

# **Discussion: Can/Should the Department of Parks Help Local Government Accomplish Public Projects in SPA Watersheds with an Impervious Cap?**

RESOURCE ANALYSIS SECTION



PARK PLANNING & STEWARDSHIP

**Jai Cole**

**Dr. John Hench**

**Doug Redmond**

**Montgomery County Department of Parks**

**Planning Board Round Table**

**November 5, 2009**



# The Issue:

Can/should the Dept. of Parks help local government accomplish public projects (e.g., schools) in SPA watersheds with an impervious cap?

Suggested options that pertain to Parks:

- 1. Establish an impervious bank within the Dept. of Parks. The bank would be “capitalized” by accounting for impervious surface removed by the Dept. of Parks on parkland. Bank credits could be purchased by other County agencies. At a minimum, credit price would reflect the cost of removing the impervious surface.*
- 2. A County agency other than the Dept. of Parks would remove existing impervious surfaces on parkland to offset excess imperviousness associated with a non-park project*
- 3. Pervious Reserve “A” - A County agency or the Department of Parks could bank credits from unrealized imperviousness limits associated with approved but undeveloped subdivision plans (e.g., Mitchell Property creating imperviousness “rights” )*
- 4. Pervious Reserve “B” – A County agency could bank credits from vacant, but prospectively developable properties through purchase; and creation of conservation easements or dedication as parkland*



## Relevant Policy:

**Limited Amendment to the Master Plan for the Eastern Montgomery County Planning Area: Cloverly, Fairland, White Oak 1981, As Amended: Expanded Park Acquisition for Resource Management and Protection of the Paint Branch Watershed. May 1996**

*“To Protect environmental resources and encourage improved resource management in the Upper Paint Branch watershed, this Amendment recommends that 247.39 acres be added to the Paint Branch Stream Valley Park system, or be retained in their entirety as open space or parkland through an alternative method such as development easements or land trusts.”*

**2005 Land Preservation, Park and Recreation Plan (LPPRP). A Parks Recreation Open Space Plan for Montgomery County, Maryland. MNCPPC. page III-3.**

### ***Policy for Parks***

*“Lands and facilities under the control of The Maryland-National Capital Park and Planning Commission are held as a public trust for the enjoyment and education of present and future generations. The Commission is pledged to protect these holdings from encroachment that would threaten their use as parkland. The Commission recognizes that under rare circumstances non-park uses may be required on park property in order to serve the greater public interest.”*



## **Background:**

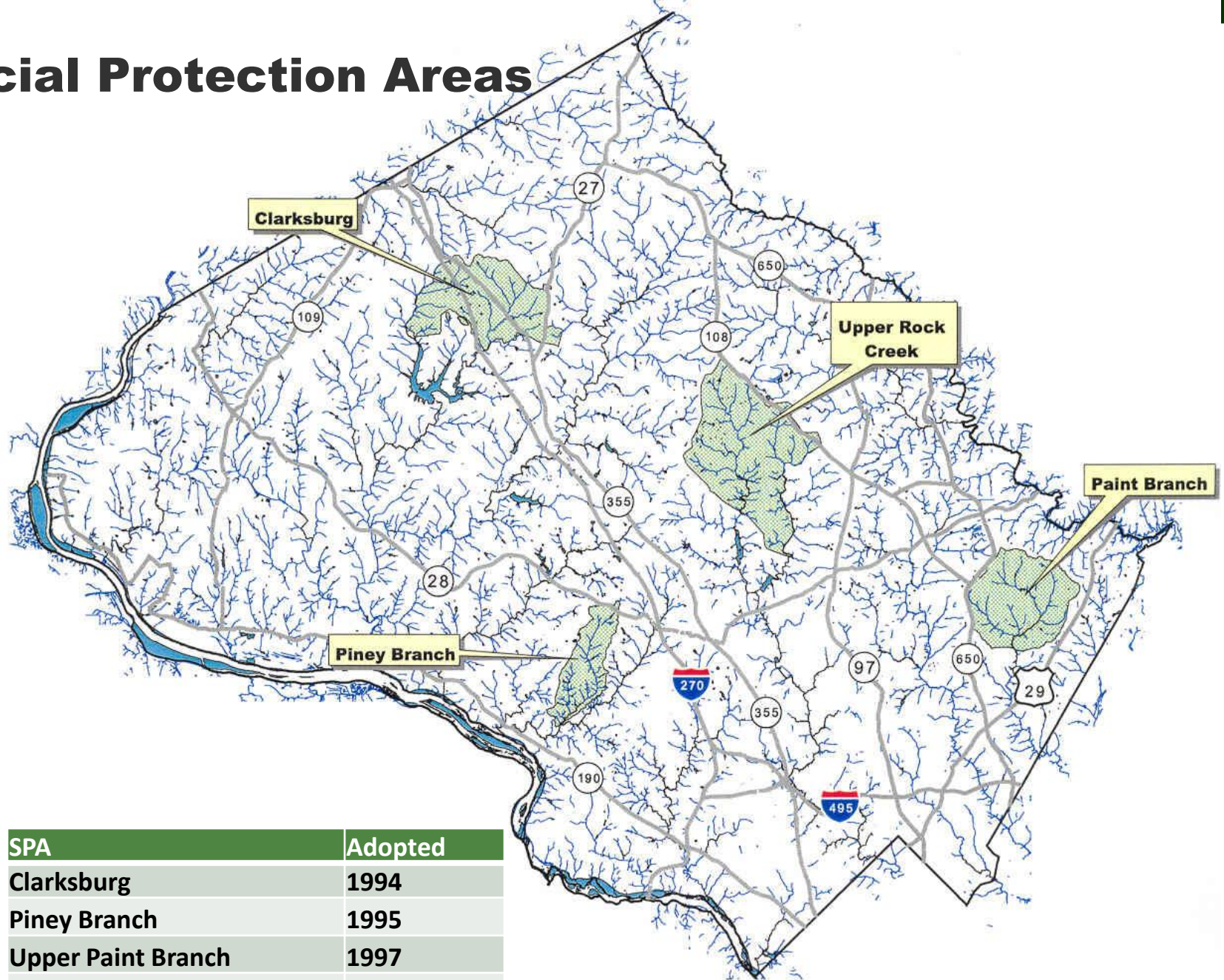
**The Special Protection Areas (SPA) Program was established in 1994 by Montgomery County Code Chapter 19, Article V (Water Quality Review-Special Protection Areas, Section 19-67)**

**The program was implemented through Executive Regulation 29-95 titled: Water Quality Review for Development in Designated Special Protection Areas.**

**The purpose of SPAs is to protect water quality, quantity and biodiversity of four fragile watershed areas (Clarksburg, Piney Branch, Upper Rock Creek and Upper Paint Branch)**



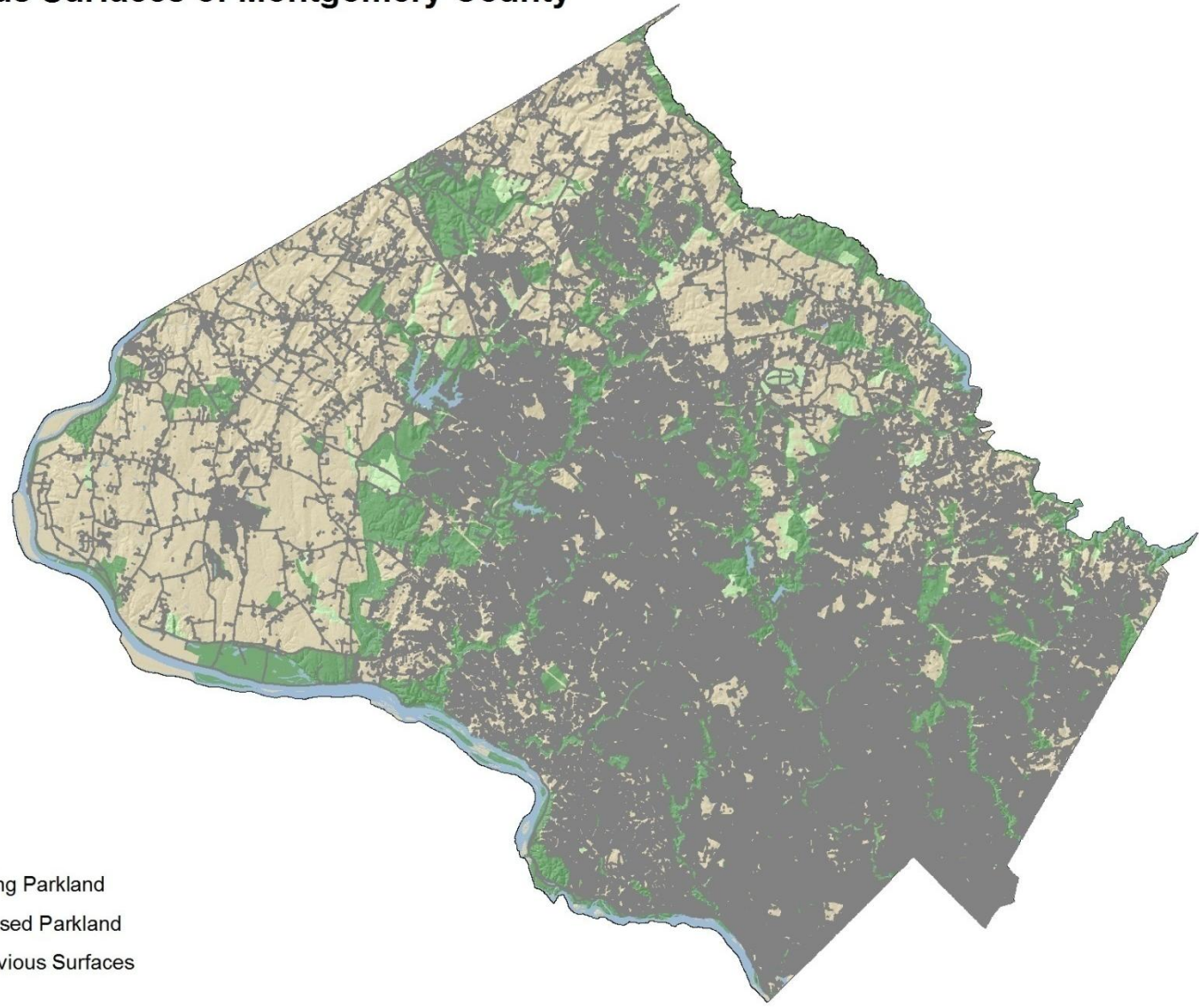
# Special Protection Areas



SPA	Adopted
Clarksburg	1994
Piney Branch	1995
Upper Paint Branch	1997
Upper Rock Creek	2004



