Park Planning & Stewardship Division Resource Analysis Section

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



**Jai Cole** 

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**Montgomery County Department of Parks** 

**Planning Board Round Table** 

**November 5, 2009** 



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")
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# **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



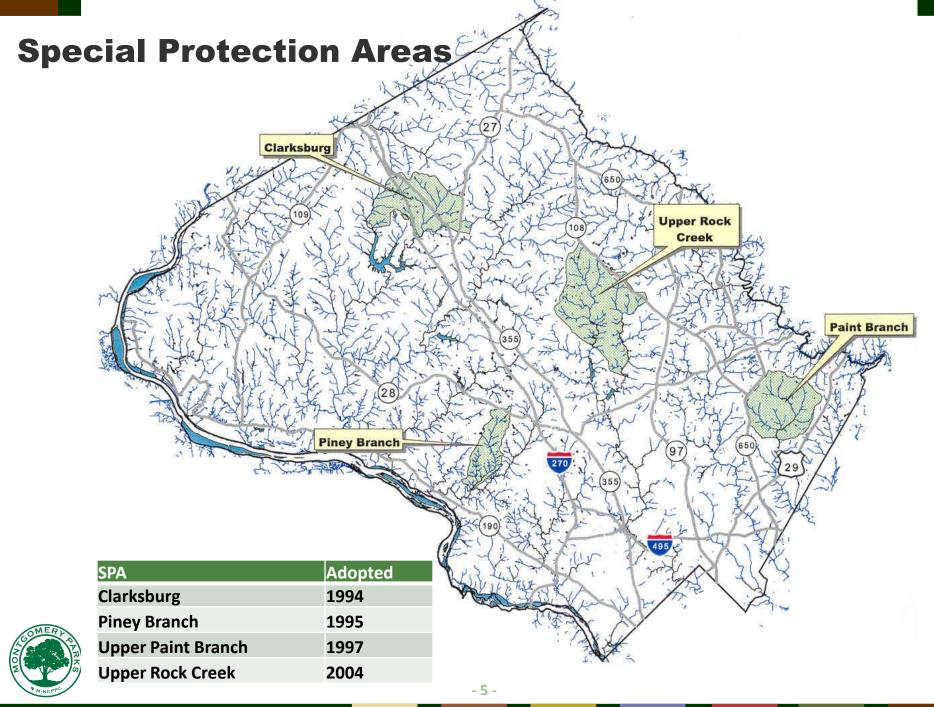
#### **Background**:

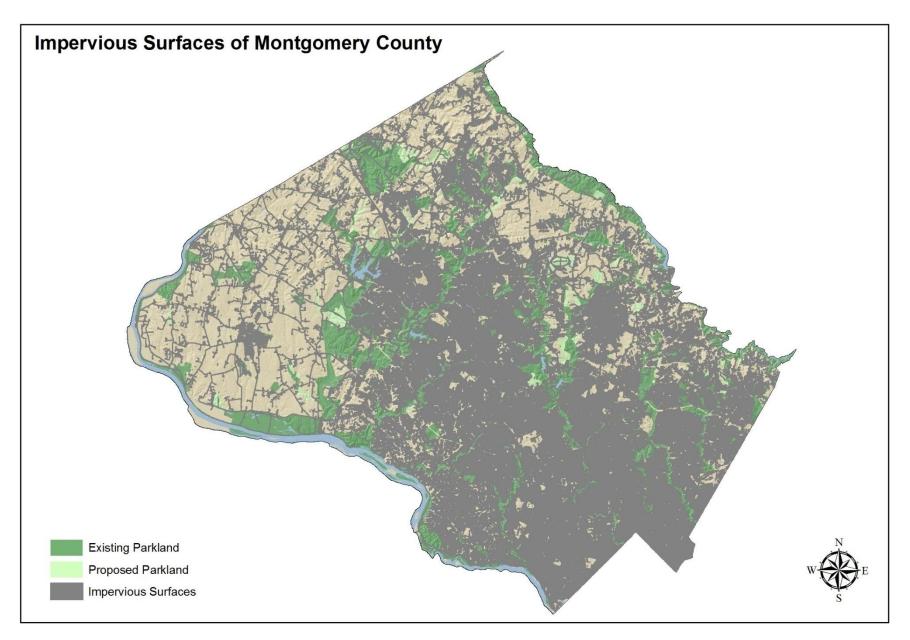
The Special Protection Areas (SPA) Program was established in 1994 by Montgomery County Code Chapter 19, Article V (Water Quality Review-Special Protection Areas, Section 19-67)

