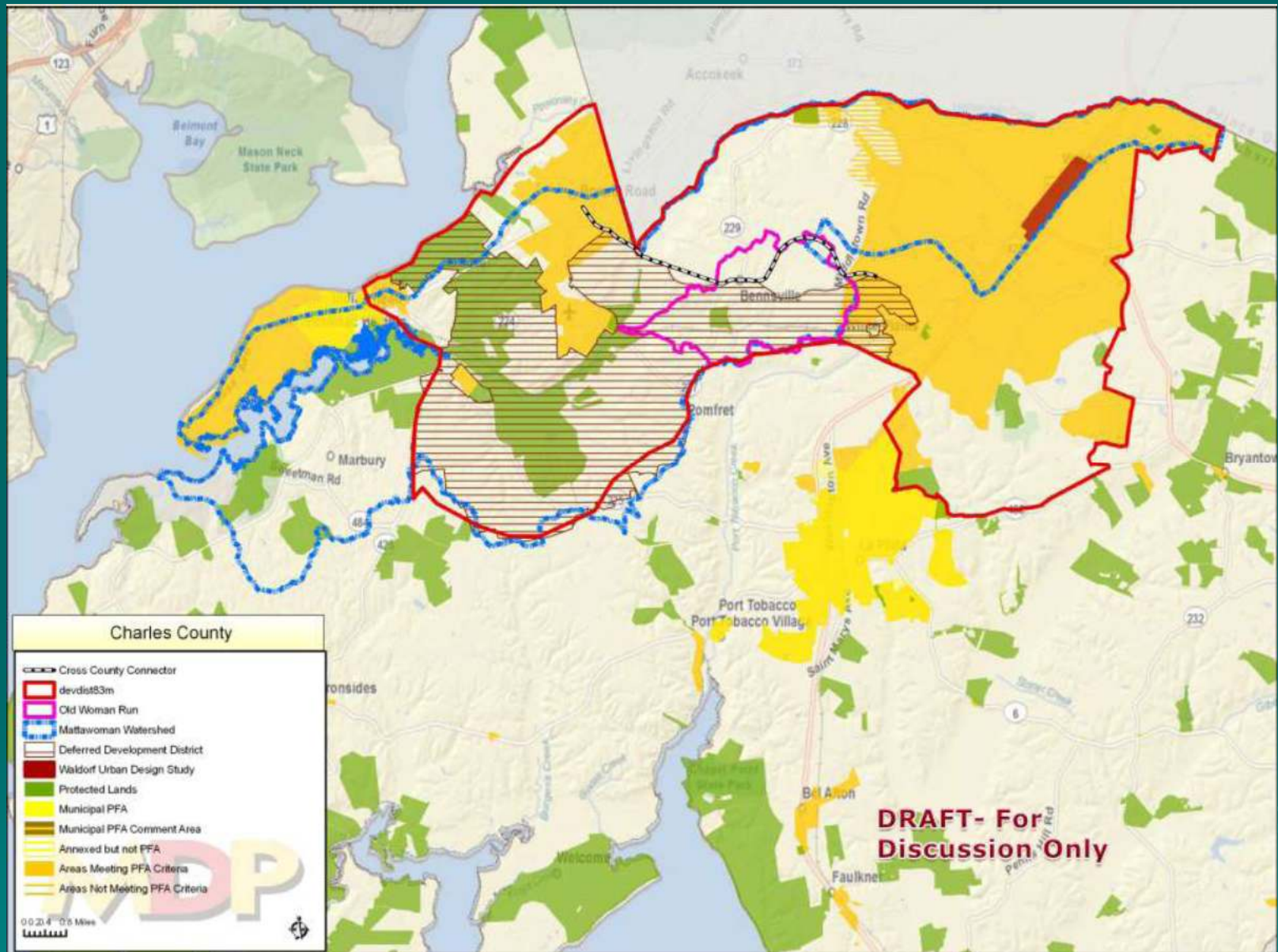
# Findings/Conclusions

- Given the present Comprehensive Plan Planned Land Use classification designations and corresponding Zoning structure established in the watershed, impervious surface can be projected to grow to levels that will degrade the watershed.
- Best estimates indicate Watershed impervious surface will grow from a presently estimated 9% to well over 20% at build-out)



# Conclusions (continued)

- Projections indicate that under the current County regulatory framework an additional 7,500 acres within the Watershed will be developed by 2040.
- Substantive Zoning reforms could reduce that 7,500 figure by half.
- Areas mapped as “Deferred Development District” and ACOE Stream Valley hold the greatest promise for instituting land use management reforms to achieve the greatest levels of protection.