# Impervious Surfaces of Montgomery County



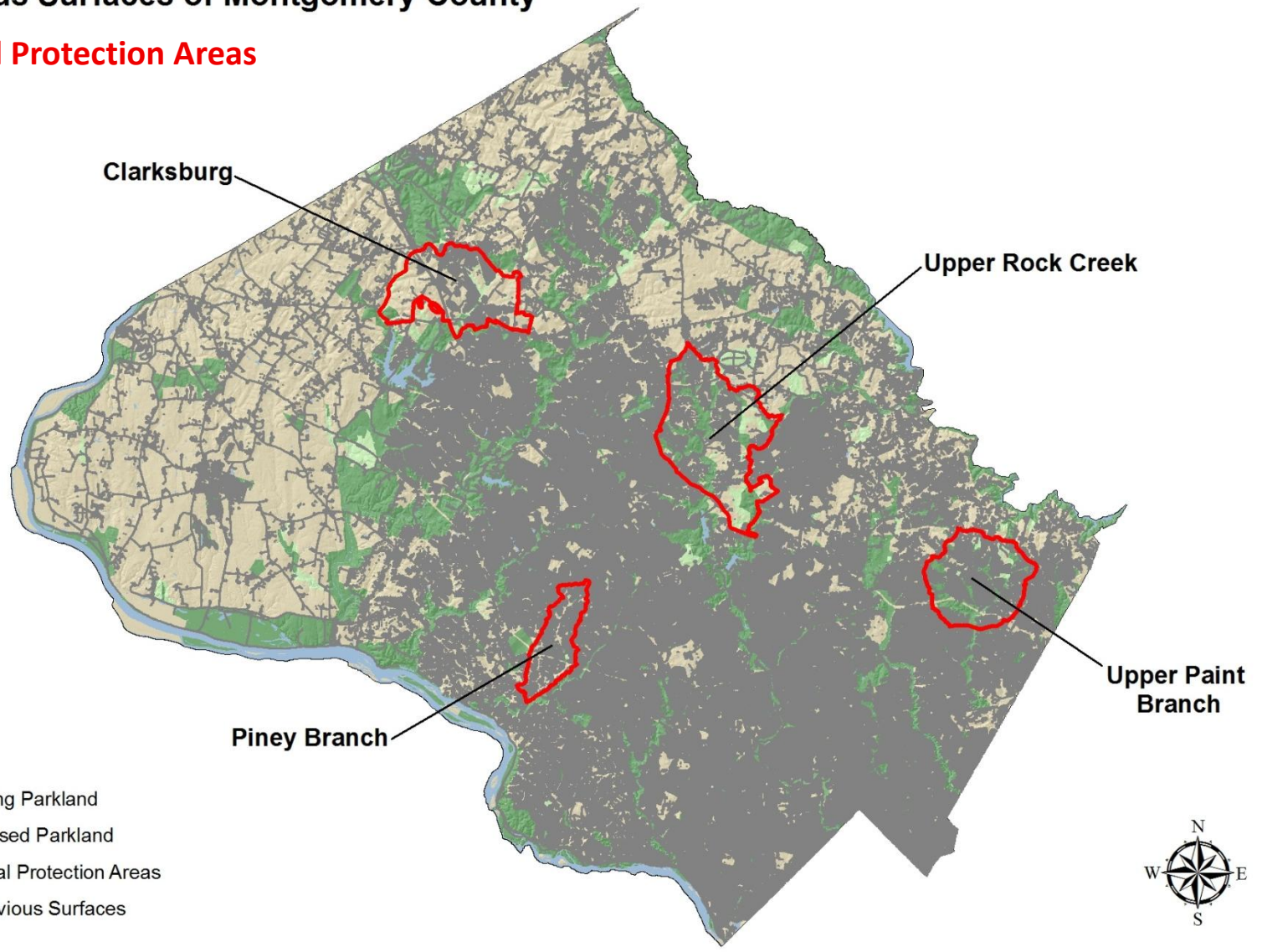
- Existing Parkland
- Proposed Parkland
- Impervious Surfaces



Based on 2007 data

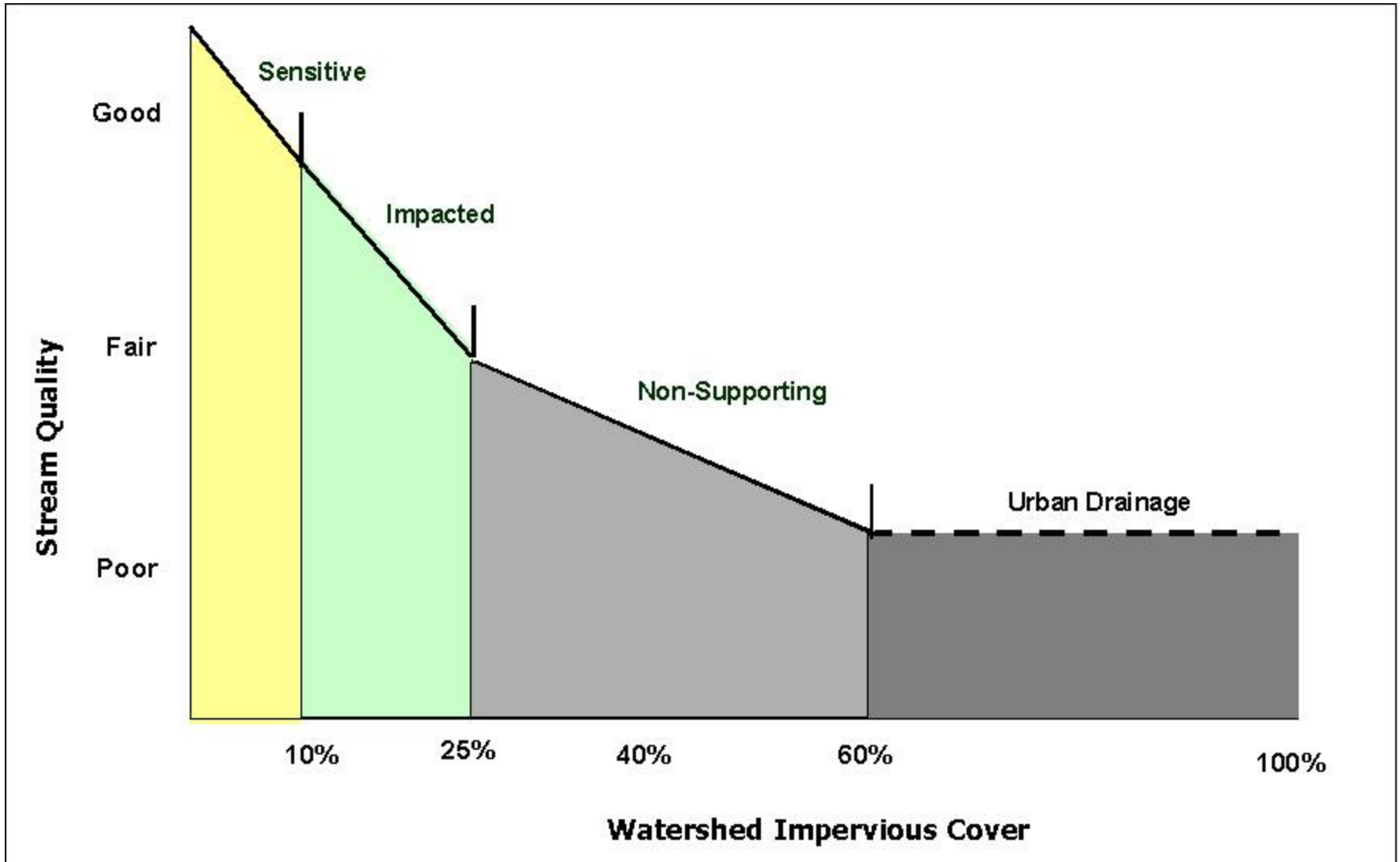
# Impervious Surfaces of Montgomery County

## Special Protection Areas



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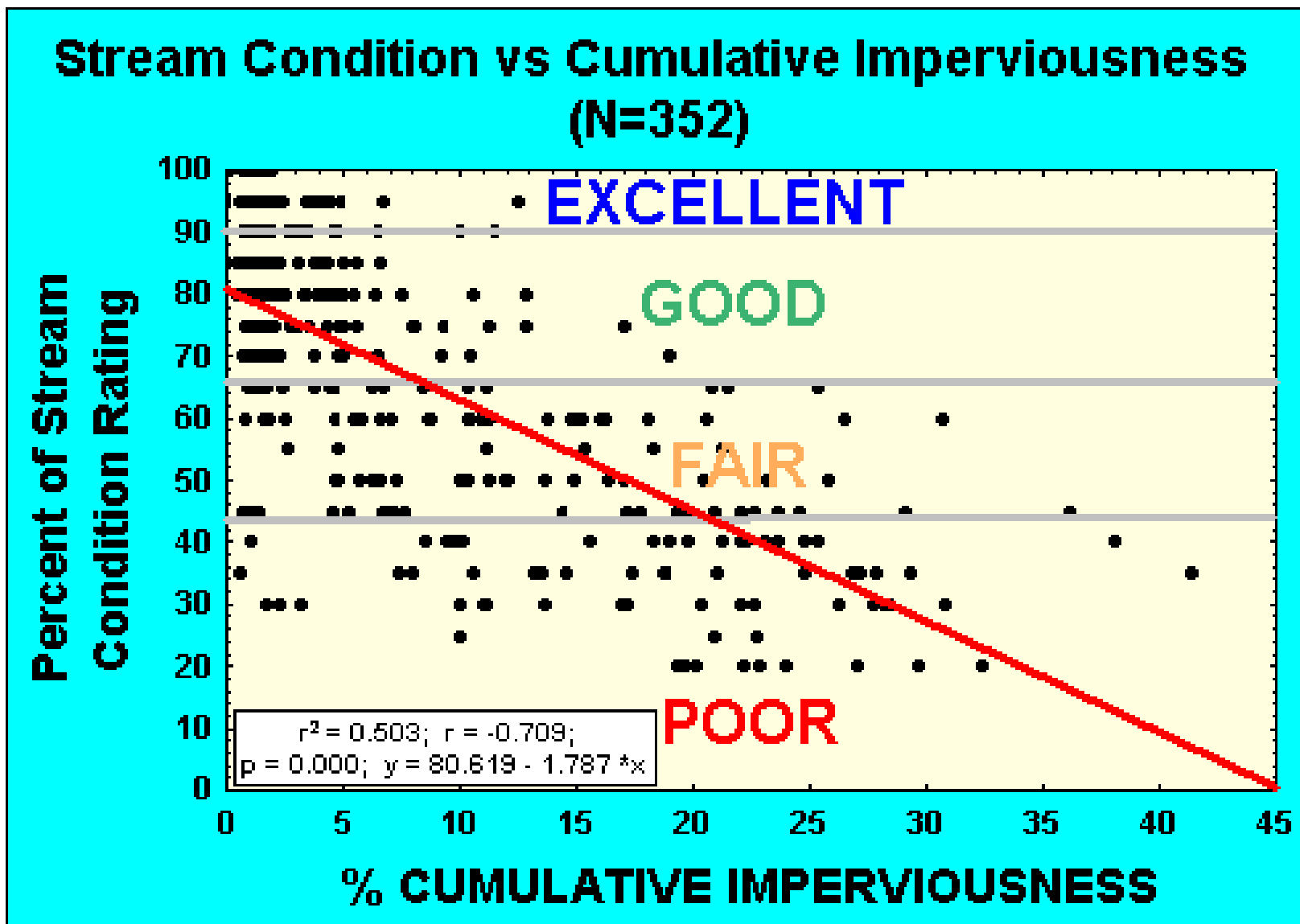
# Impervious Cover Model