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

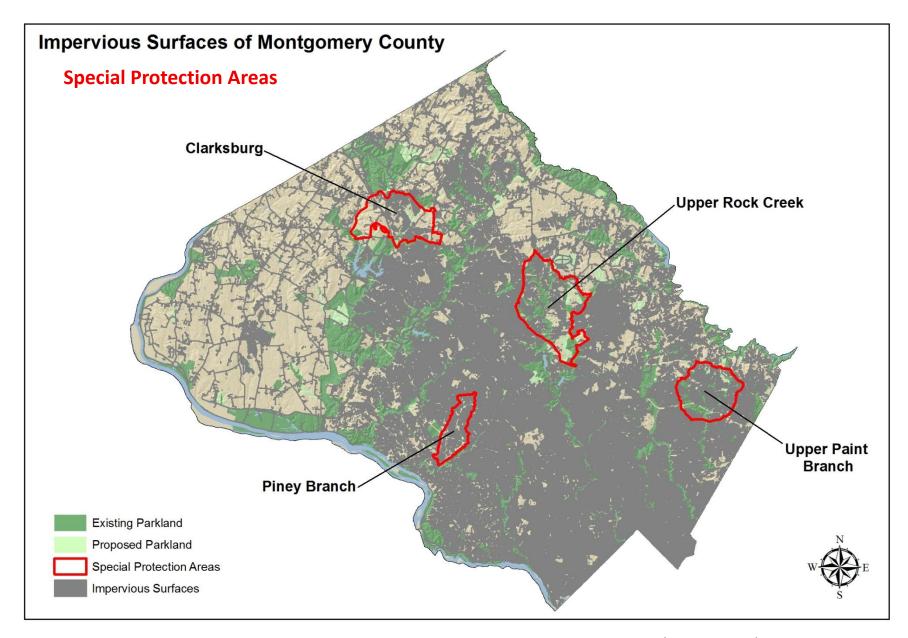
The purpose of SPAs is to protect water quality, quantity and biodiversity of four fragile watershed areas (Clarksburg, Piney Branch, Upper Rock Creek and Upper Paint Branch)





