

Control the Best – Protect the Rest

Southeast Watershed Roundtable

K.R. Young, EPA Region 3

August 2, 2007, Braselton, GA

Potomac DWSPP - Overview

- Organization
 - Watershed alliance of water utilities, State and Federal agencies
 - Initial focus on surface water
 - Coordination and administrative support by ICPRB
- Issues of concern
 - Crypto and other pathogens
 - Emerging contaminants
 - Disinfection by-products
 - Early warning/emergency response
- Main activities to-date
 - Workshops, monitoring, and development of partnerships to improve understanding of contaminants and their impacts on drinking water
 - Spill exercises and other activities related to early warning/emergency response



Partnership Activities

- Pathogen Workshop
- Crypto monitoring
- Emerging Contaminant Workshop
- Perchlorate Monitoring
- Afternoon seminars on various issues
 - Urban Storm Water
 - De-Icing Compounds
 - Land Conservation
- Early Warning/Emergency Response
 - Spill Exercises
 - Pipeline Safety Review

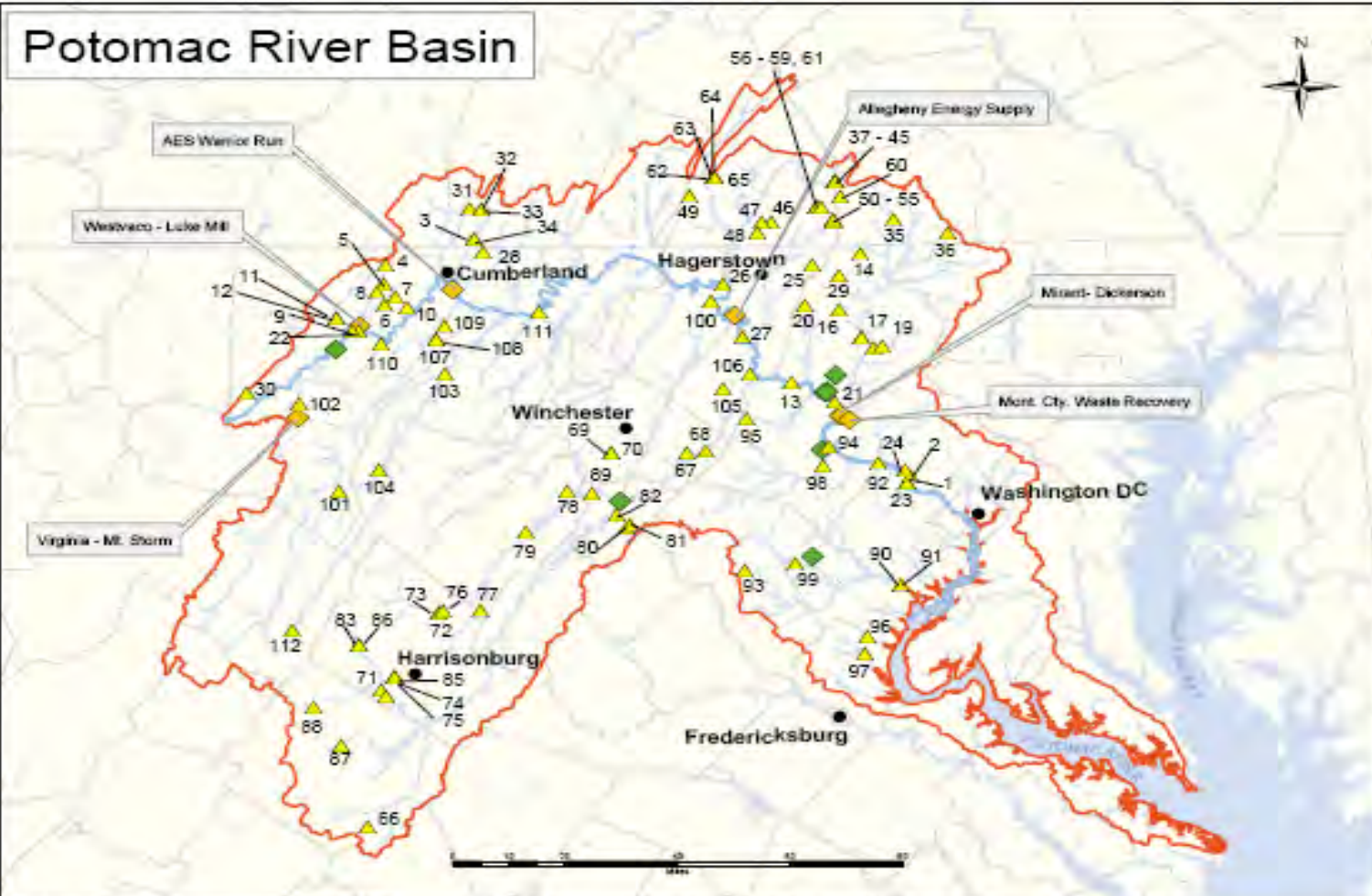


SWAP Compilation

- Gathered available surface water assessments for the Potomac
- Summarized and presented data for each assessment
 - Potential sources of contamination (PSCs)
 - Susceptibility analysis

Abbreviation keys											
Column 5		Column 8								Column 9	
GW	Groundwater source	A	Agriculture	MT	Miscellaneous Environ. threats	R	Recreation	T	Transportation	H	High susceptibility
INT	Interconnection	C/I	Commercial/Industrial	OF	Other major facilities	RH	Residential Housing	W	Wastewater	L	Low susceptibility
SW	Surface water source	CS	Contaminated sites	PAW	Physical/ water alteration	S	Storm water	WM	Waste Management	M	Moderate susceptibility

Potomac River Basin



Map Features

- Major Cities
- ◆ Existing Power Plants
- ◆ Proposed Power Plants *
- ▲ Surface Water Intakes
- ▭ Potomac River Basin
- ▭ County Boundary
- ▭ Potomac River
- ▭ Major Rivers
- ▭ Water

* This set of data consists of power plants in various stages and construction stages. Therefore most of these plants do not have official names.