Center for Watershed Protection



# M-NCPPC and DEP Biological Monitoring Data

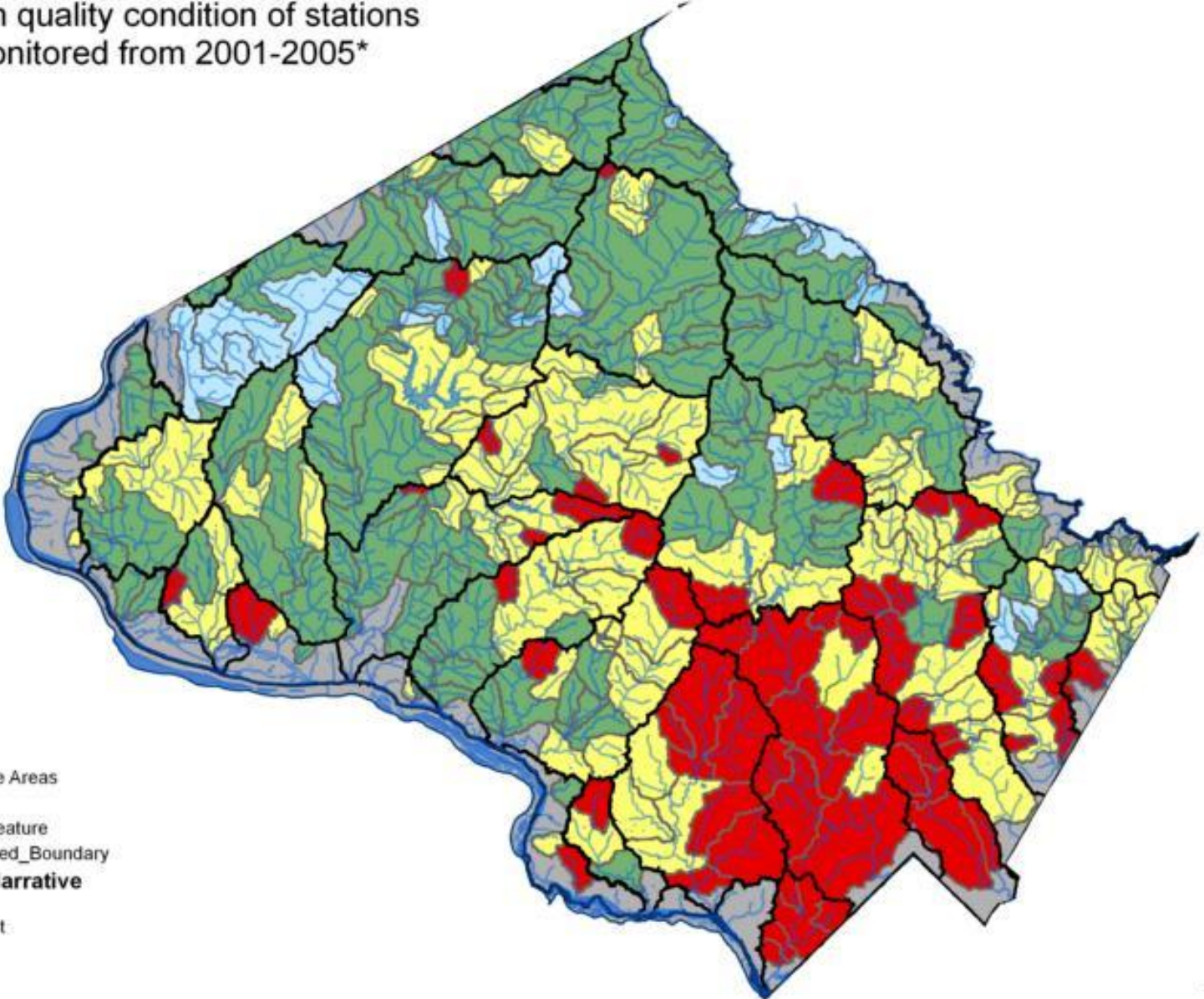


# Stream Quality Conditions 2001-2005

# Countywide Stream Protection Strategy (CSPS)

Stream quality condition of stations monitored from 2001-2005\*

- Legend**
-  Drainage Areas
  -  Streams
  -  Water Feature
  -  Watershed\_Boundary
- AverageNarrative**
-  Excellent
  -  Good
  -  Fair
  -  Poor
  -  Not Monitored