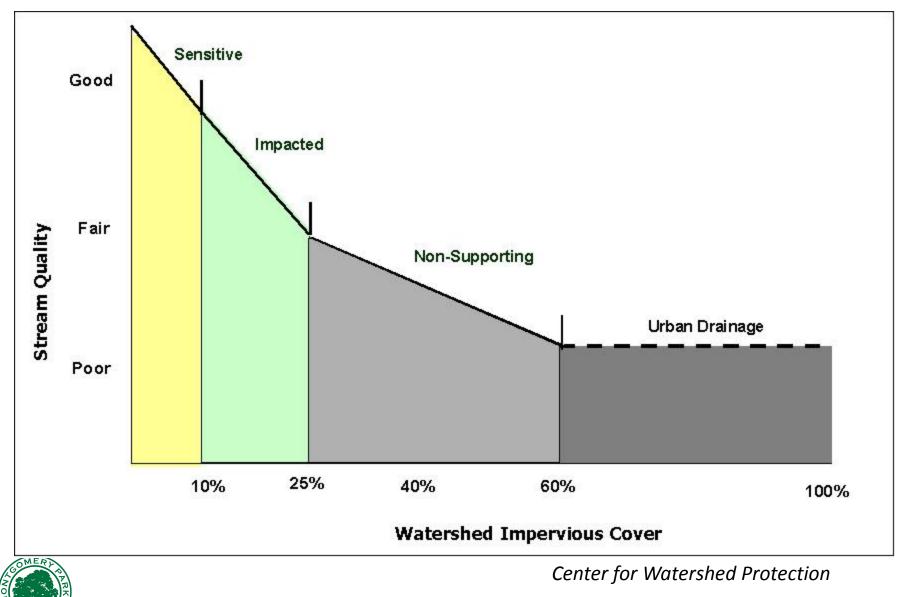


Based on 2007 data



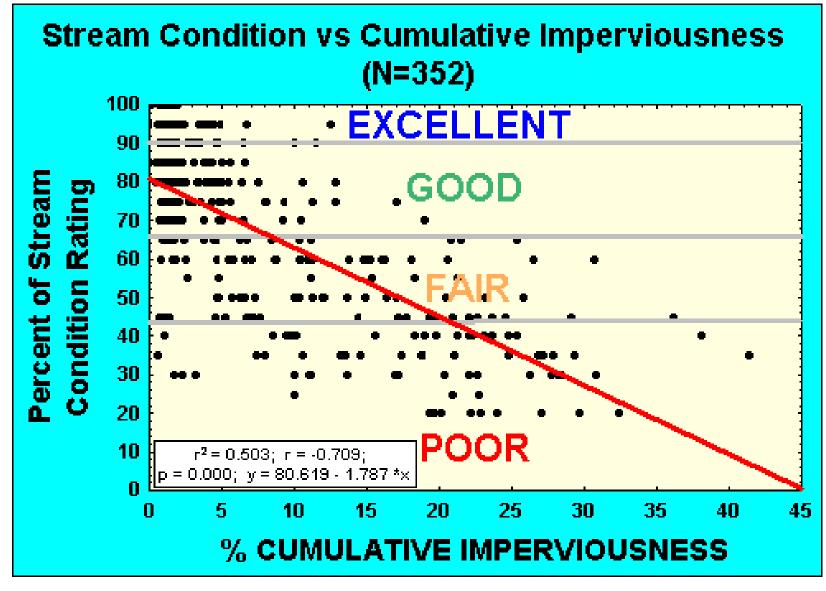
Based on 2007 data

#### **Impervious Cover Model**



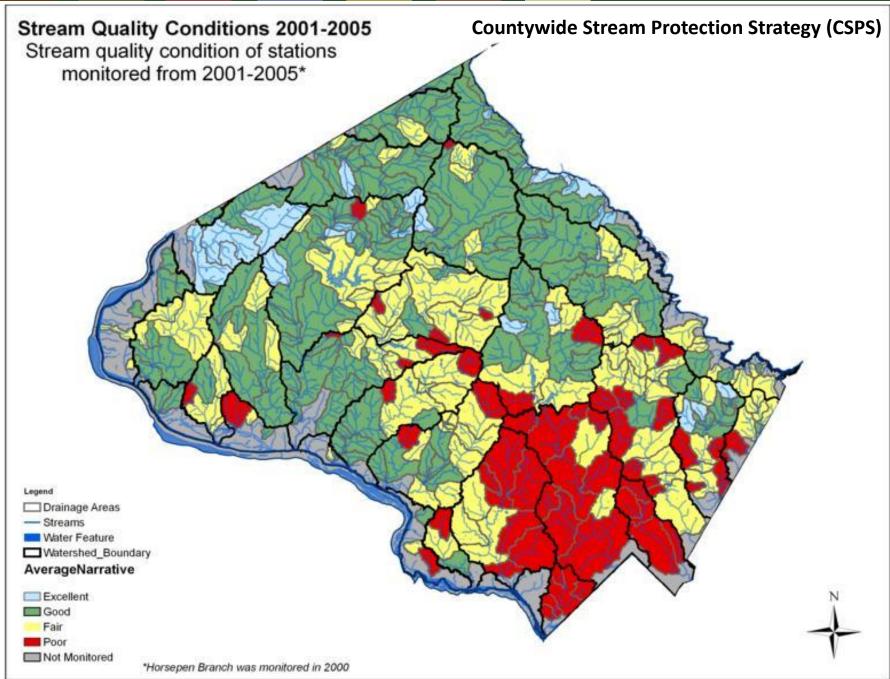
**PARK PLANNING & STEWARDSHIP DIVISION** 

#### **M-NCPPC and DEP Biological Monitoring Data**



Montgomery County Parks

**RESOURCE ANALYSIS SECTION** 





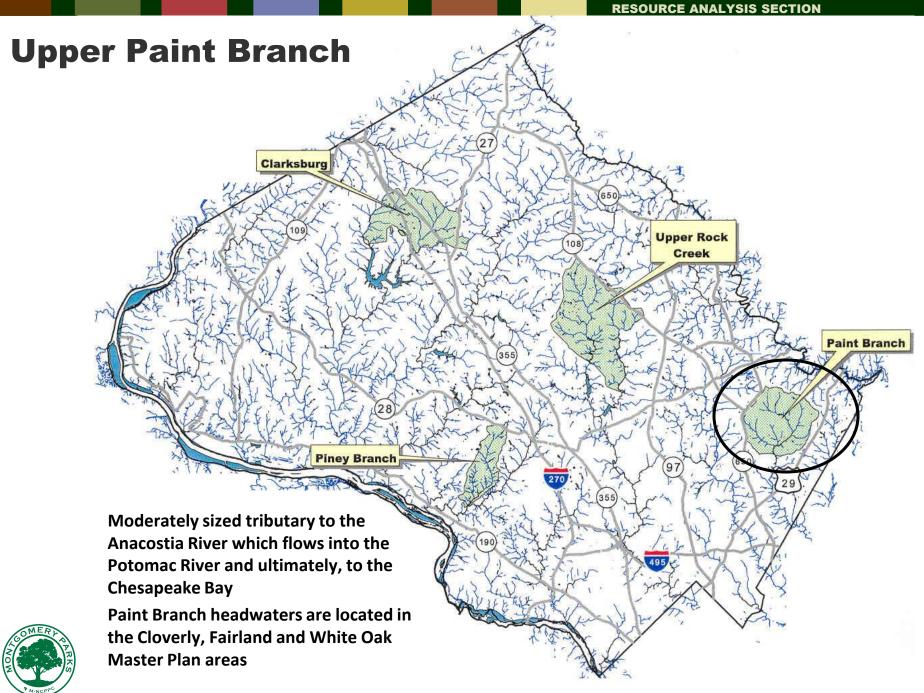