## Findings/Conclusions (continued)

- Ironically, many of the provisions established within the County regulatory framework that will do harm to the Mattawoman over time stand in stark contrast to stated County intention, policies and objectives regarding the Watershed.

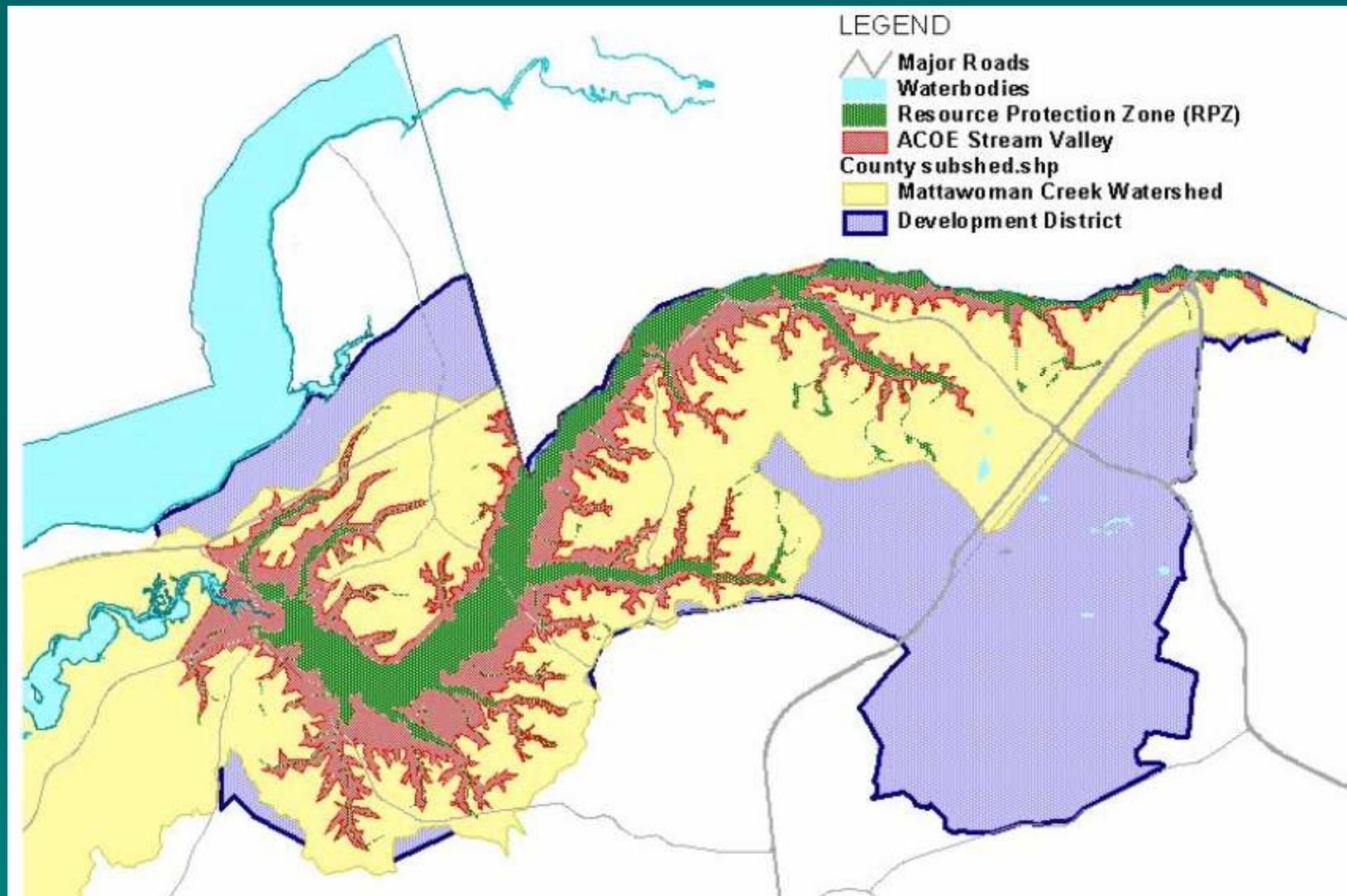
# Findings/Conclusions (continued)