\*Horsepen Branch was monitored in 2000





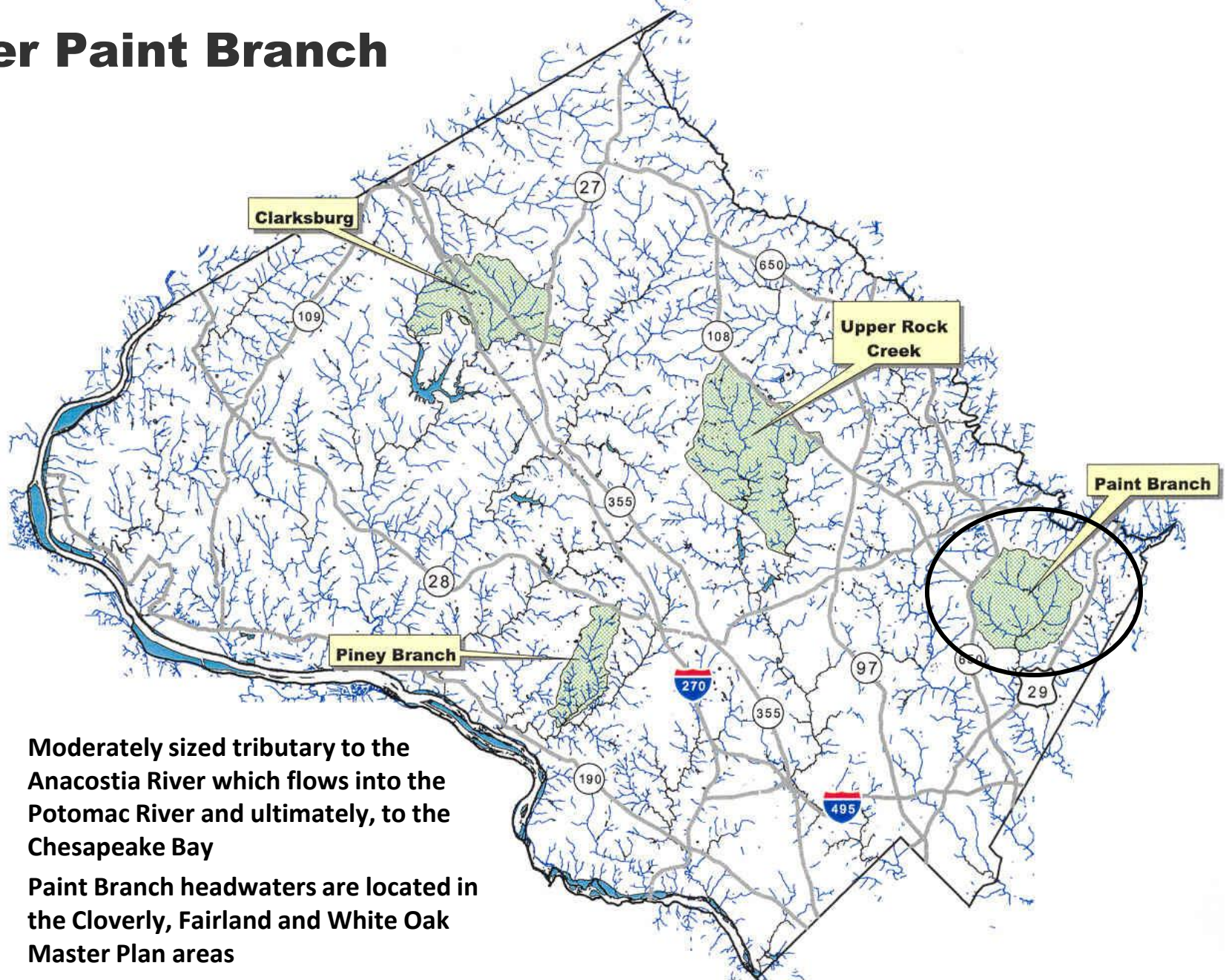
Poor Stream



Good Stream



# Upper Paint Branch



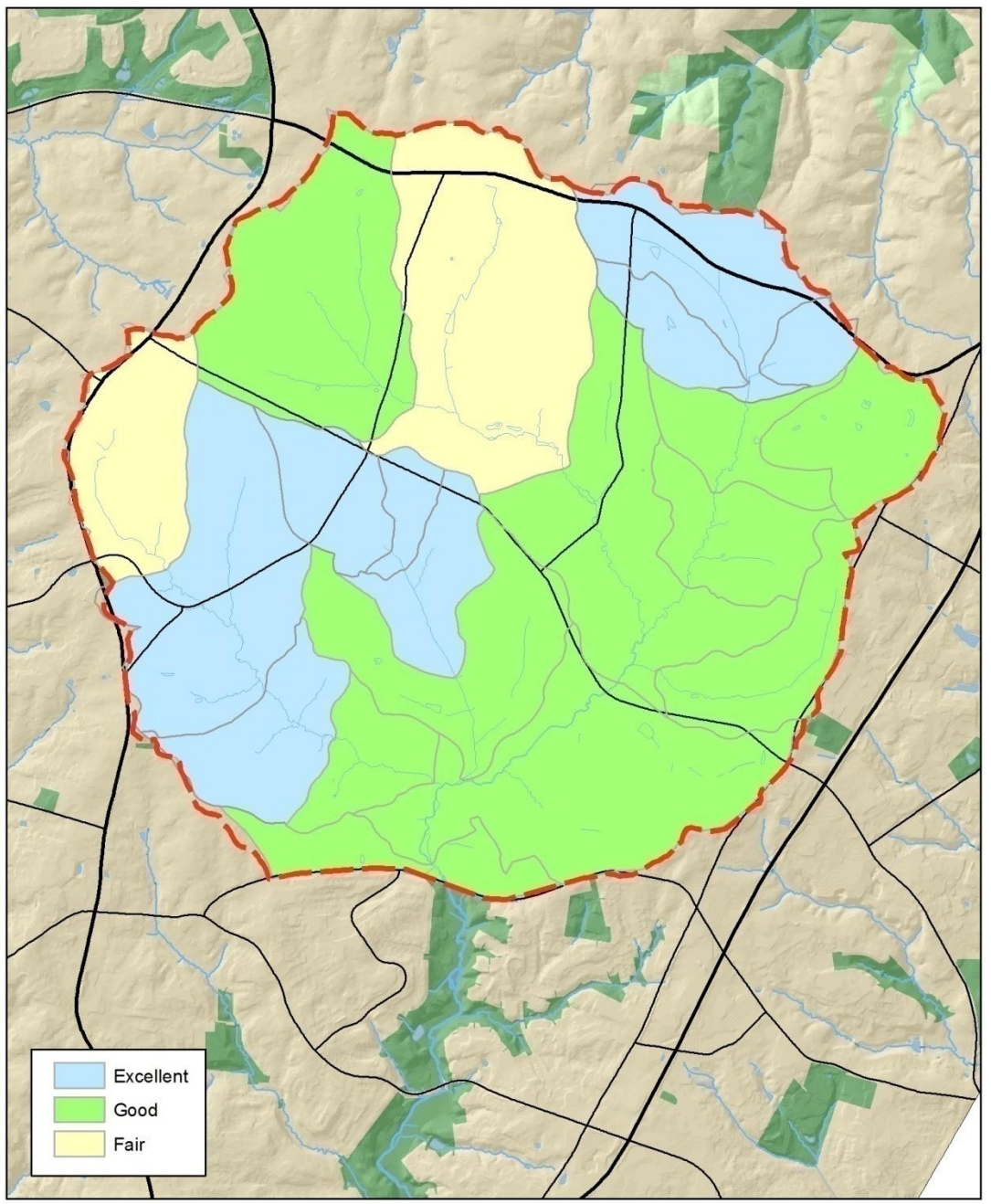
Moderately sized tributary to the Anacostia River which flows into the Potomac River and ultimately, to the Chesapeake Bay

Paint Branch headwaters are located in the Cloverly, Fairland and White Oak Master Plan areas



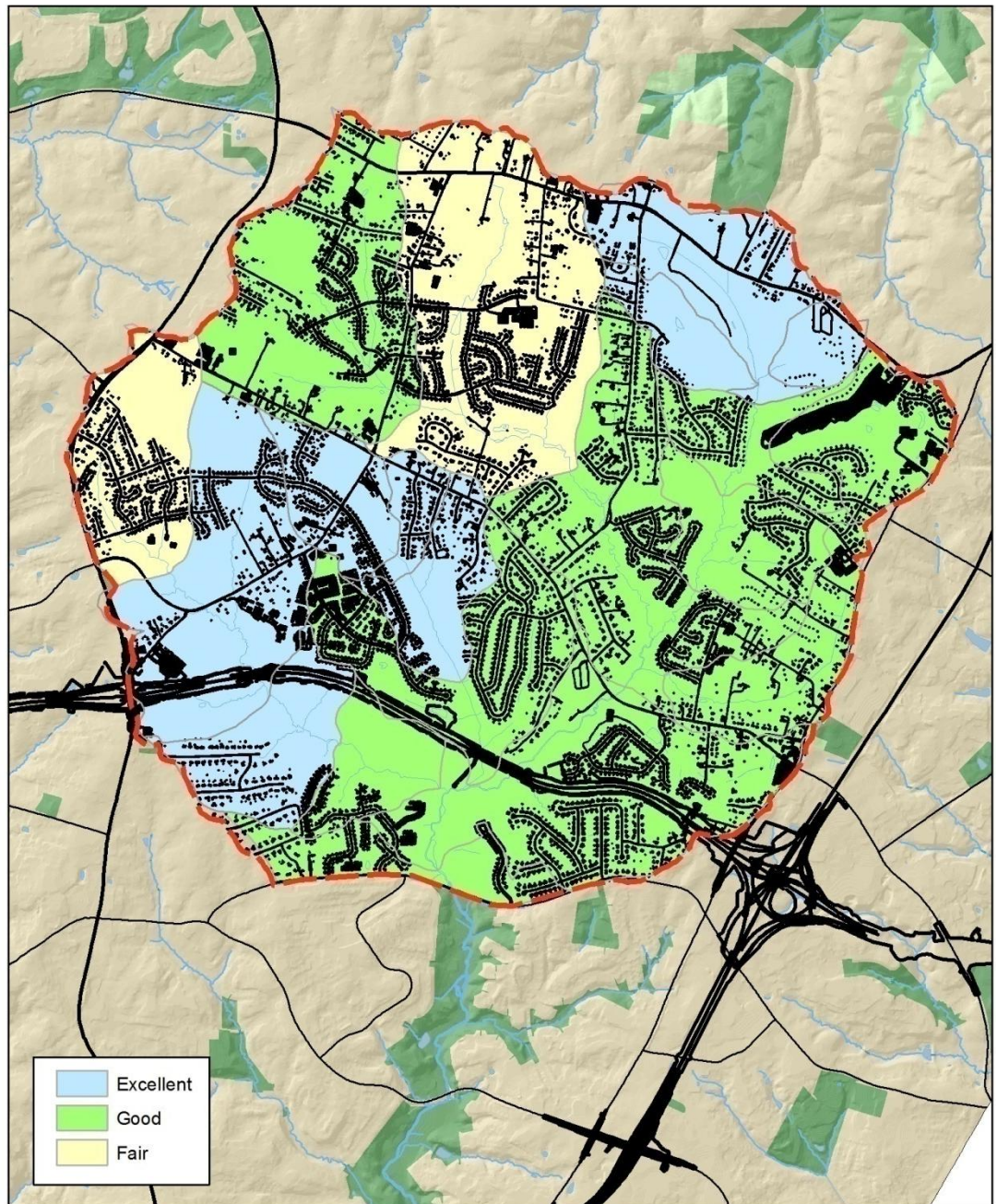
# Upper Paint Branch

## IBI Information



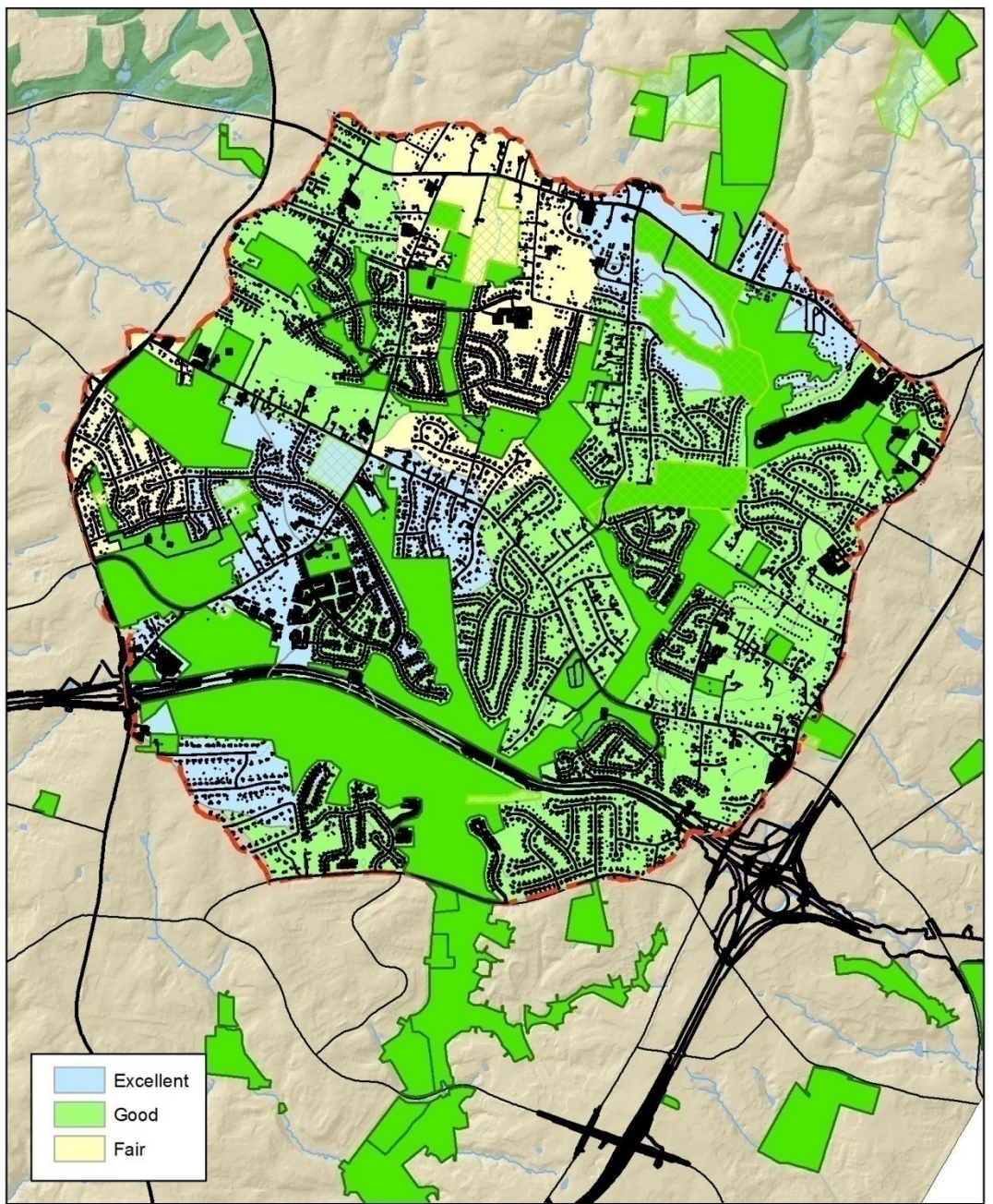
# Upper Paint Branch

## IBI Information



# Upper Paint Branch

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# Upper Paint Branch

The Upper Paint Branch watershed is comprised of four major tributaries:

- **Good Hope** – The greatest number of springs and seeps that provide continuous steady supply of cold water, providing ideal conditions for trout spawning. This tributary accounts for 75% of the annual trout reproduction
- **Gum Springs** – Also spring-fed and possesses similar characteristics to the Good Hope tributary. This tributary is the second most consistent and reliable spawning and nursery area.
- **Right Fork** – Although a larger subwatershed than Gum Springs, the Right Fork has fewer springs than either Good Hope or Gum Springs, and its substrate is not conducive for trout spawning. This tributary contributes to the maintenance of trout habitat in the mainstem.
- **Left Fork** – This tributary becomes the mainstem when it converges with the Right Fork just north of Briggs Chaney Road. It is the largest of all subwatersheds but has the fewest number of springs and seeps. Its substrate is similar to the Right Fork