Surface Water Intakes - Listed by Public Water System and ID#

ID#	Public Water System	ID#	Public Water System	ID#	Public Water System
1	WASHINGTON AQUEDUCT DIVISION	41	PATENTERS CHAMBERSBURG BORO WATER SYS	81	VA157406 POINTONVA, TOWN OF
2	WASHINGTON AQUEDUCT DIVISION	42	PATENTERS CHAMBERSBURG BORO WATER SYS	82	VA157406 POINTONVA, TOWN OF
3	WASHINGTON AQUEDUCT DIVISION	43	PATENTERS CHAMBERSBURG BORO WATER SYS	83	VA158244 HARRISONVILLE, CITY OF
4	WASHINGTON AQUEDUCT DIVISION	44	PATENTERS CHAMBERSBURG BORO WATER SYS	84	VA158244 HARRISONVILLE, CITY OF
5	MEADLANDS REGIONAL WATER SUPPLY	45	PATENTERS CHAMBERSBURG BORO WATER SYS	85	VA158244 HARRISONVILLE, CITY OF
6	MEADLANDS REGIONAL WATER SUPPLY	46	PATENTERS GREENCASTLE AREA WATER AUTH	86	VA158244 HARRISONVILLE, CITY OF
7	MEADLANDS REGIONAL WATER SUPPLY	47	PATENTERS GREENCASTLE AREA WATER AUTH	87	VA157906 EDGEMONT, CITY OF
8	MEADLANDS REGIONAL WATER SUPPLY	48	PATENTERS GREENCASTLE AREA WATER AUTH	88	VICTORVILLE, CITY OF
9	MEADLANDS REGIONAL WATER SUPPLY	49	PATENTERS GREENCASTLE AREA WATER AUTH	89	VA158206 NONCHESTER, CITY OF
10	MEADLANDS REGIONAL WATER SUPPLY	50	PATENTERS GREENCASTLE AREA WATER AUTH	90	VA158206 NONCHESTER, CITY OF
11	MEADLANDS REGIONAL WATER SUPPLY	51	PATENTERS GREENCASTLE AREA WATER AUTH	91	VA158206 NONCHESTER, CITY OF
12	MEADLANDS REGIONAL WATER SUPPLY	52	PATENTERS GREENCASTLE AREA WATER AUTH	92	VA158206 NONCHESTER, CITY OF
13	MEADLANDS REGIONAL WATER SUPPLY	53	PATENTERS GREENCASTLE AREA WATER AUTH	93	VA158206 NONCHESTER, CITY OF
14	MEADLANDS REGIONAL WATER SUPPLY	54	PATENTERS GREENCASTLE AREA WATER AUTH	94	VA158206 NONCHESTER, CITY OF
15	MEADLANDS REGIONAL WATER SUPPLY	55	PATENTERS GREENCASTLE AREA WATER AUTH	95	VA158206 NONCHESTER, CITY OF
16	MEADLANDS REGIONAL WATER SUPPLY	56	PATENTERS GREENCASTLE AREA WATER AUTH	96	VA158206 NONCHESTER, CITY OF
17	MEADLANDS REGIONAL WATER SUPPLY	57	PATENTERS GREENCASTLE AREA WATER AUTH	97	VA158206 NONCHESTER, CITY OF
18	MEADLANDS REGIONAL WATER SUPPLY	58	PATENTERS GREENCASTLE AREA WATER AUTH	98	VA158206 NONCHESTER, CITY OF
19	MEADLANDS REGIONAL WATER SUPPLY	59	PATENTERS GREENCASTLE AREA WATER AUTH	99	VA158206 NONCHESTER, CITY OF
20	MEADLANDS REGIONAL WATER SUPPLY	60	PATENTERS GREENCASTLE AREA WATER AUTH	100	VA158206 NONCHESTER, CITY OF
21	MEADLANDS REGIONAL WATER SUPPLY	61	PATENTERS GREENCASTLE AREA WATER AUTH	101	VA158206 NONCHESTER, CITY OF
22	MEADLANDS REGIONAL WATER SUPPLY	62	PATENTERS GREENCASTLE AREA WATER AUTH	102	VA158206 NONCHESTER, CITY OF
23	MEADLANDS REGIONAL WATER SUPPLY	63	PATENTERS GREENCASTLE AREA WATER AUTH	103	VA158206 NONCHESTER, CITY OF
24	MEADLANDS REGIONAL WATER SUPPLY	64	PATENTERS GREENCASTLE AREA WATER AUTH	104	VA158206 NONCHESTER, CITY OF
25	MEADLANDS REGIONAL WATER SUPPLY	65	PATENTERS GREENCASTLE AREA WATER AUTH	105	VA158206 NONCHESTER, CITY OF
26	MEADLANDS REGIONAL WATER SUPPLY	66	PATENTERS GREENCASTLE AREA WATER AUTH	106	VA158206 NONCHESTER, CITY OF
27	MEADLANDS REGIONAL WATER SUPPLY	67	PATENTERS GREENCASTLE AREA WATER AUTH	107	VA158206 NONCHESTER, CITY OF
28	MEADLANDS REGIONAL WATER SUPPLY	68	PATENTERS GREENCASTLE AREA WATER AUTH	108	VA158206 NONCHESTER, CITY OF
29	MEADLANDS REGIONAL WATER SUPPLY	69	PATENTERS GREENCASTLE AREA WATER AUTH	109	VA158206 NONCHESTER, CITY OF
30	MEADLANDS REGIONAL WATER SUPPLY	70	PATENTERS GREENCASTLE AREA WATER AUTH	110	VA158206 NONCHESTER, CITY OF
31	MEADLANDS REGIONAL WATER SUPPLY	71	PATENTERS GREENCASTLE AREA WATER AUTH	111	VA158206 NONCHESTER, CITY OF
32	MEADLANDS REGIONAL WATER SUPPLY	72	PATENTERS GREENCASTLE AREA WATER AUTH	112	VA158206 NONCHESTER, CITY OF
33	MEADLANDS REGIONAL WATER SUPPLY	73	PATENTERS GREENCASTLE AREA WATER AUTH		
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35	MEADLANDS REGIONAL WATER SUPPLY	75	PATENTERS GREENCASTLE AREA WATER AUTH		
36	MEADLANDS REGIONAL WATER SUPPLY	76	PATENTERS GREENCASTLE AREA WATER AUTH		
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40	MEADLANDS REGIONAL WATER SUPPLY	80	PATENTERS GREENCASTLE AREA WATER AUTH		
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Summary of the Assessments

Washington DC (Assessment 1, Intakes 2)

PSC	Highly Susceptible	#
Agriculture		1
Commercial/ Industrial		1
Transportation		1
Waste Management		1

Maryland (Assessment 22, Intakes 53)

PSC	Highly Susceptible	#
Agriculture		10
Misc. Env. Threats		1
Residential Housing		1
Storm Water		2
Transportation		1

Pennsylvania (Assessment 12, Intakes 35)

PSC	Highly Susceptible	#
Agriculture		3
Recreation		1
Residential Housing		7
Transportation		7
Wastewater		1
Waste Management		1

Virginia (Assessment 23, Intakes 44)

PSC	Highly Susceptible	#
Agriculture		9
Commercial/Industrial		6
Contaminated Sites		2
Other Major Facilities		2
Recreation		1
Transportation		1
Wastewater		5
Waste Management		6

West Virginia (Assessment 12, Intakes 13)

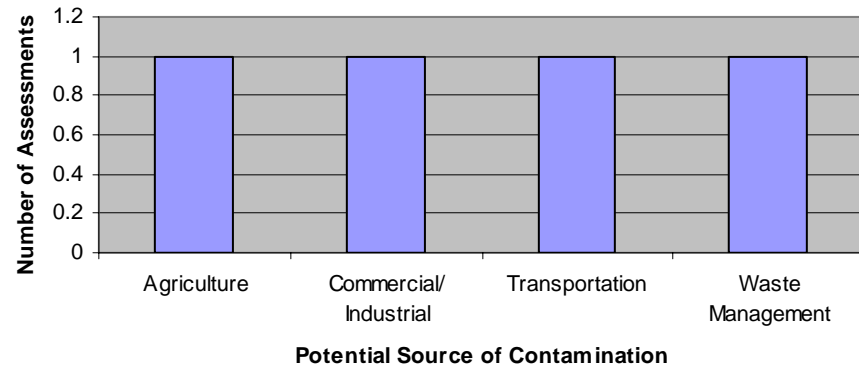
PSC	Highly Susceptible	#
Agriculture		3
Commercial/Industrial		8
Wastewater		2

Washington D.C.