#### **Poor Stream**

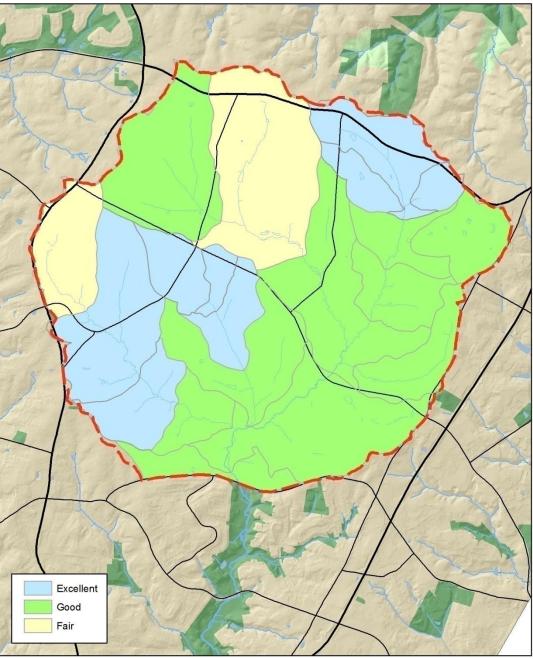




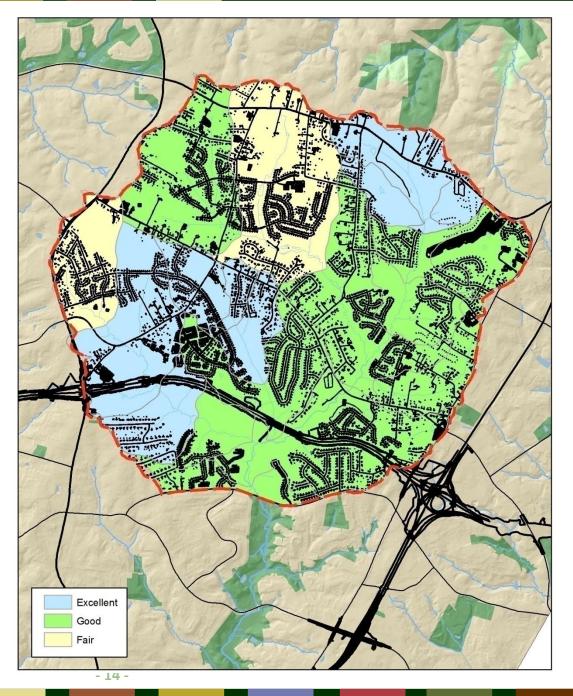


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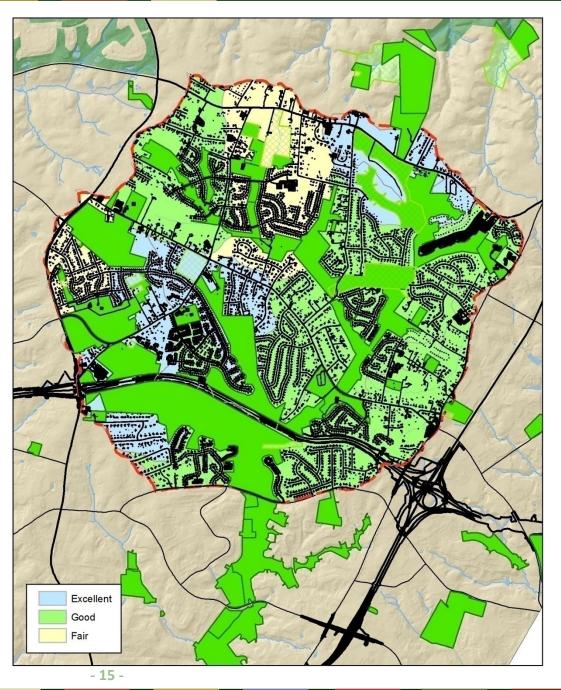














# The Upper Paint Branch watershed is comprised of four major tributaries:

- **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 imperious 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