# Upper Paint Branch Timeline

- 1974** The Paint Branch and all of its tributaries upstream of the Capital Beltway were officially designated by the State Water Resources Administration as use III Waters.
- 1980** Maryland DNR designated the entire Paint Branch watershed upstream of Fairland Road as a “Special Trout Management Area”. This is the first designation of its kind in the state of Maryland
- 1981** The Master Plan for Eastern Montgomery County was approved and adopted
- 1995** Upper Paint Branch Special Protection Area adopted
- 1996** Technical Report: Upper Paint Branch Watershed Planning Study published
- 1996** An amendment to the Master Plan for Eastern Montgomery County was approved and an Environmental Overlay Zone was defined for the Upper Paint Branch with a limit on impervious surfaces to no more than 10%
- 2006** Final Report of the Reconvened Upper Paint Branch Technical Work Group published
- 2007** Amendment to the Environmental Overlay Zone was approved reducing the limit on impervious surfaces from 10% to 8% to match the new Environmental Overlay Zone for the Upper Rock Creek SPA



# Upper Paint Branch

**The 1981 Master Plan recognized the importance of the Paint Branch as a critical resource for the County**

## **Key recommendations of the 1981 Plan included:**

- Reduce imperviousness through rezoning to lower densities
- Park acquisition of approximately 400 acres
- State-of-the-art stormwater management
- Strict sediment and erosion controls
- Cluster development to optimize location and efficiency of stormwater management controls
- Avoid development on steep slopes, poorly drained soils, ground water recharge areas, or environmentally sensitive locations



# Special Protection Area Conservation Plan for Upper Paint Branch

**“Large areas of forested parkland serve to protect the riparian area throughout much of Upper Paint Branch as well as keeping overall watershed impervious low.”**

**“This forested parkland and the purchase of additional parkland is critical to maintaining the high quality stream condition throughout much of Upper Paint Branch.”**

*Special Protection Area Conservation Plan for Upper Paint Branch. 1999. Montgomery County Department of Environmental Protection. Page*



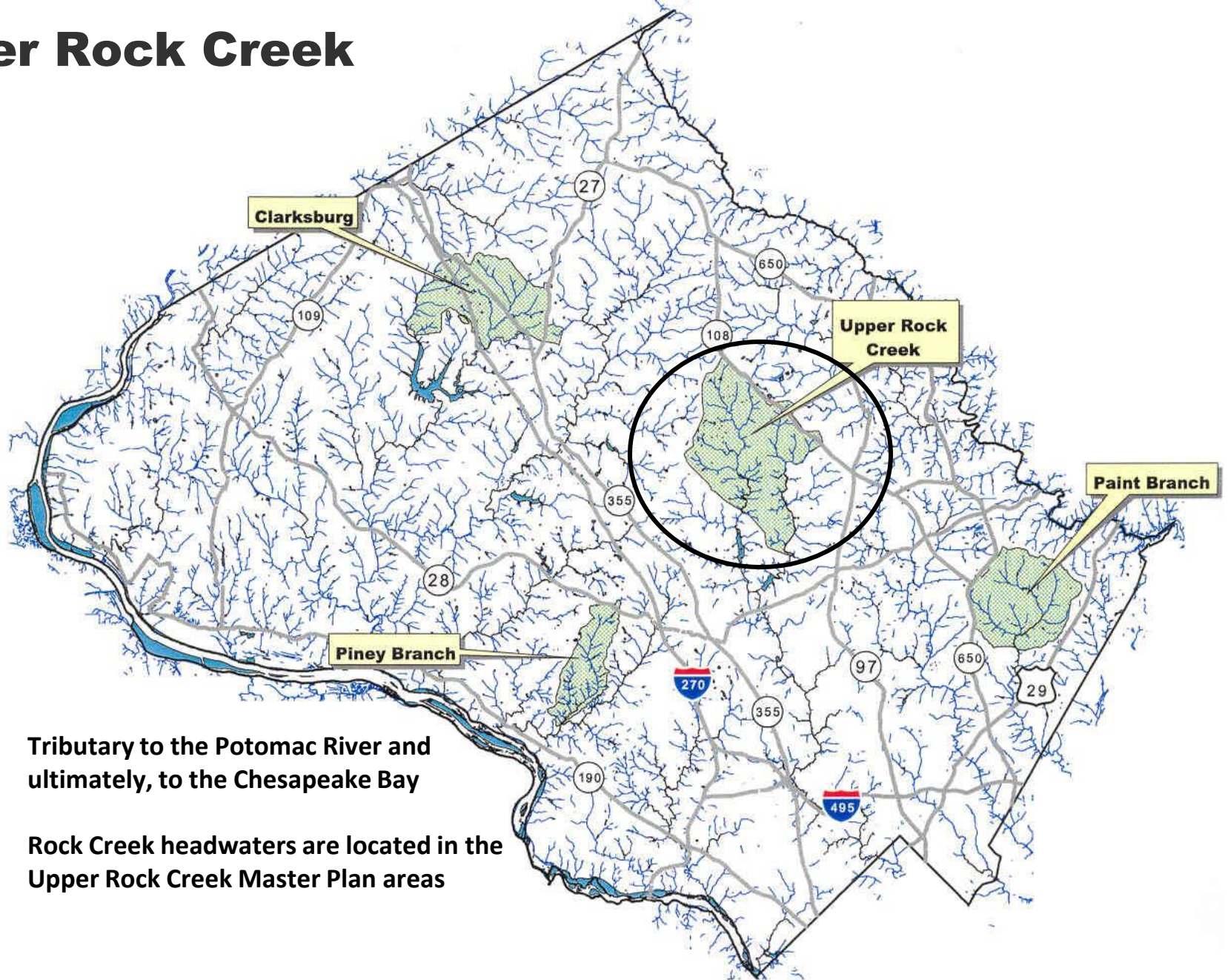
# Upper Paint Branch

## Impervious Percentages by Tributary

Watershed	1981	1994	2007	Build-out
Good Hope	9.21%	9.8%	10.14%	14.5%
Gum Springs	10.75%	15.7%	16.6%	18.3%
Left Fork	N/A	12.1%	12.7%	14.6%
Right Fork	8.9%	9.6%	12.8%	14.8%



# Upper Rock Creek



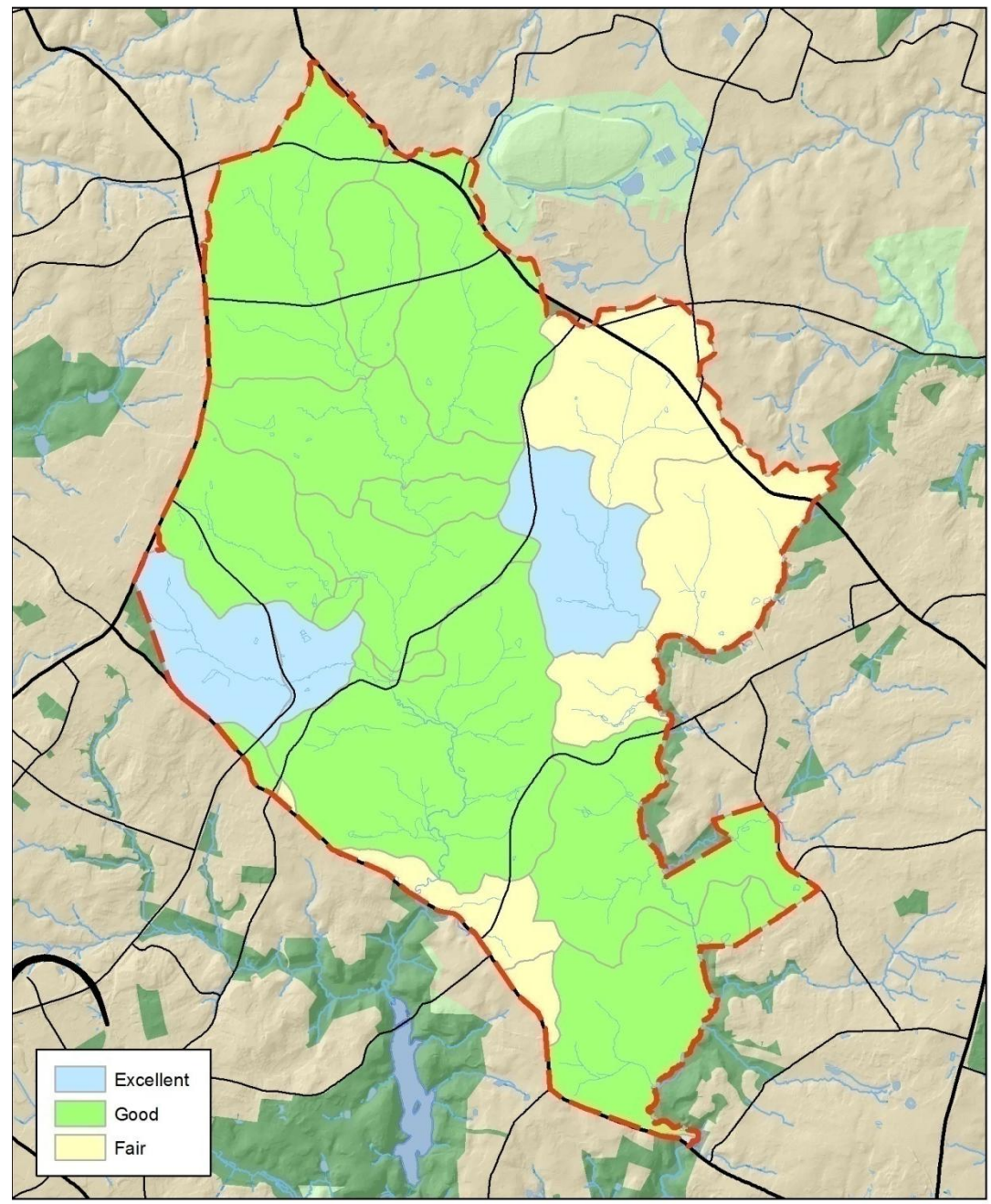
Tributary to the Potomac River and ultimately, to the Chesapeake Bay