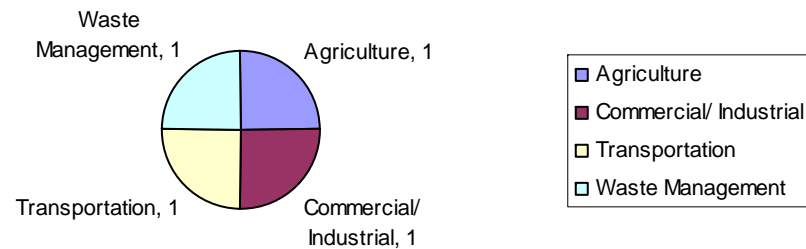
Washington DC (Assessment 1, Intakes 2)

PSC	Highly Susceptible	#
Agriculture		1
Commercial/ Industrial		1
Transportation		1
Waste Management		1

Washington DC (1 Assessment)



Washington DC

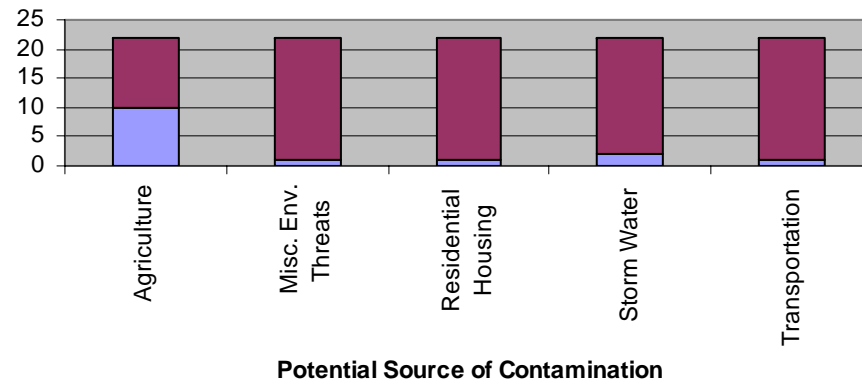


Maryland

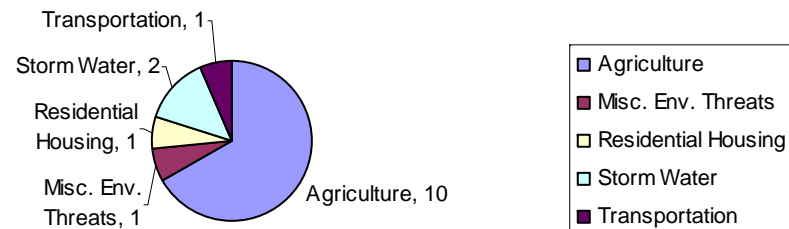
Maryland (Assessment 22, Intakes 53)

PSC	Highly Susceptible	#
Agriculture		10
Misc. Env. Threats		1
Residential Housing		1
Storm Water		2
Transportation		1

Maryland (22 Assessments)



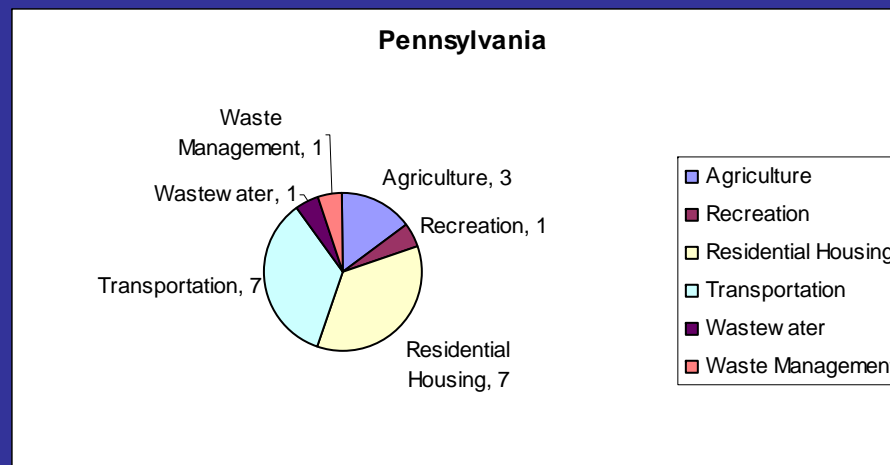
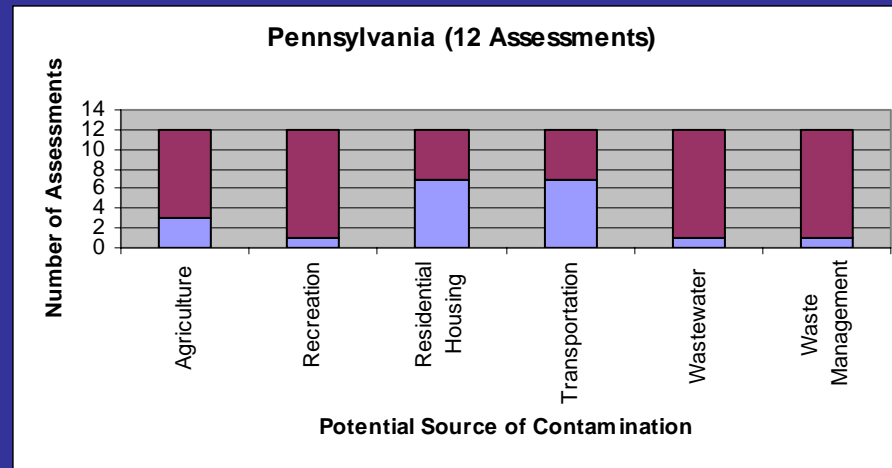
Maryland



Pennsylvania

Pennsylvania (Assessment 12, Intakes 35)

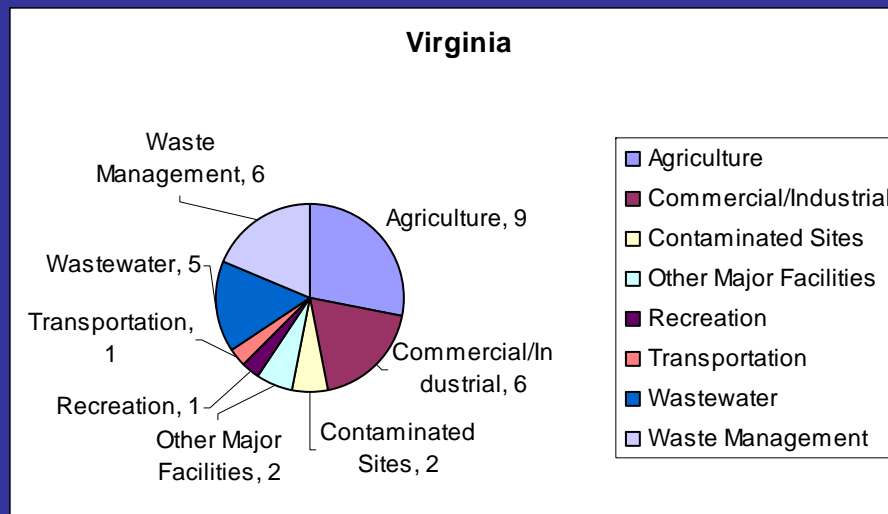
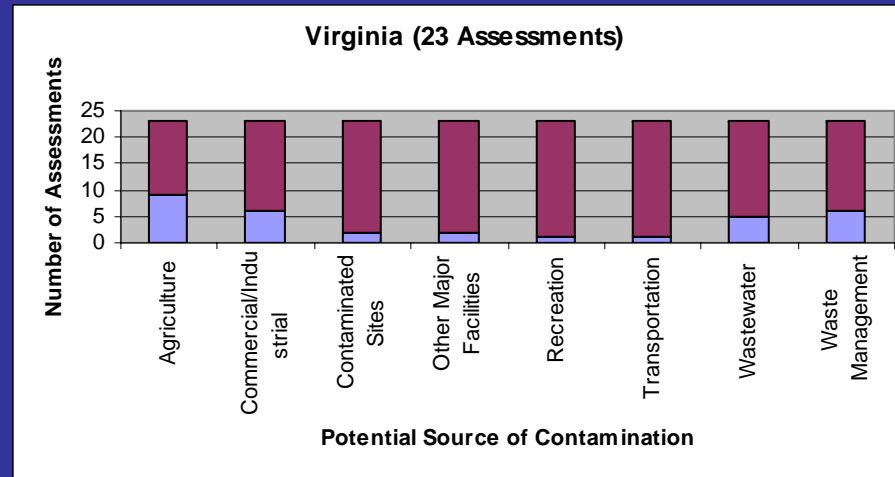
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Agriculture		3
Recreation		1
Residential Housing		7
Transportation		7
Wastewater		1
Waste Management		1