### 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."

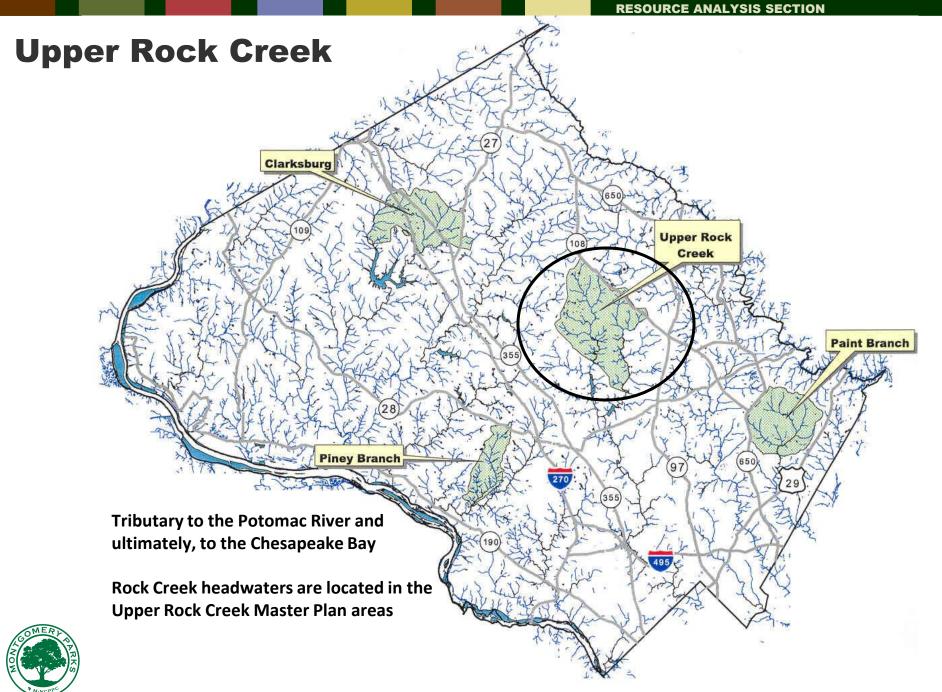
*Special Protection Area Conservation Plan for Upper Paint Branch. 1999. Montgomery County Department of Environmental Protection. Page* 



#### **Impervious Percentages by Tributary**

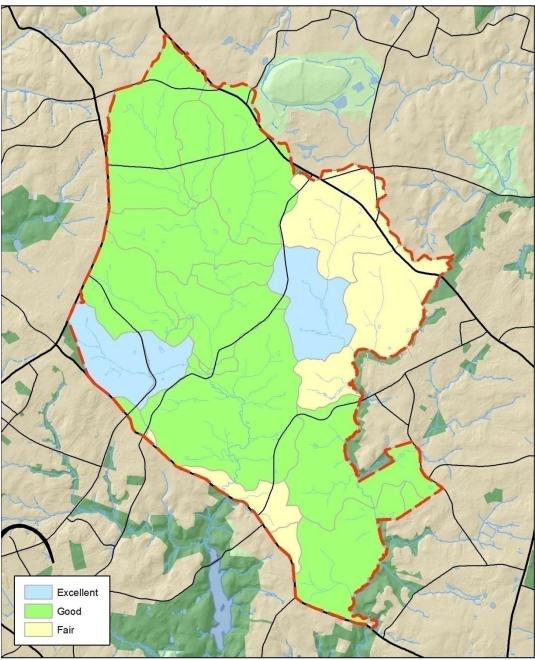
Watershed	1981	1994	2007	Build-out
Good Hope	9.21%	9.8%	10.14%	14.5%
Gum Springs	10.75%	15.7%	16.6%	18.3%
Left Fork	N/A	12.1%	12.7%	14.6%
Right Fork	8.9%	9.6%	12.8%	14.8%





# **Upper Rock Creek**

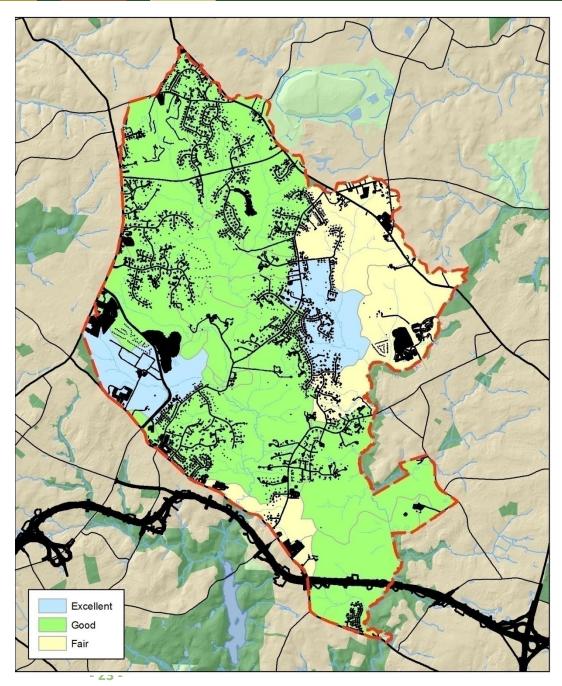
**IBI Information** 





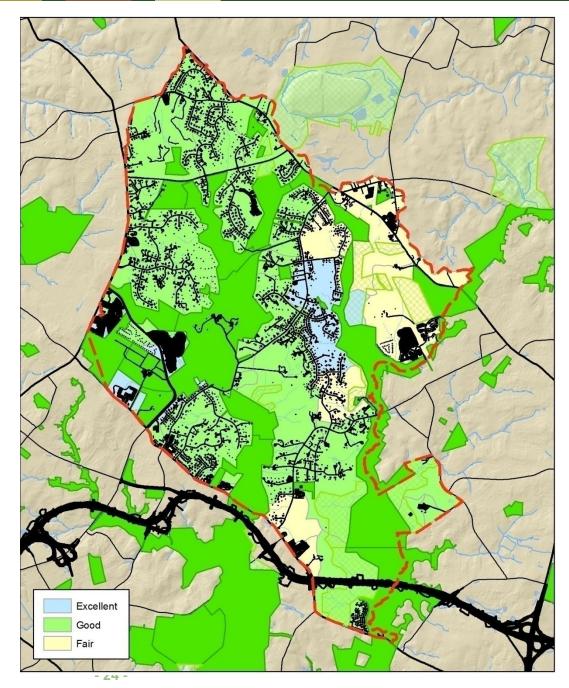
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# **Upper Rock Creek**