Rock Creek headwaters are located in the Upper Rock Creek Master Plan areas



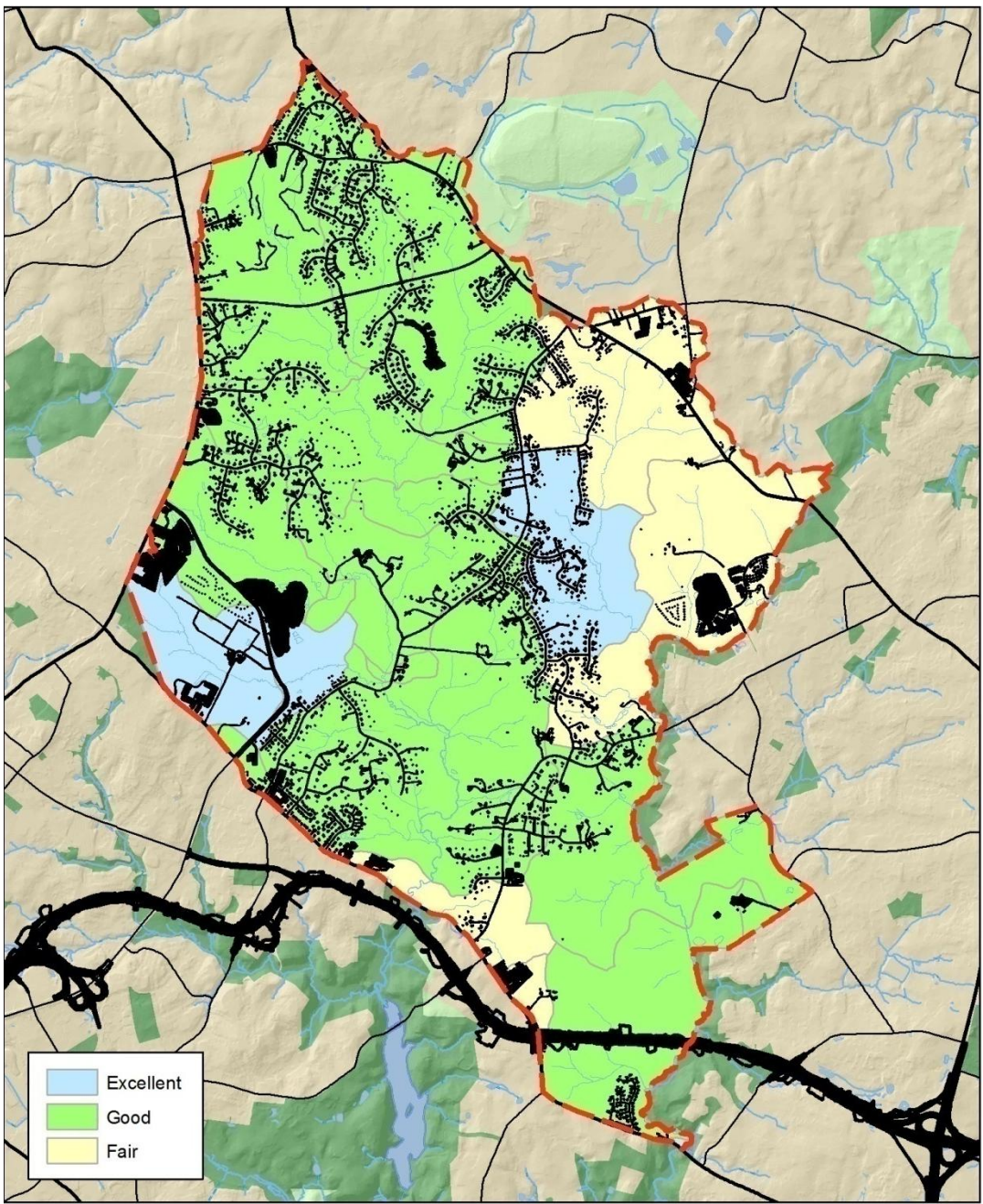
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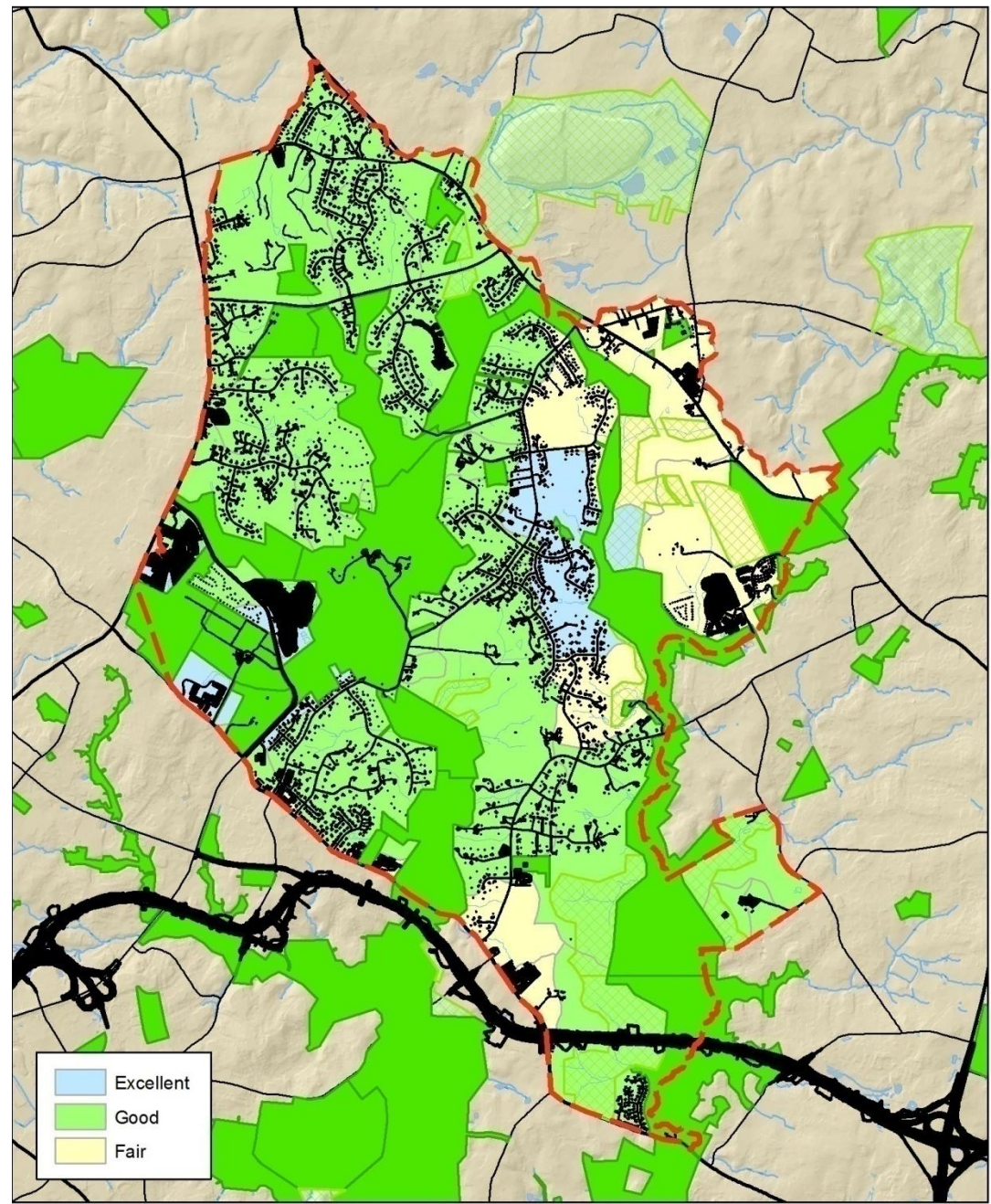
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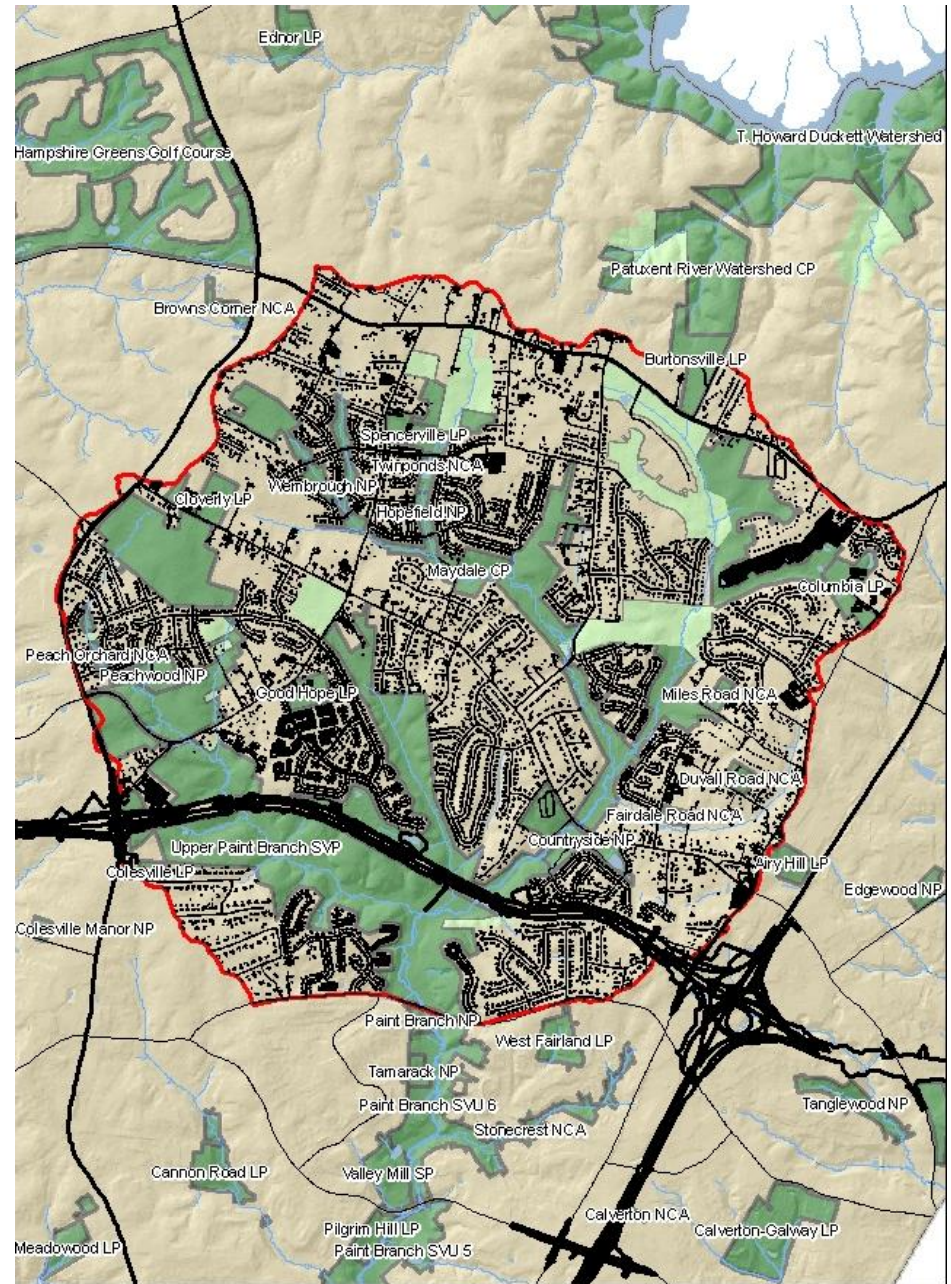
# Upper Paint Branch SPA