- Charles County has adopted a number of Planning documents and undertaken studies that document stated adopted policies and objectives that clearly support the protection of the Mattawoman resources.
- These include the 2006 (current) Comprehensive Plan, the County 2006 Land Preservation and Recreation Plan & the Corps' 2003 Mattawoman Creek Watershed Management Plan.



*Figure V-3 Mattawoman Creek Valley in Charles County*

*Note: ACOE Stream Valley refers to Army Corps of Engineers valley*





# Findings/Conclusions (continued)

- In spite of well intentioned policies the regulatory framework and reforms necessary to protect the Mattawoman, have not been established to implement these policies.

# Findings/Conclusions (continued)

- As impervious surface and habitat fragmentation in the watershed increases, the quality of ecosystem resources and the fishery can only be expected to decline
- This may be the county's last chance to make a stand for the protection of Mattawoman Creek watershed

# Recommendations



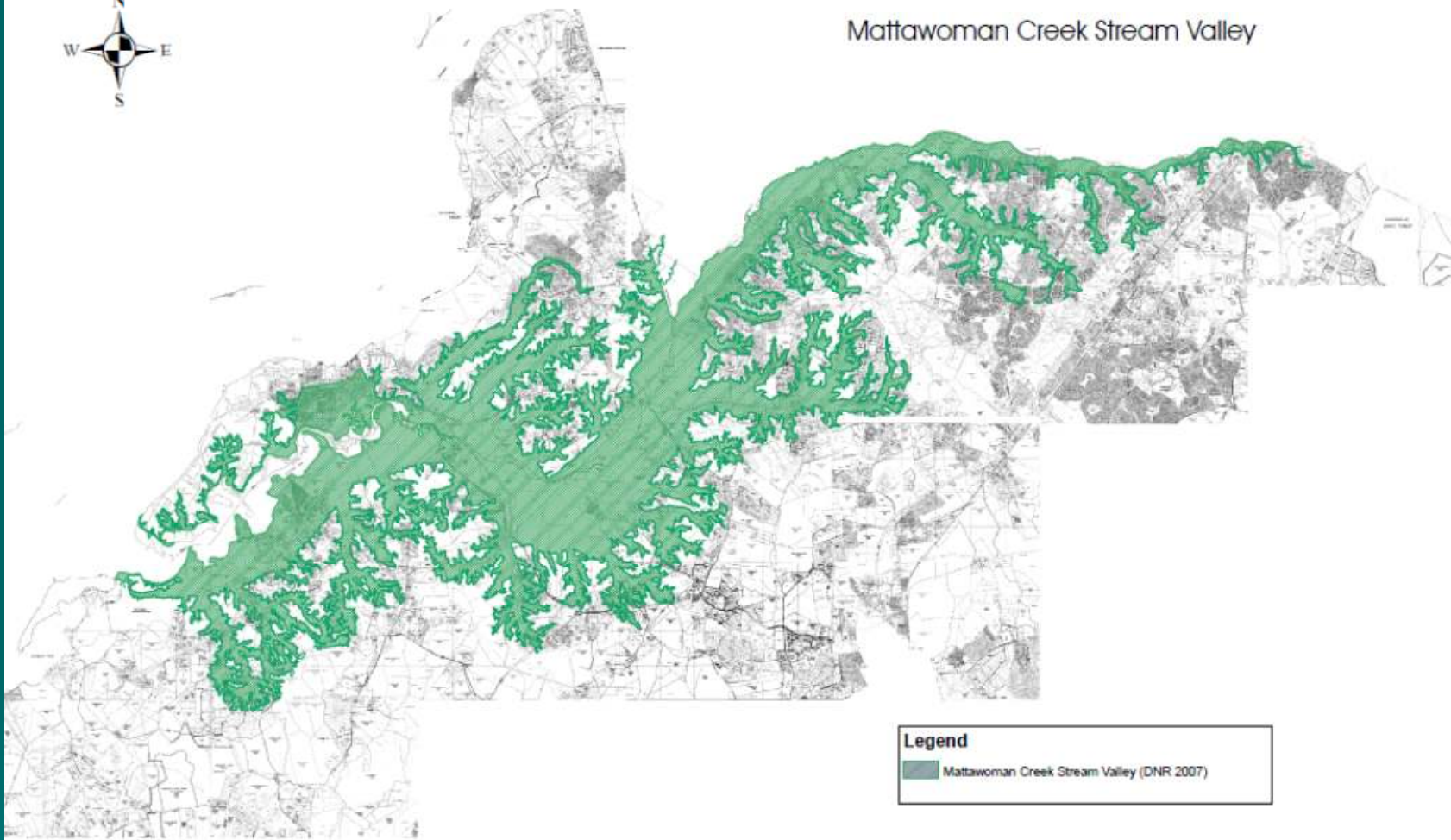
# Key Recommendations

- **Focus on protecting the Mattawoman Creek Stream Valley Corridor**
- The Corps valley totals approximately 12,900 acres in Charles County of which approximately 8,970 acres are currently protected or developed leaving approximately 3,900 acres unprotected and undeveloped.
- Protecting this area from development will represent approximately 20 percent of the remaining undeveloped & unprotected land in the Development District.\*

\* Source: Charles County 2006 Land Preservation and Recreation Plan



## Mattawoman Creek Stream Valley



Prepared by Charles County PGM in March 2008 using MDPProperty View 2006.