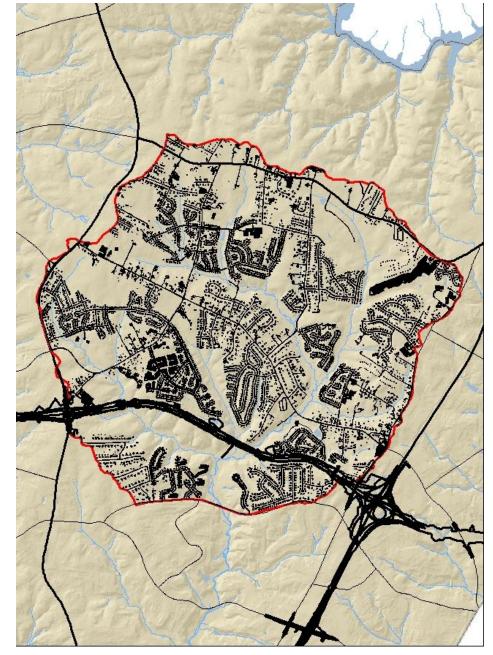
# **Upper Rock Creek**





# **Upper Paint Branch SPA**

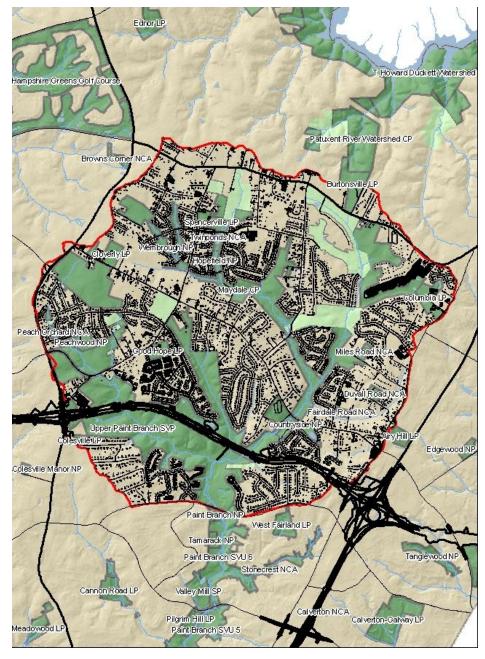
Acres in the SPA	4785.85 acres
Acres of Imperviousness	564.73 acres
Percent imperviousness	11.82%





# **Upper Paint Branch SPA**

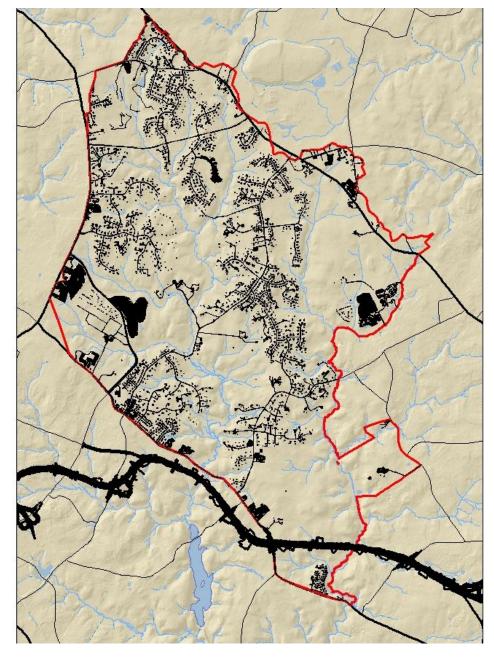
Park Acres in the SPA	1267.55 acres
Percent of SPA that is Parkland	26.17%
Acres of Imperviousness in Parks	11.10 acres
Impervious Cap	8%
Current Impervious Percentage in Parks	0.80%