Virginia

Virginia (Assessment 23, Intakes 44)

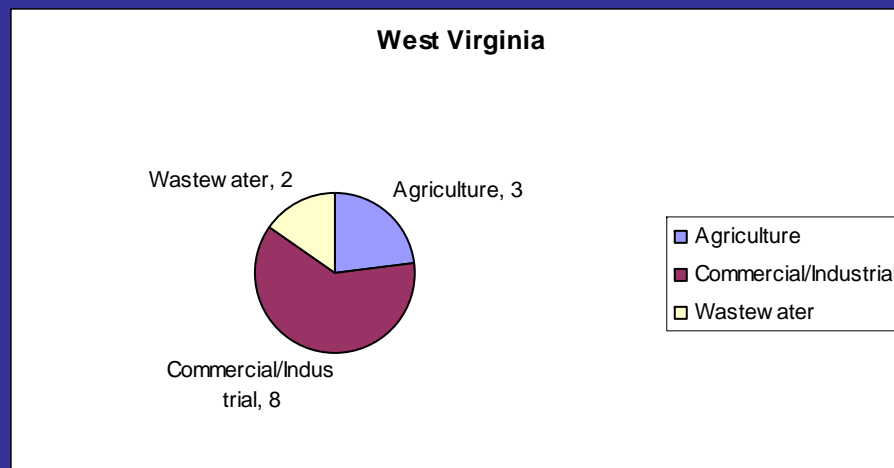
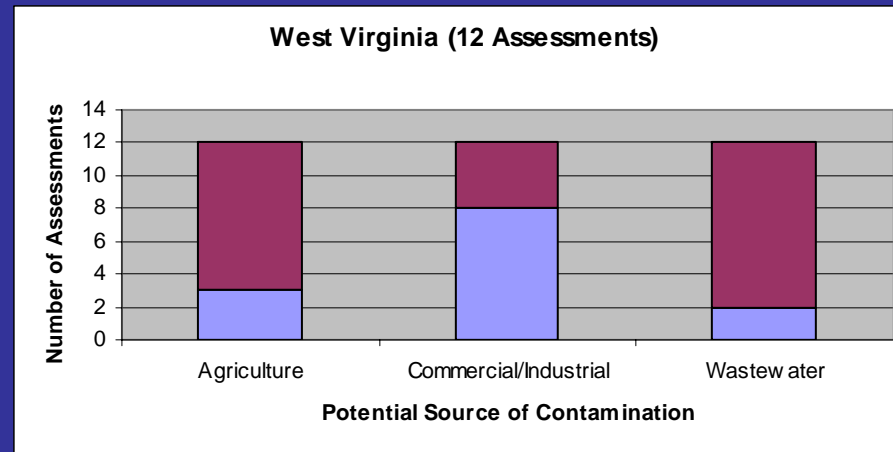
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Agriculture		9
Commercial/Industrial		6
Contaminated Sites		2
Other Major Facilities		2
Recreation		1
Transportation		1
Wastewater		5
Waste Management		6



West Virginia

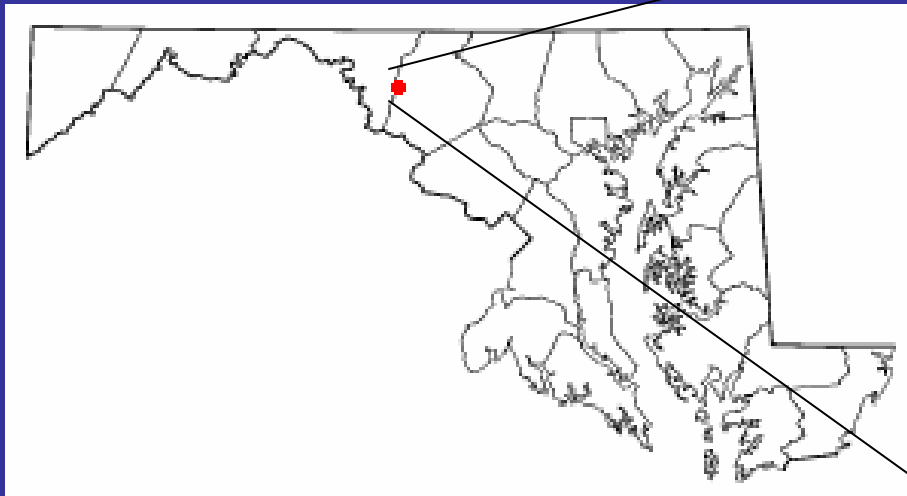
West Virginia (Assessment 12, Intakes 13)

PSC	Highly Susceptible	#
Agriculture		3
Commercial/Industrial		8
Wastewater		2



Maryland

EPA ID	Map Id	Name of System	Population	Type	Name of Source	Brief Description	PSC	Susc.	BMP
MD0100020	20	Town of Myersville	1,516	1 SW	Little Cactoning Creek	Creek: 18% of the total supply	A	H	Form local planning team
				9 GW	9 wells	5-25 gpm from wells	A, RH	M	Public awareness and outreach
				7 GW	7 springs	75-100 gpm from springs			Land acquisition / easements
									Contaminant source inventory updates
								Changes in use	
								Monitoring	



Source: www.answers.com/topic/myersville-maryland 2006

Source: Town of Myersville, MDE 2002

**Small Coffey Dam on
Little Catoclin Creek – Intake**



Myersville Springs - A Spring Box



Source: Town of Myersville, MDE 2002

A. SURFACE WATER SUPPLY SOURCE

Approximately eighteen percent (18%) of the potable water supplied to the Town of Myersville is appropriated from Little Catoctin Creek. A low head concrete dam is located in the Little Catoctin Creek approximately 1.5 miles north of the Town's water treatment plant along Easterday Road. This dam was constructed for the purpose of supplying raw water for the Town of Myersville.

Little Catoctin Creek watershed lies in the upper Catoctin Creek drainage basin, between Middle Creek and South Mountain. Soils in the watershed

1

Type	Name of Source	Brief Description
1 SW	Little Cactoning Creek	Creek: 18% of the total supply
9 GW	9 wells	5-25 gpm from wells
7 GW	7 springs	75-100 gpm from springs

Reported yields for the Town wells ranges from 5 to 25 gallons per minute (gpm). Otton and Hilleary (1985) estimated discharge for the springs at 75-100 gpm. However, estimates of the spring's sustained yield in the water appropriation permit are significantly lower. The Town's water use is summarized in Table 3 based on the most recent annual pumpage reports for each of the ground water appropriation permits. (6)

Year 2000: Some had sanitary deficiencies: Ashley 2, 3 and Deer Woods (free from Coliform bacteria, but susceptible to microbiological contaminants)



PSC	9
A	H
A, RH	M

Groundwater: Nitrate and radionuclides (Radon 222), organic and inorganic compounds were found below 50% MCL proportions. Animal waste is a potential source of bacteria and viruses to the sanitary deficiencies in the wells

Surface water: Considerable turbidity, and coliforms. Turbidity may increase due to Housing and agricultural plans, and storm water

travels quickly, with

in the surface water supply (100%), has been greater than 50% of the MCL.