Acres in the SPA	4785.85 acres
Acres of Imperviousness	564.73 acres
Percent imperviousness	11.82%



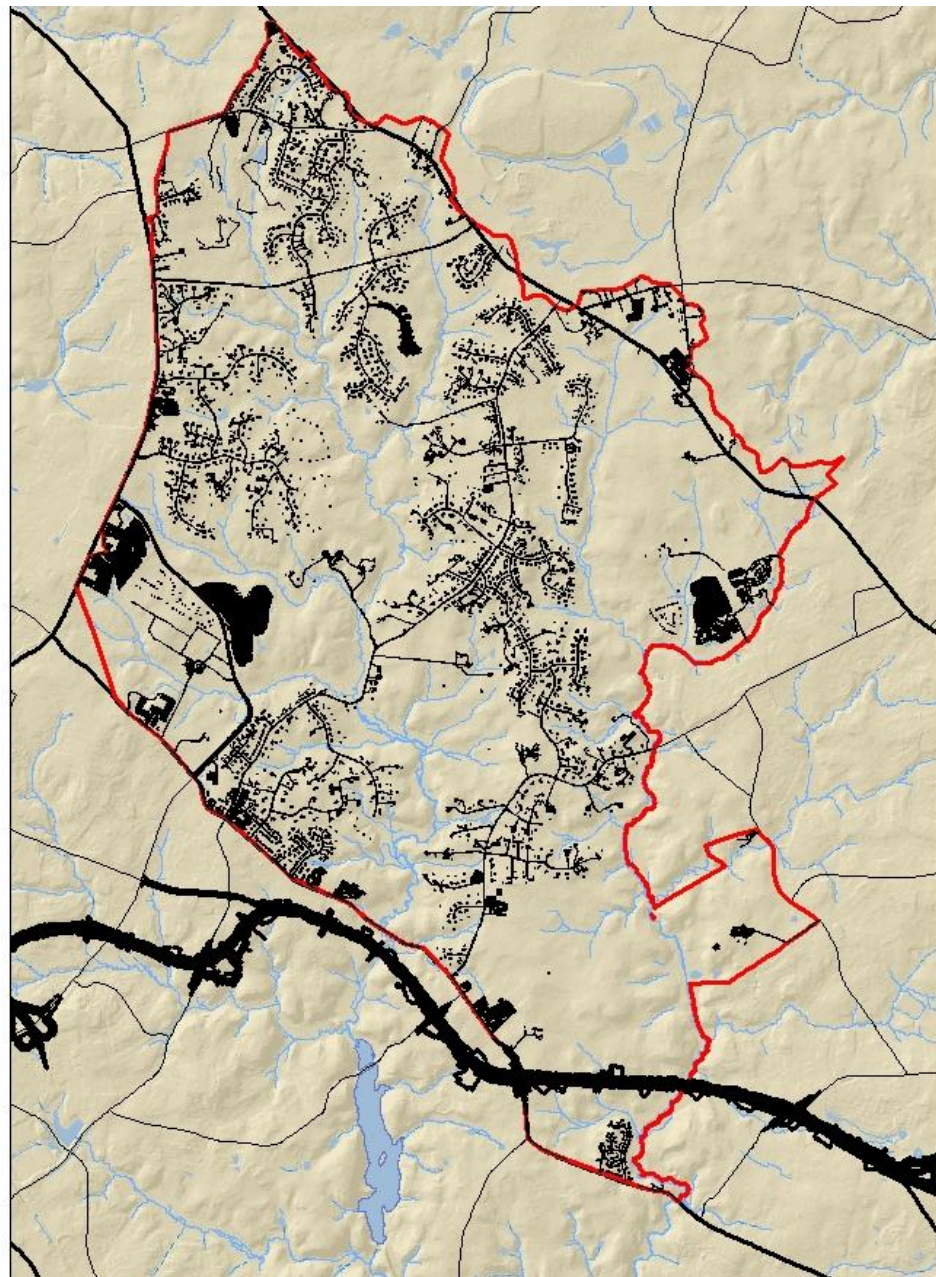
# Upper Paint Branch SPA

Park Acres in the SPA	1267.55 acres
Percent of SPA that is Parkland	26.17%
Acres of Imperviousness in Parks	11.10 acres
Impervious Cap	8%
Current Impervious Percentage in Parks	0.80%



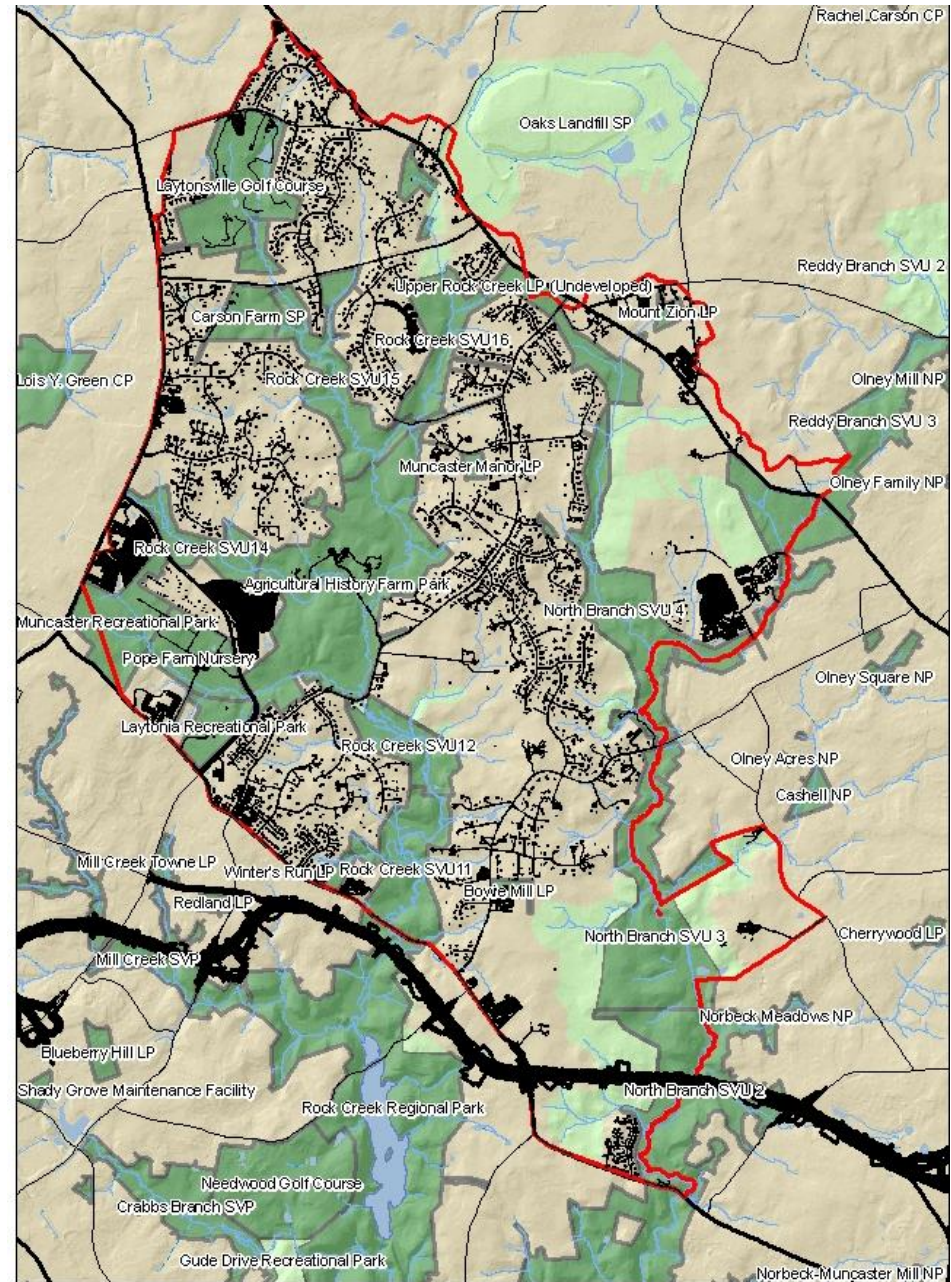
# Upper Rock Creek SPA

Acres in the SPA	7689.80 acres
Acres of Imperviousness	551.36 acres
Percent imperviousness	7.17%



# Upper Rock Creek SPA

<b>Park Acres in the SPA</b>	<b>2051.30 acres</b>
<b>Percent of SPA that is Parkland</b>	<b>26.67%</b>
<b>Acres of Imperviousness in Parks</b>	<b>22.26 acres</b>
<b>Impervious Cap</b>	<b>8%</b>
<b>Current Impervious Percentage in Parks</b>	<b>1.10%</b>



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*Parks recommendations:*

- a) Impervious surface physically removed from parkland by the Department of Parks in an SPA would be banked but only be available to use for Park projects.*
- b) The first priority for this bank would be to encumber enough square footage to move parks that are currently over 8% to under 8% regardless of the fact that under Article V they would be grandfathered.*



# Park Demolitions

Park Unit	SPA	Improvement	Address	Square Footage
Maydale	Upper Paint Branch	Park House, Driveway	1635 Maydale Dr.	6970 sq. ft.
Spencerville Rd.	Upper Paint Branch	Park Houses, Driveways	2801, 2811, 2901 & 2905 Spencerville Rd.	16,414 sq. ft.
Good Hope Rd.	Upper Paint Branch	Park House	14524 Good Hope Rd.	3,150 sq. ft.
			<b>Total</b>	<b>26,434 sq. ft.</b>
Muncaster Rd.	Upper Rock Creek	Park House, Driveway, Outbuildings	1825 Muncaster Rd.	2454 sq. ft.
			<b>Total</b>	<b>2445 sq. ft.</b>



# Imperviousness Analysis

**Each Park Unit in the Upper Paint Branch and Upper Rock Creek SPA was analyzed to determined:**

- **Current imperviousness in Parks**
- **Proposed Park improvements**
- **Existing Park Improvements in environmentally sensitive areas**





# Imperviousness Analysis

## EXISTING CONDITIONS

- Acreage
- Acquisition Cost
- All Existing Improvements
- All Existing Impervious Improvements (name)
- All Existing Impervious Improvements (sq. ft.)
- Current Percent Impervious