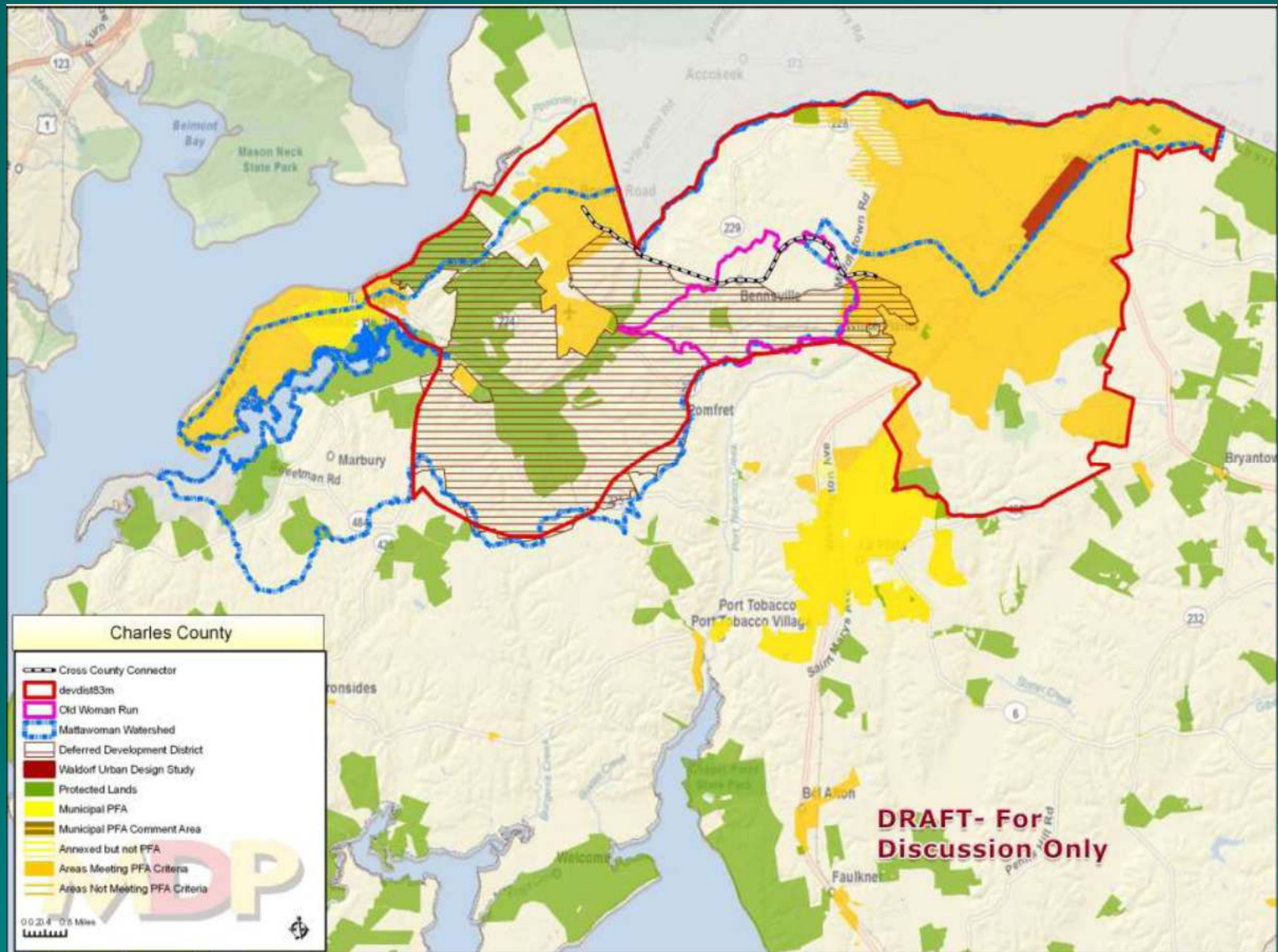


# Key Recommendations

- **Remove portions of the Mattawoman Watershed from the Development Service District**
- Given the resources present in the Watershed, the Development District (both present and Deferred) should be re-examined to define areas for development that are less resource dominated.

# Key Recommendations

- **Downzone lands in the Mattawoman Watershed designated Rural conservation/Deferred Development to a maximum density of one residential unit per 20 acres**
- **Designate RC/DD lands as a TDR program sending area allocating rights that can be transferred or purchased and retired**