Radionuclides

Radon 222 and Gross Beta were detected in the surface water with levels significantly lower than 50% MCL, therefore the surface source is not a source of radionuclides.

ter plant, but all results (2-Ethylhexyl) plastics, and is prevalence in this quantities laboratory

system draw and springs in due to any activity on

Basin-Wide Maps

- SWA compilation results
 - Linked SWA's to SDWIS intake locations
 - Still needs QA'ing of intake locations
 - Need to update compilation with additional SWA's
- “First look” at protected lands in Potomac basin
- TMDL (303(d) list) streams
- MS4 jurisdictions

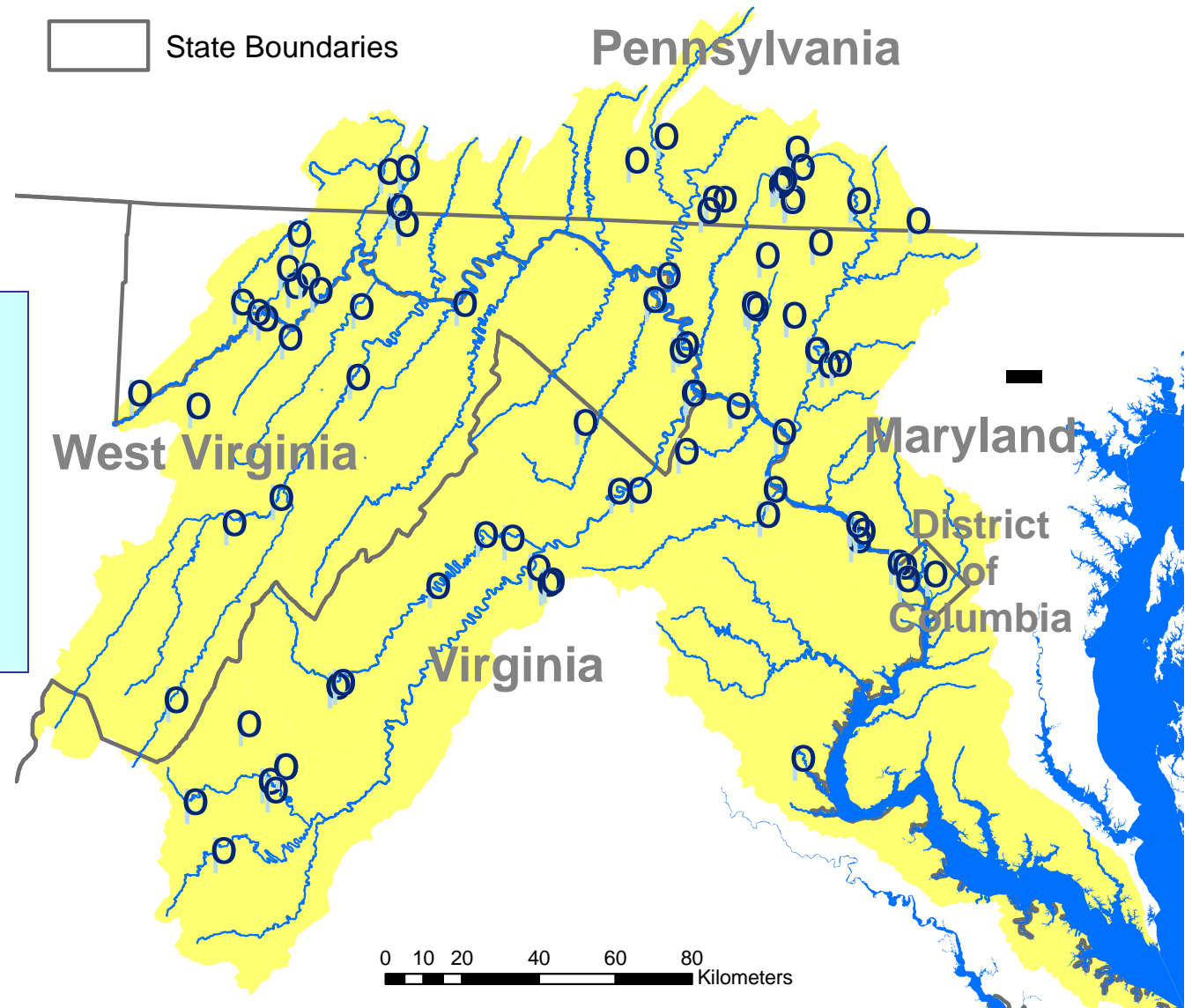


GIS Summary of EPA SWA Database (Draft)

- SWA Intake Locations
- Rivers and Streams
- State Boundaries

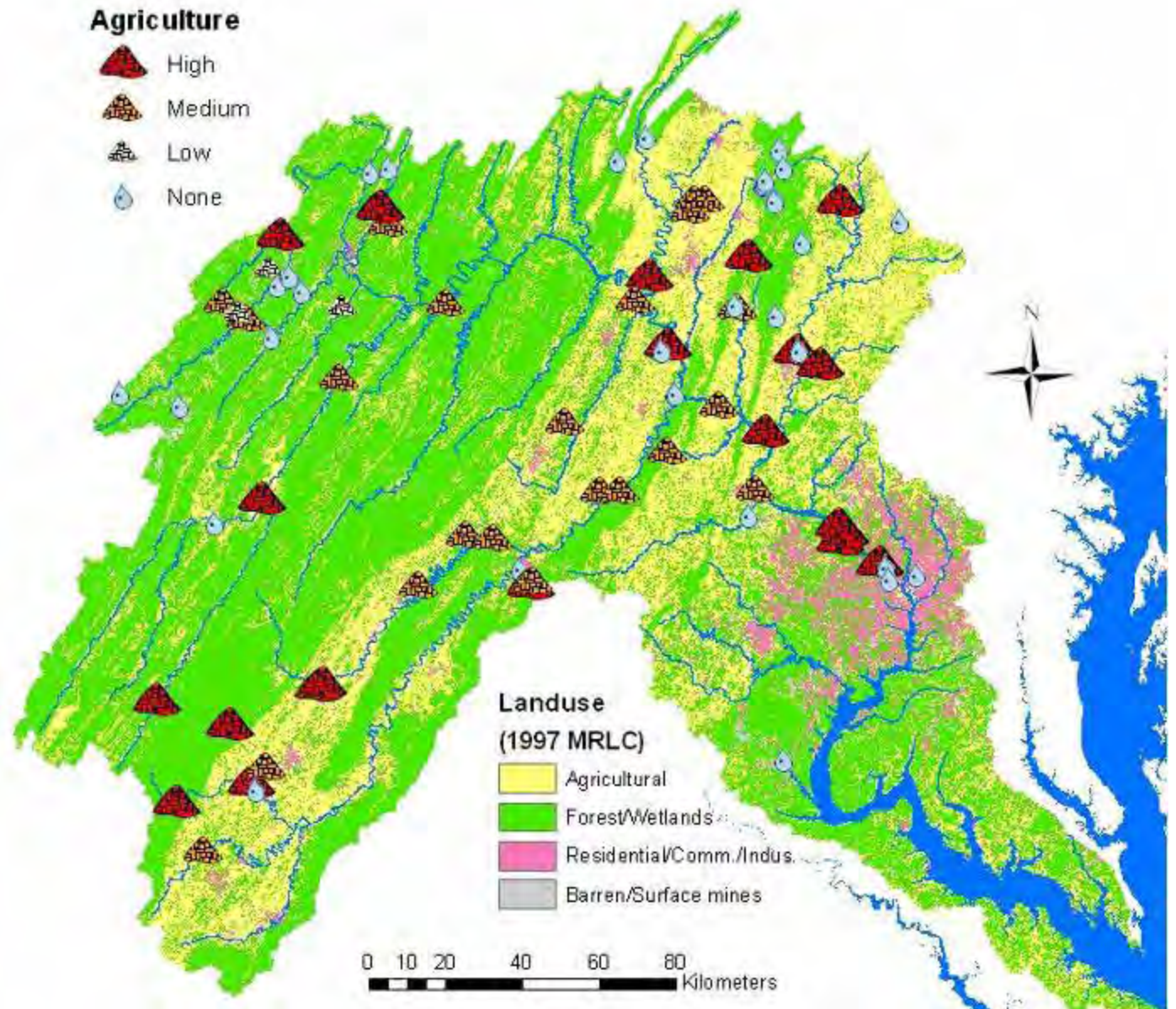
Includes:

- ~ 75 surface water intake locations
- ~ 55 public water supply systems



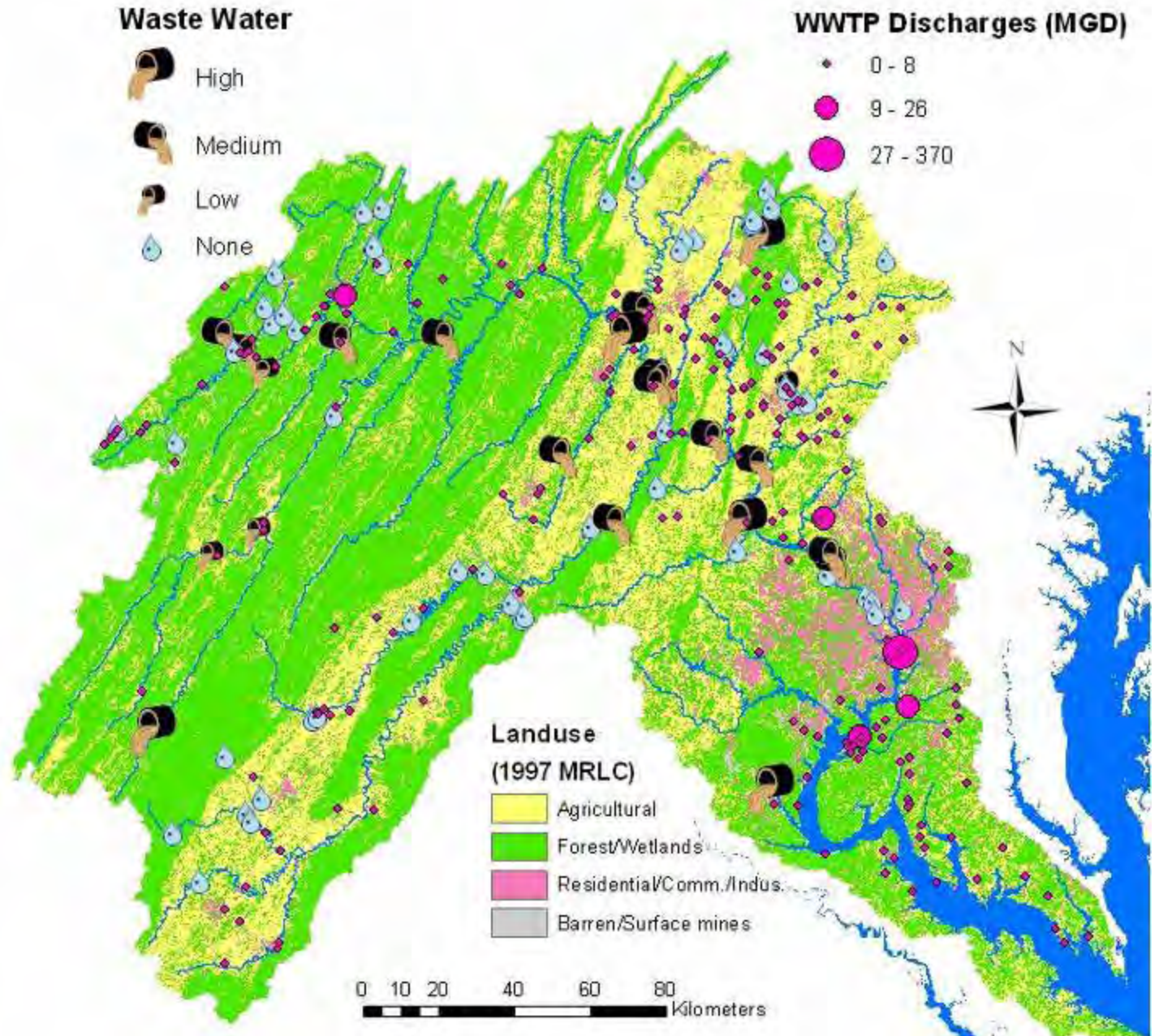
Susceptibility to PSC's related to

Surface Water Intakes with PSC's Related to Agriculture



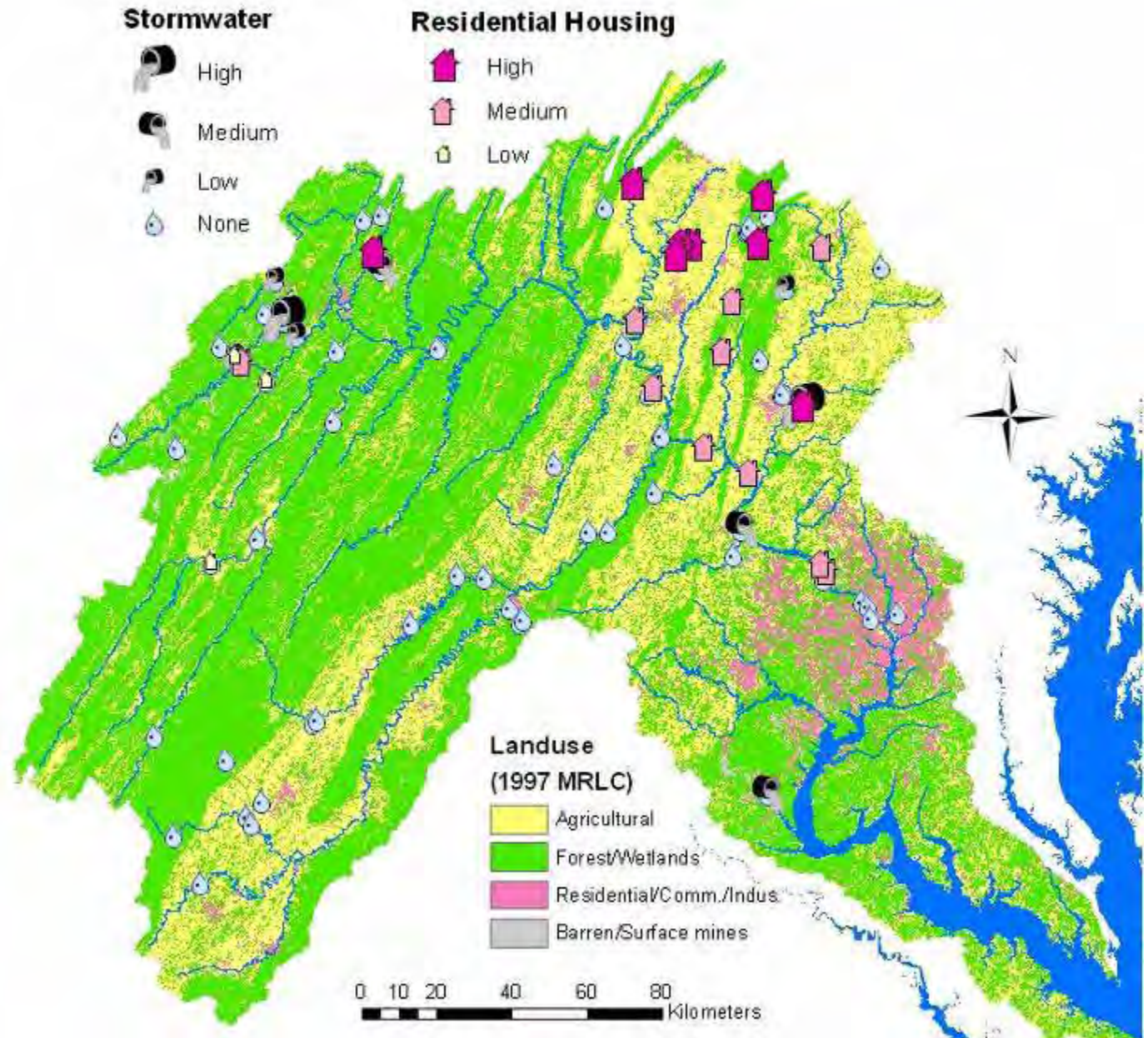
Susceptibility to PSC's related to

Surface Water Intakes with PSC's Related to Waste Water



Susceptibility to PSC's related to

Surface Water Intakes with PSC's Related to "Sprawl"