## PROPOSED IMPROVEMENTS

- Proposed Improvements in Master Plans
- Proposed Improvements with CIP PDFs
- CIP Candidates
- Proposed in CIP PLAR
- Proposed in Operating PLAR
- ICC Related Improvements
- Existing Improvements in Environmentally Sensitive Areas





Park Unit	Acreage  (in SPA)	Existing Imperviousness		Imperviousness in Environmentally Sensitive Areas		Proposed Improvements *  sq. ft.	Total Projected Impervious (existing +proposed)		How much sq. ft. needed to bring to 'grandfathered' percent?	How many sq. ft. do we need to bring down to 8%	How many for 7.5%	How many for 7%	
		sq. ft.	%	sq. ft.	%		sq. ft.	%					
<b>Upper Paint Branch SPA</b>													
Airy Run LP	0.62	0	0.00%	0	0.00%	none	0	0	0.00%				
Burtonsville LP	13.23	14,696	2.55%	0	0.00%	Cricket Field Parking	25,000	39,696	6.89%				
Cloverly LP	14.76	52,071	8.10%	0	0.00%	PLAR Maintenance		52,071	8.10%		625	3,840	7,056
Colesville LP	4.39	14,691	7.68%	0	0.00%	PLAR Maintenance		14,691	7.68%			348	1,304
Columbia LP	24.30	118,534	11.20%	0	0.00%	PLAR Maintenance		118,534	11.20%		33,860	39,152	44,444
Countryside NP	20.77	35,448	3.92%	35,448	3.92%	none	0	35,448	3.92%				
Duvall Road NCA	6.19	0	0.00%	0	0.00%	none	0	0	0.00%				
Fairdale Road NCA	4.51	0	0.00%	0	0.00%	none	0	0	0.00%				
Good Hope LP	13.19	70,754	12.32%	0	0.00%	PLAR Maintenance		70,754	12.32%		24,799	27,671	30,543
Hopefield NP	6.47	0	0.00%	0	0.00%	none	0	0	0.00%				
Maydale CP	24.37	28,909	2.72%	21,008	1.98%	Hard Surface Trail	2,000	30,909	2.91%				
Miles Road NCA	5.23	0	0.00%	0	0.00%	none	0	0	0.00%				
Peach Orchard NCA	5.40	0	0.00%	0	0.00%	none	0	0	0.00%				
Peachwood NP	19.84	50,267	5.82%	15,982	1.85%	SWM Structure (IOC)	0	50,267	5.82%				
Spenterville LP	18.30	51,170	6.42%	0	0.00%	none	0	51,170	6.42%				
Twinponds NCA	5.52	0	0.00%	0	0.00%	none	0	0	0.00%				
Upper Paint Branch SVP	1,071.64	81,230	0.17%	32,008	0.07%	none	0	81,230	0.17%				
Wembrough NP	9.21		0.00%	2,700	0.67%	none	0	0	0.00%				
<b>Total</b>	<b>1,267.94</b>	<b>517,770</b>	<b>0.94%</b>				<b>27,000</b>	<b>544,770</b>	<b>0.99%</b>	<b>3000</b>	<b>59,283</b>	<b>71,011</b>	<b>83,347</b>

\*The list of proposed improvements were gathered from the following sources:

- CIP
- PLAR (operating & capital)
- Park Master Plans
- Area Master Plans
- Facility Plans
- Square footage estimates based on design guidelines from Park Development

0.07 Acres      1.36 Acres      1.63 Acres      1.91 Acres



Park Unit	Acreage (in SPA)	Existing Imperviousness		Imperviousness in Environmentally Sensitive Areas		Proposed Improvements* sq. ft.	Total Projected Impervious (existing +proposed)			How much sq. ft. needed to bring to 'grandfathered' percent?	How much sq. ft. needed to bring down to 8% sq. ft.	How much for 7.5% sq. ft.	How much for 7% sq. ft.
		sq. ft.	%	sq. ft.	%		sq. ft.	%					
<b>Upper Rock Creek SPA</b>													
Ag. History Farm Park	454.67	355,127	1.79%	118,942	0.60%	Trail Re-surfacing / Widening 10,000	365,127	1.84%					
Bowie Mill LP	12.02	28,248	5.40%	0	0.00%	Hard Surface Trail 8,200	36,448	6.96%					
Carson Farm SP	73.82	35,077	1.09%	12,359	0.38%	Mountain Bike Trail Facility 43,560	78,637	2.45%					
Laytonia RP	50.99	41,661	1.88%	0	0.00%	Major Rec Facility Proposed 150,000	191,661	8.63%	13978	13,978	25,083	36,188	
Mt. Zion LP	11.96	44,088	8.48%	24,581	4.72%	none 0	44,088	8.46%	0	2,410	5,015	7,620	
Muncaster Manor LP	9.31	0	0.00%	0	0.00%	none 0	0	0.00%					
Muncaster RP	90.23	128,927	3.28%	0	0.00%	Major Rec Facility Proposed 200,000	328,927	8.37%	14808	14,508	34,159	59,810	
North Branch SVU 2	119.62	7,304	0.14%	7,304	0.14%	none 0	7,304	0.14%					
North Branch SVU 3	207.58	0	0.00%	0	0.00%	none 0	0	0.00%					
North Branch SVU 4	303.16	13,222	0.10%	13,222	0.10%	none 0	13,222	0.10%					
Pope Farm Nursery	94.92	289,216	6.99%	15,862	0.38%	Major Rec Facility Proposed 50,000	339,216	8.20%	8428	8,428	29,103	49,777	
Rock Creek SVU 11	145.32	0	0.00%	0	0.00%	none 0	0	0.00%					
Rock Creek SVU 12	87.70	0	0.00%	0	0.00%	none 0	0	0.00%					
Rock Creek SVU 14	76.99	0	0.00%	0	0.00%	none 0	0	0.00%					
Rock Creek SVU 15	155.44	0	0.00%	0	0.00%	none 0	0	0.00%					
Rock Creek SVU 16	122.87	0	0.00%	0	0.00%	Natural Surface Trails 0	0	0.00%					
Upper Rock Creek LP	24.67	14,126	1.31%	0	0.00%	Baseball & Soccer Fields, Parking 50,000	64,126	5.97%					
Winter's Run LP	10.04	0	0.00%	0	0.00%	Soccer / Lacrosse Field, Parking 25,000	25,000	5.72%					
<b>Total</b>	<b>2,051.30</b>	<b>956,996</b>	<b>1.07%</b>			<b>536,760</b>	<b>1,493,756</b>	<b>1.67%</b>	<b>36914 sq. ft. 0.85 Acres</b>	<b>39,324 sq. ft. 0.90 Acres</b>	<b>93,360 sq. ft. 2.34 Acres</b>	<b>147,395 sq. ft. 3.58 Acres</b>	

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*Parks Recommendations:*

*If a County agency removes impervious surface on Parkland they must, at a minimum, pay for the removal of the impervious surface, and abide by the Department of Parks Guidelines for Converting Paved Areas into Pervious Greenspace (M-NCPPC, Department of Parks, Montgomery County, Park Development Division, 2009) and The Comprehensive Vegetation Management Plan (M-NCPPC, Department of Parks, Montgomery County, Park Planning and Stewardship Division, 2009).*



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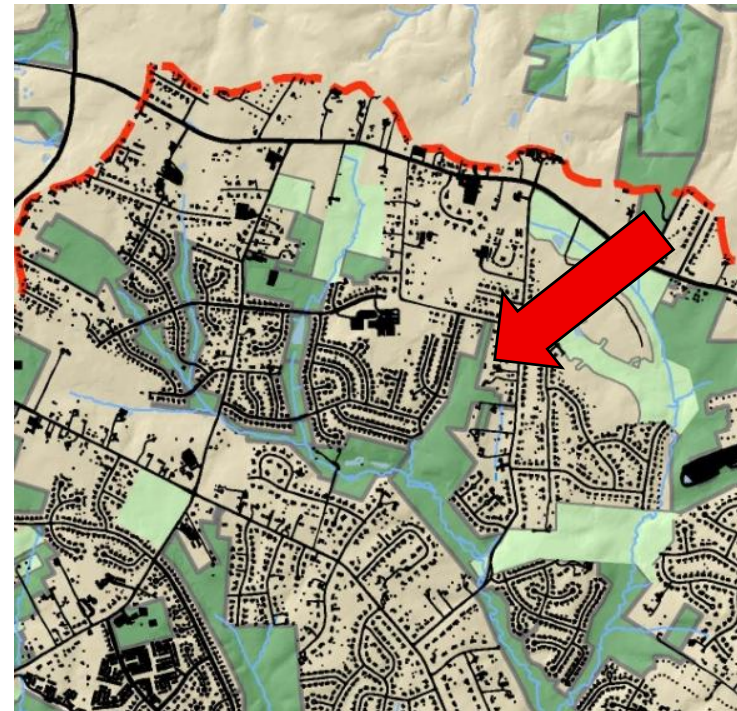


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*Park Recommendations:*

*The Department of Parks would not recommend using any **unrealized** impervious surface to fill an impervious surface bank.*

*The Mitchell property was purchased for the sole reason of reducing impervious surfaces in the Upper Paint Branch SPA. Initially, M-NCPPC planned to acquire through dedication, approximately 16 acres of the property. Later, a variety of circumstances, including an argument by Late Councilwoman Marilyn Praisner, lead the Commission to change it's acquisition proposal and ultimately acquire the entire property. The objective of this acquisition was to reduce to the greatest degree possible, future imperviousness in the Upper Paint Branch*



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4. *Pervious Reserve “B” – A County agency could bank credits from vacant, but prospectively developable properties through purchase; and creation of conservation easements or dedication as parkland*



# The Issue:

How can Parks help local government accomplish public projects (e.g., schools) in SPA watersheds with an impervious cap?

Suggested options that pertain to Parks:

- 4. Pervious Reserve “B” – A County agency could bank credits from vacant, but prospectively developable properties through purchase; and creation of conservation easements or dedication to parkland***

*Park Recommendations:*

*There are many properties identified by Parks for acquisition in SPAs. The Department of Parks requests that any property purchased by County Agencies for impervious surface mitigation be those specifically targeted for acquisition by Parks and that after it’s use as mitigation it subsequently be dedicated as parkland.*



# Next Steps:

1. Following Planning Board input, coordinate with other County agencies
2. Coordinate with public interest groups, including the environmental community
3. Refine proposals based on input from agencies and the public
4. Bring final proposals back to Planning Board for public comment and Board approval



# Discussion: Can/Should the Department of Parks Help Local Government Accomplish Public Projects in SPA Watersheds with an Impervious Cap?



PARK PLANNING &amp; STEWARDSHIP

Jai Cole

Dr. John Hench

Doug Redmond

Montgomery County Department of Parks

Planning Board Round Table

November 5, 2009