# Key Recommendations

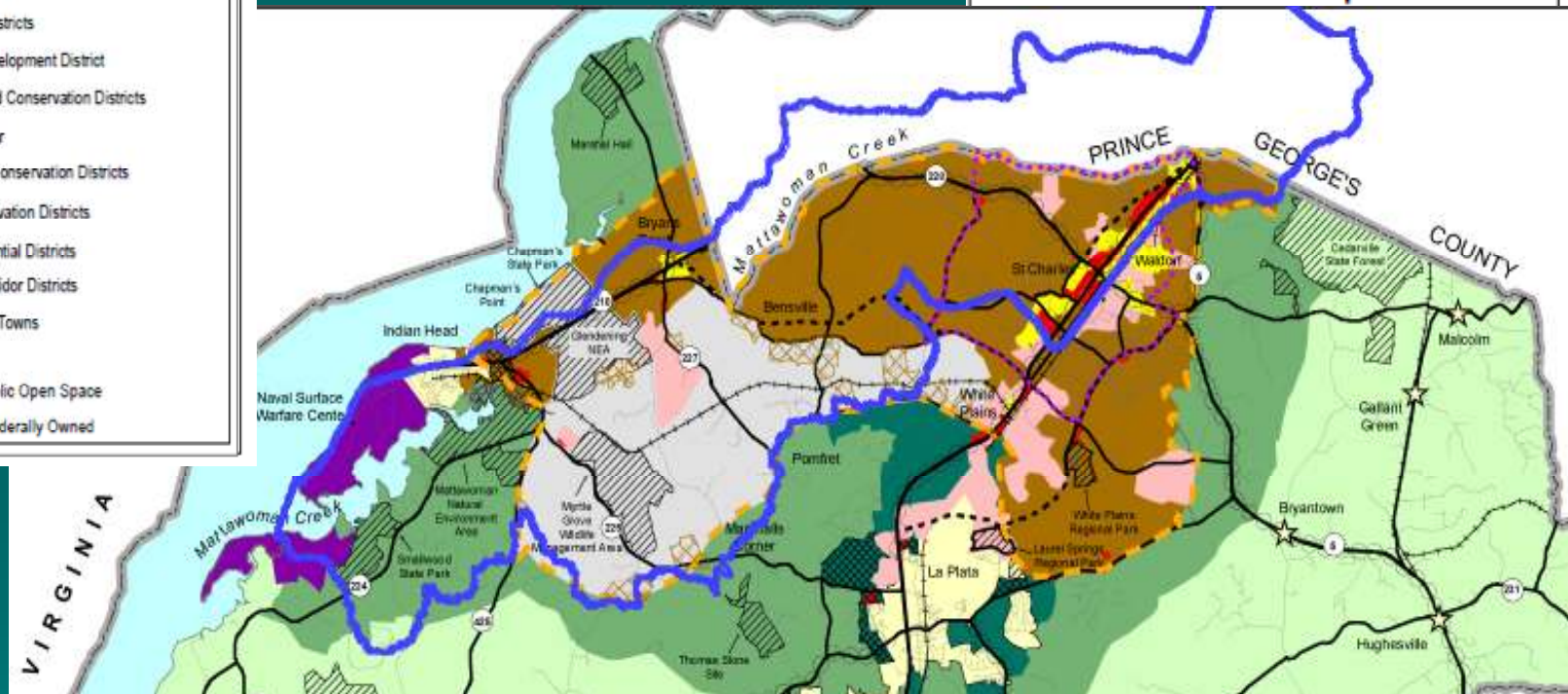
- **Focus development and re-development in the Waldorf Area, or locations east of Waldorf within the Development District or along the 301 Corridor.**



# Charles County Comprehensive Plan

Figure 3-2

## Land Use Concept Plan





# Key Recommendations

- **Focus development within the Development Service District away from Mattawoman Resources**
- Plan for more distinct “core” and “activity center” or “Town Center” areas to concentrate development or re-development at greater density.
- Provide additional areas for smarter growth and higher density/mixed use in targeted locations while at the same time eliminating other areas that are dominated by more sensitive resources as candidate development areas.

# Key Recommendations

- **Provide greater incentives to redevelop/revitalize existing developed areas to absorb growth (Waldorf) to reduce development pressure on resource sensitive lands**



# Key Recommendations

- **Target portions of the watershed as a Rural Legacy Area and/or for easement acquisition as recommended in the County's 2006 Comprehensive Plan.**
- This recommendation, in and of itself, does not assure that development within the sensitive areas of the watershed will not occur and therefore needs to be supported by additional protection measures.

# Key Recommendations

- **Require the purchase and use of TDR's as a threshold requirement for any new Commercial development (may exclude re-development) within the Development Service District.**

# Key Recommendations

- **Mandate cluster forms of development to protect resources in the Rural Conservation-Deferred (RC-D), Rural Conservation (RC) and Low Density Residential (RL) zone districts.**
- **Such a requirement may also have applicability to the County's Agricultural Conservation (AC) District. At a minimum it should be considered for application on sites zoned RL, RC and RC-D when such sites are adjacent to or include lands located in the Mattawoman's Stream Valley or Resource Protection Zone (RPZ) district.**





(Source: Pennsylvania Examples with Substantial Conservation Areas)



(Source: National Lands Trust)

# Key Recommendations

- Re-evaluate Lot Coverage and Impervious Surface limits and standards established in the County Zoning Ordinance.

See figures VI-5 and VI-6 of the County Zoning Ordinance

# Key Recommendations

- Limit lot coverage and restrict levels of impervious surface for future development in the watershed, or portions thereof, to between 8 and 10%. (See Montgomery County Special Protection Areas program as an example.)