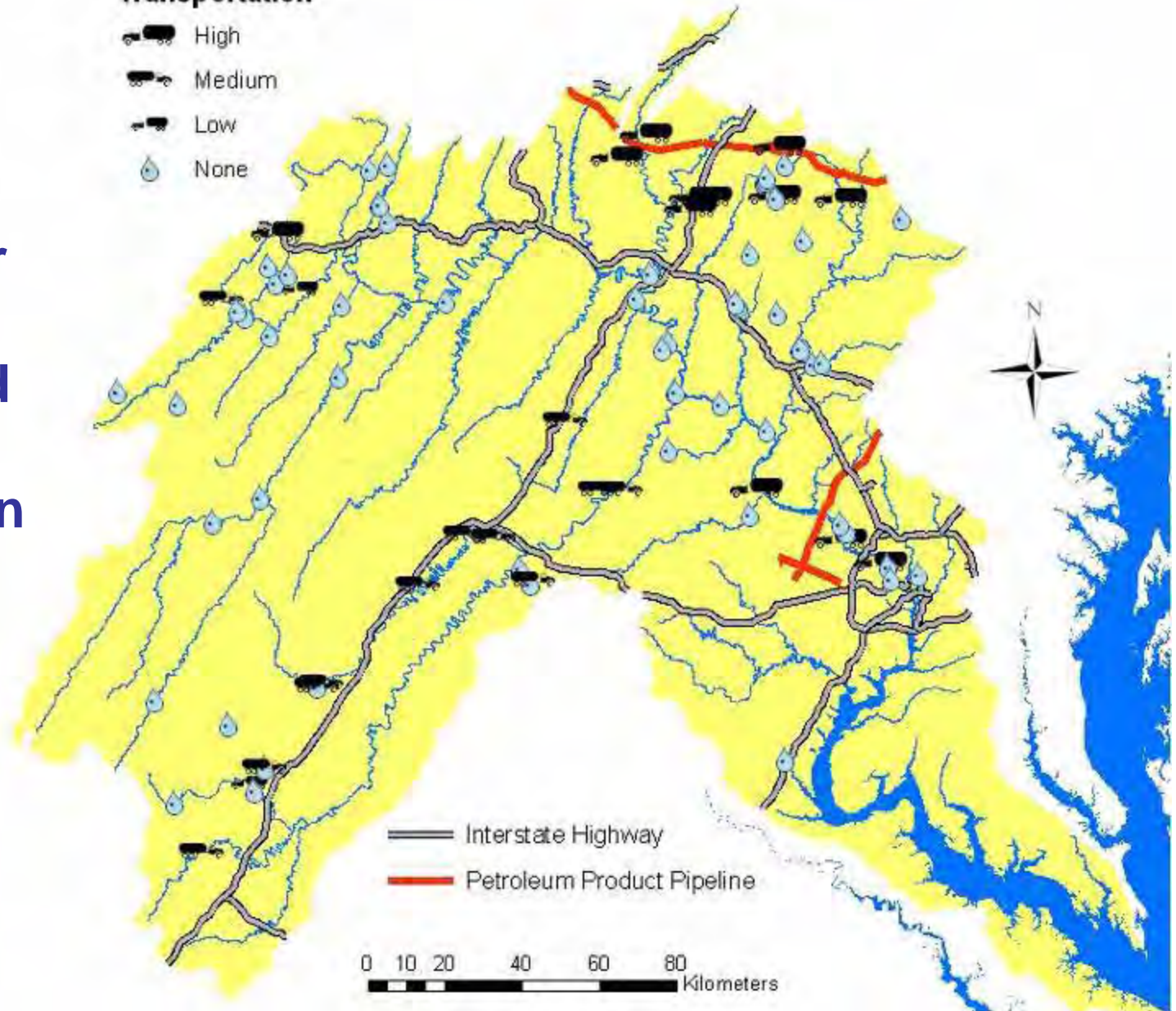


Surface Water Intakes with PSC's Related to Transportation

Susceptibility to PSC's related to

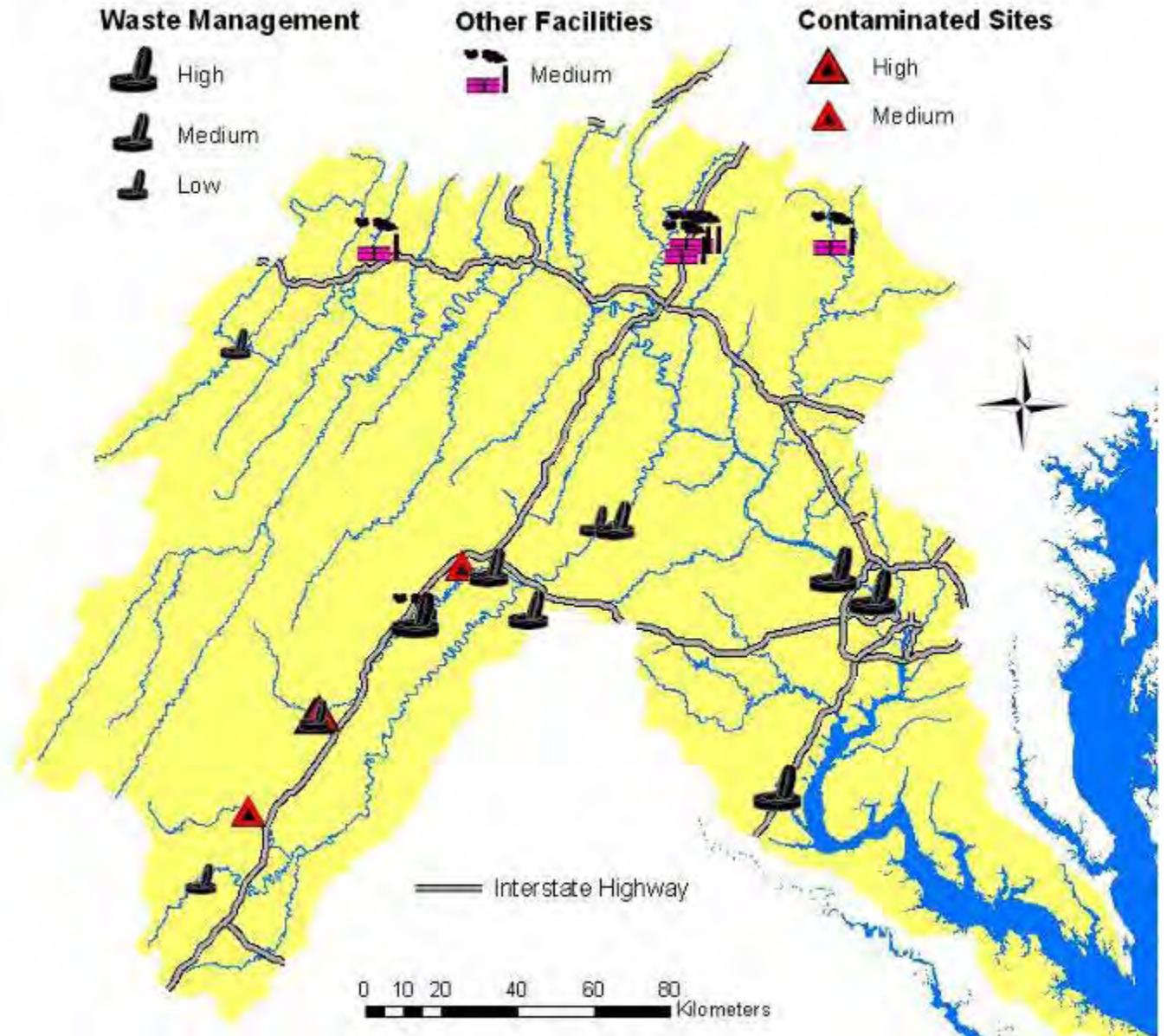
Transportation

- High
- Medium
- Low
- None



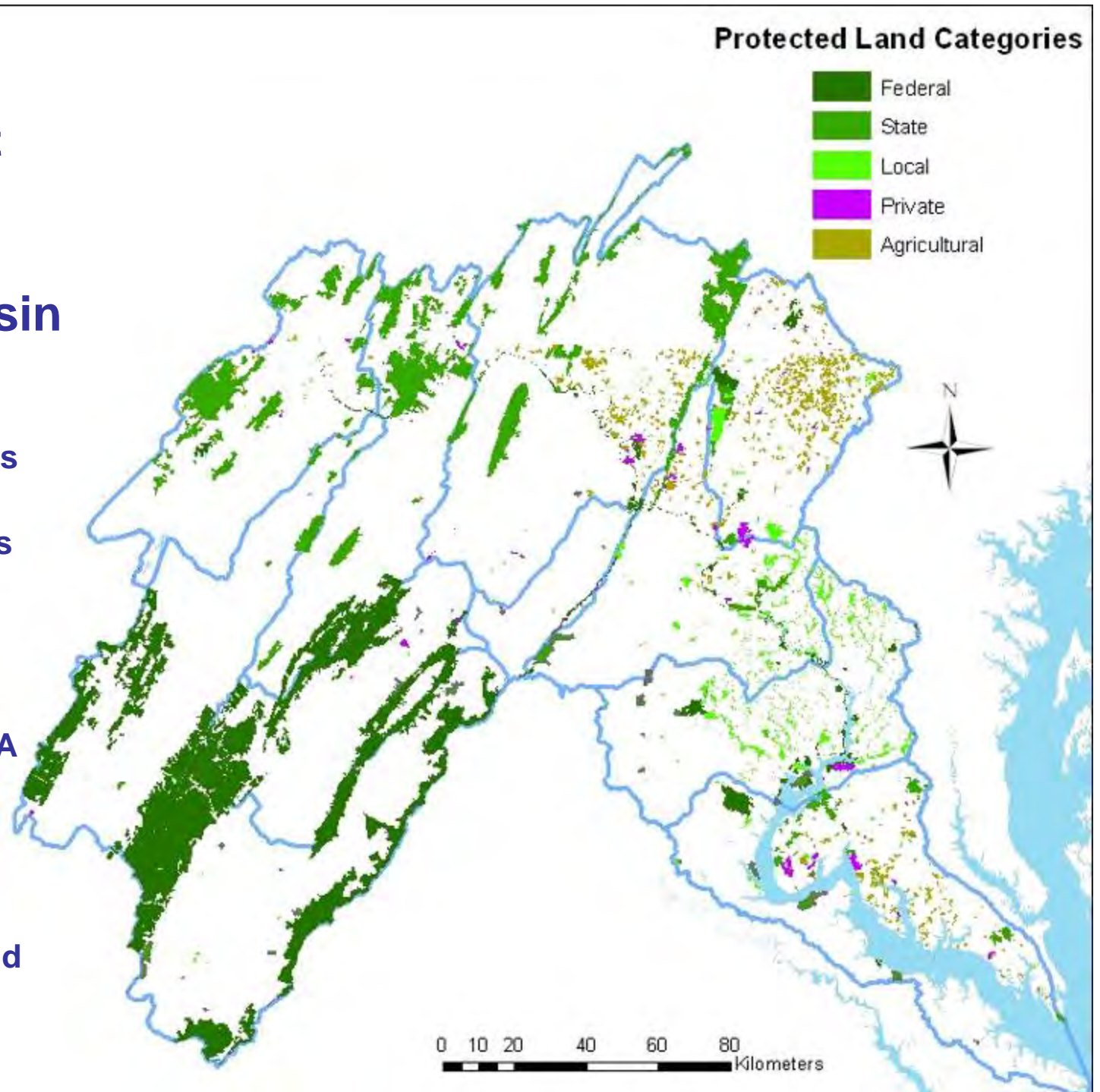
Susceptibility to PSC's related to

Surface Water Intakes with PSC's Related to Waste Disposal



First Look at Protected Lands in the Potomac Basin

- MD Protected Lands Data (MD DNR)
- PA Protected Lands Inventory (The Conservation Fund/PA DCNR)
- VA Conservation Lands Database (VA DCR)
- WV Land Stewardship Data (WV DNR)
- DC Federal Parkland



Protected Lands in Potomac Basin

Protected Land Areas (mi²)

Federal	1,358	9.3%
Local	157	1.1%
Private	51	0.3%
State	637	4.4%
Subtotal	2,203	15.1%
Total	14,632	

Summer Meeting

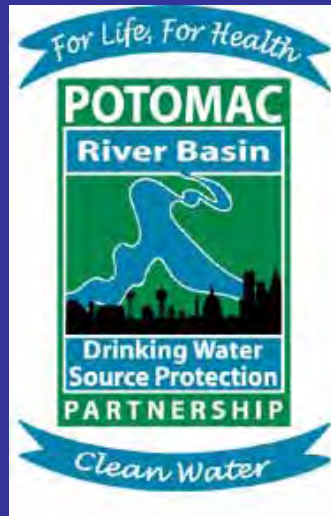
- Goal: identification of roles for Partnership in watershed protection/watershed planning
- Participants: Partnership “governmental committee”
- Basis for discussion: SWA and other maps
- Preparation: update SWA compilation



Outcomes

- Identified two multi-state watersheds
- Review WWTP performance
- Review designated uses
- Land conservation activities
- Ongoing watershed activities
- Develop implementation strategy





Thank-You