# **Upper Rock Creek SPA**

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

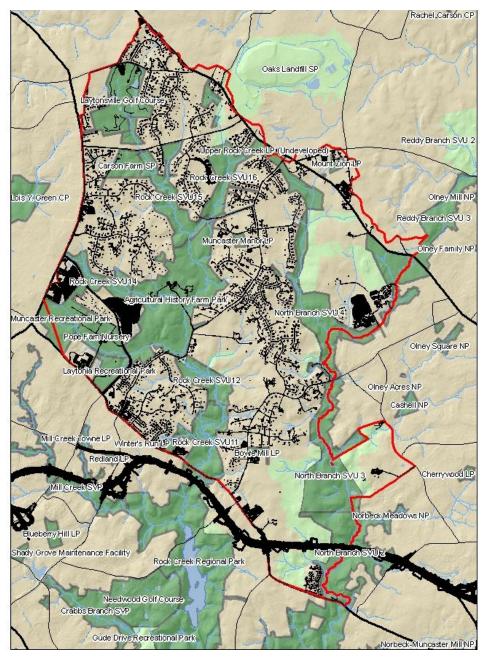




#### **RESOURCE ANALYSIS SECTION**

# **Upper Rock Creek SPA**

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





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:

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

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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.
			Total	26,434 sq. ft
Muncaster Rd.	Upper Rock Creek	Park House, Driveway, Outbuildings	1825 Muncaster Rd.	2454 sq. ft.
(VCV			Total	2445 sq. ft.
3 MINCPPC		- 31 -		

#### **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



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PARK PLANNING & STEWARDSHIP DIVISION

#### **RESOURCE ANALYSIS SECTION**

(in SPA)   Upper Paint Branch SPA   Airy Run IP 0.62   Burtonsville LP 13.23   Cloverly LP 14.76   Colesville LP 4.39   Columbia LP 24.30   Countryside NP 20.77   Duvall Road NCA 6.19   Fairdale Road NCA 4.51   Good Hope LP 13.19   Hopefield NP 6.47   Maydale CP 24.37   Miles Road NCA 5.23	sq.ft. 0 14,695 52,071 14,691 118,534 35,448 0 0	96 0.00% 2.55% 8.10% 7.68% 11.20% 3.92% 0.00%	sq. ft. 0 0 0 0 35,448 0 0	96 0.00% 0.00% 0.00% 0.00% 3.92% 0.00%	none Cricket Field, Parking PLAR Maintenance PLAR Maintenance PLAR Maintenance none	sq.ft. 0 25,000 0	sq.ft. 0 39,696 52,071 14,691 118,534 35,448	96 0.00% 6.89% 8.10% 7.68% 11.20% 3.92%		sq. ft. 625 33,860	sq.ft. 3,840 348 39,152	sq. ft. 7,056 1,304 44,444
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Cloverly LP1476Colesville LP439Columbia LP2430Countryside NP20.77Duvall Road NCA619Fairdale Road NCA451Good Hope LP13.19Hopefield NP647Maydale CP2437Milles Road NCA523	52,071 14,691 118,534 35,448 0	8.10% 7.68% 11.20% 3.92% 0.00%	0 0 35,448 0	0.00% 0.00% 0.00% 3.92%	PLAR Mainte na nœ PLAR Mainte na nœ PLAR Mainte na nœ none	0	52,071 14,691 118,534 35,448	8.10% 7.68% 11.20%			348	1,304
Colesville LP 439   Columbia LP 2430   Countryside NP 20.77   Duvall Road NCA 619   Fairdale Road NCA 451   Good Hope LP 13.19   Hopefield NP 6.47   Maydale CP 24.37   Miles Road NCA 5.23	14,691 118,534 35,448 0	7.68% 11.20% 3.92% 0.00%	0 0 35,448 0	0.00% 0.00% 3.92%	PLAR Mainte na nœ PLAR Mainte na nœ none		14,691 118,534 35,448	7.68% 11.20%			348	1,304
Columbia LP2430Countryside NP20.77Duvall Road NCA6.19Fairdale Road NCA4.51Good Hope LP13.19Hopefield NP6.47Maydale CP24.37Milles Road NCA5.23	118,534 35,448 0	11.20% 3.92% 0.00%	0 35,448 0	0.00% 3.92%	PLAR Mainte na nœ		118,534 35,448	11.20%		33,860		
Countryside NP 20.77   Duvall Road NCA 6.19   Fairdale Road NCA 4.51   Good Hope LP 13.19   Hopefield NP 6.47   Maydale CP 24.37   Miles Road NCA 5.23	35,448 O	3.92% 0.00%	35,448 0	3.92%	none		35,448			33,860	39,152	44,444
Duvall Road NCA 619 Fairdale Road NCA 451 Good Hope LP 13.19 Hopefield NP 647 Maydale CP 2437 Miles Road NCA 523	0	0.00%	o					3.92%				
Fairdale Road NCA 451   Good Hope LP 13.19   Hopefield NP 6.47   Maydale CP 2437   Miles Road NCA 5.23				0.00%	none							
Good Hope LP 13.19   Hopefield NP 6.47   Maydale CP 2.437   Miles Road NCA 5.23	o	0.00%	•			0	0	0.00%				
Hopefield NP 6.47 Maydale CP 2437 Miles Road NCA 5.23				0.00%	none	0	o	0.00%				
Maydale CP 2437 Miles Road NCA 523	70,754	12.32%	o	0.00%	PLAR Mainte na nœ		70,754	12.32%		24,799	27,671	30,543
MilesRoad NCA 5.23	o	0.00%	0	0.00%	none	0	0	0.00%				
	28,909	2.72%	21,008	1.98%	Hard Surface Trail	2,000	30,909	2.91%				
	o	0.00%	0	0.00%	none	0	0	0.00%				
Peach Orchard NCA 5.40	o	0.00%	0	0.00%	none	0	0	0.00%				
Peachwood NP 19.84	50, 267	5.82%	15,982	1.85%	SWM Structure (ICC)	0	50,267	5.82%				
Spenœrville LP 18.30	51,170	6.42%	0	0.00%	none	0	51,170	6.42%				
Twinponds NCA 5.52	o	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	o	0	0.00%				
Total 1,267.94	517,770	0.94%				27,000	544,770	0.99%	3000 sq.ft.	59,283 sq. ft.	71,011 sq. ft.	83,347 sq.ft.
	*The list of proposed improvements were gathered from the following sources:											1.91 Acres

CIP PLAR (operating & capital) Park Master Plans Area Master Plans Facility Plans

Square footage estimates based on design guidelines from Park Development

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#### **RESOURCE ANALYSIS SECTION**

Park Unit	Acreage	ExistingImpe	ervio usness	Imperviousness in En vironmentall y Sensitive Areas		Proposed Improvements*	Total Projected Impervious (existing +proposed) 'gre			How much sq.ft. needed to bring down to 8%	How much for 7.5%	How much for 7%	
	(in SPA)	sq.ft.	%	sq.ft.	%		sq.ft.	sq.ft.	%		sq.ft.	sq.ft.	sq. ft.
Upper Rock Creek SPA													
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%	o	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%	o	0.00%	Major Rec Facility Proposed	150,000	191,661	8.63%	13978	13,978	25,083	36,188
Mt. Zion LP	11.96	44,068	8.46%	24,581	4.72%	none	o	44,088	8.46%	0	2,410	5,015	7,620
Muncaster Manor LP	9.31	o	0.00%	o	0.00%	none	0	0	0.00%				
Muncaster RP	90.23	128,927	3.28%	o	0.00%	Major Rec Facility Proposed	200,000	328,927	8.37%	14508	14,508	34,159	53,810
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	o	0.00%	o	0.00%	none	o	0	0.00%				
North Branch SVU 4	303.16	13,222	0.10%	13,222	0.10%	none	o	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	o	0.00%	0	0.00%	none	0	o	0.00%				
Rock Creek SVU 12	87.70	0	0.00%	0	0.00%	none	0	o	0.00%				
Rock Creek SVU 14	76.99	o	0.00%	0	0.00%	none	0	o	0.00%				
Rock Creek SVU 15	155.44	o	0.00%	0	0.00%	none	0	o	0.00%				
Rock Creek SVU 16	122.87	o	0.00%	o	0.00%	Natural Surface Trails	0	o	0.00%				
Upper Rock Creek LP	24.67	14,126	1.31%	o	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%				
Total	2,051.30	956,996	1.07%				536, 760	1,493,756	1.67%	36914 sq.ft.	39,324 sq. ft.	93,360 sq. ft.	147,395 sq. ft
		*п	he list of propo	sed improve m	ents were gath	ered from the following sources:				0.85 Acres	0.90 Acres	2.34 Acres	3.58 Acres

CIP

PLAR (operating & capital)

Park Master Plans

Area Master Plans

Facility Plans

Square footage estimates based on design guidelines from Park Development

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MINCP

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



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:

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

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 <u>Guidelines for</u> <u>Converting Paved Areas into Pervious Greenspace</u> (M-NCPPC, Department of Parks, Montgomery County, Park Development Division, 2009) and <u>The Comprehensive Vegetation</u> <u>Management Plan</u> (M-NCPPC, Department of Parks, Montgomery County, Park Planning and Stewardship Division, 2009).



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:

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- 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



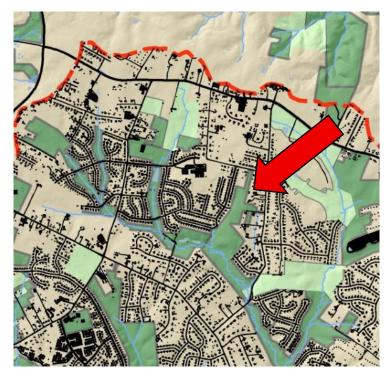
How can Parks help local government accomplish public projects (e.g., schools) in SPA watersheds with an impervious cap?

Suggested options that pertain to Parks:

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")

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

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

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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



Park Planning & Stewardship Division Resource Analysis Section

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



**Jai Cole** 

**Dr. John Hench** 

**Doug Redmond** 

**Montgomery County Department of Parks** 

**Planning Board Round Table** 

**November 5, 2009** 

