

Anne Arundel County Environmental Protection & Resource Conservation

Anne Arundel County Department of Public Works
Citizens' Advisory Commission, November 7, 2018



Environmental Protection and Resource Conservation

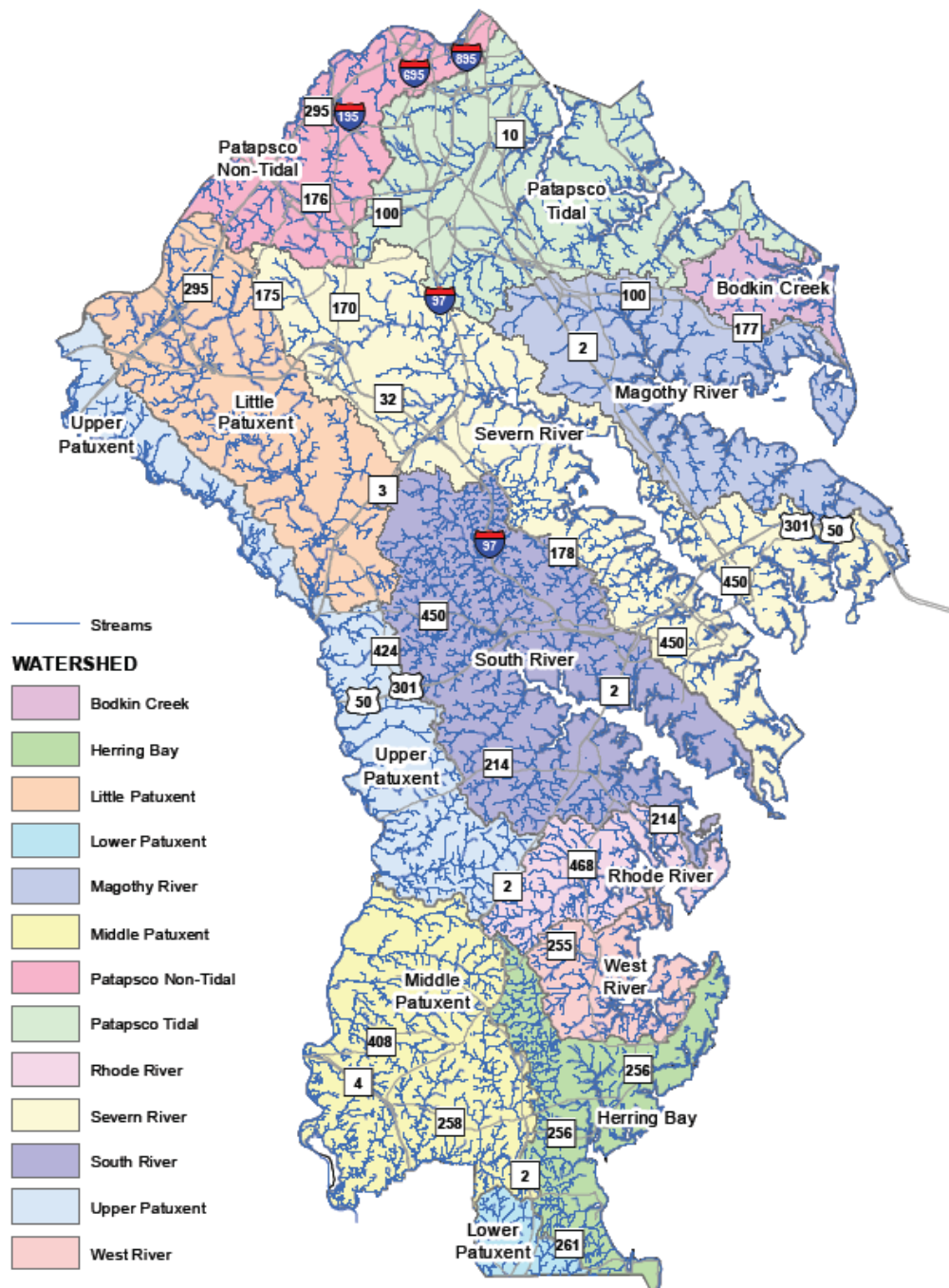
Background Report



Table 1: Anne Arundel County Watersheds

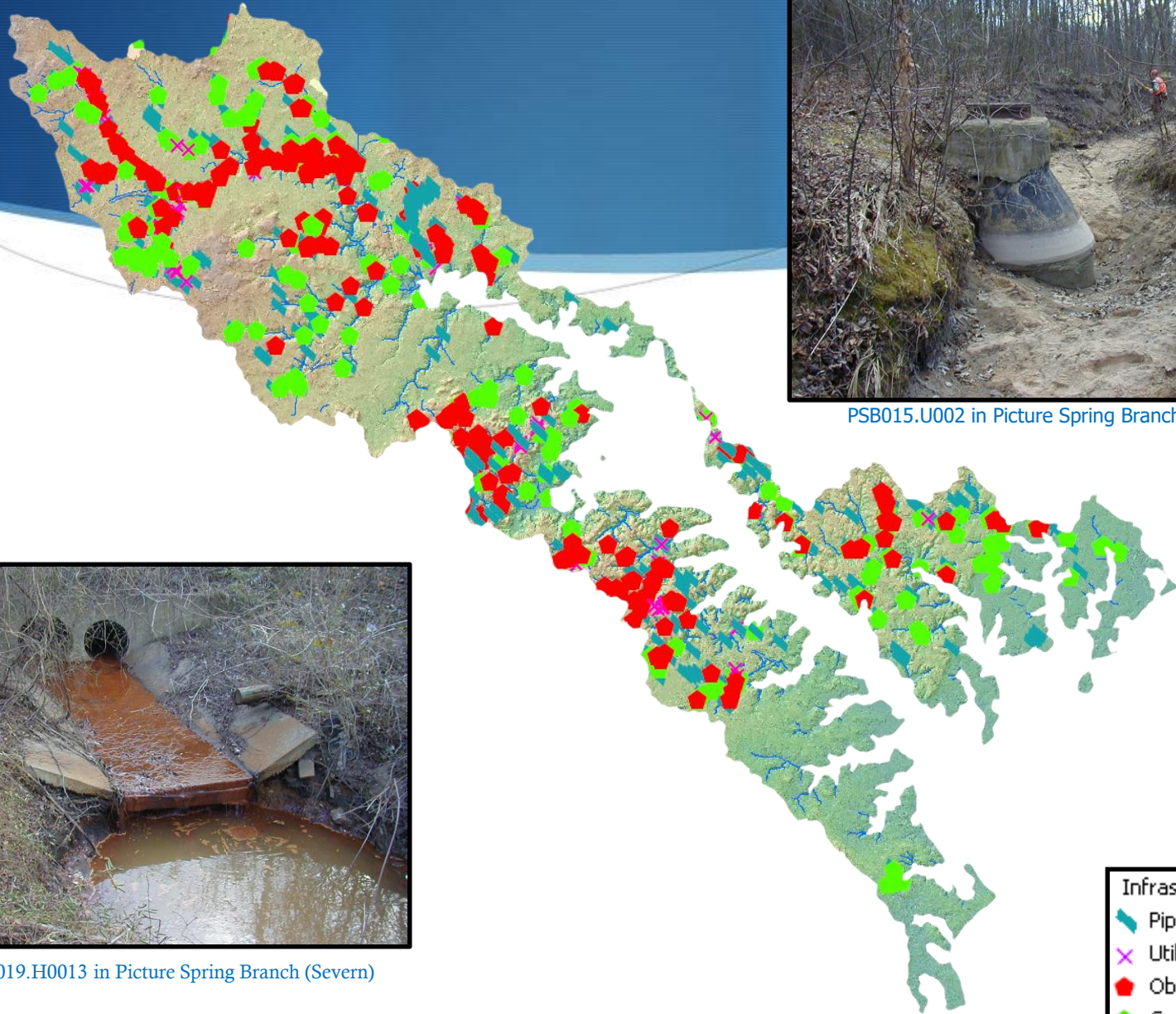
County Watershed Name	Watershed Area (acres)	Estimated Stream Miles
Bodkin Creek Watershed	5,036	14
Herring Bay Watershed	14,662	108
Little Patuxent River Watershed	27,750	165
Magothy River Watershed	22,845	62
Middle Patuxent River Watershed	29,632	463
Patapsco Nontidal River Watershed	15,275	124
Patapsco Tidal River Watershed	30,841	95
Rhode River Watershed	8,764	65
Severn River Watershed	44,248	152
South River Watershed	36,167	207
Upper Patuxent River Watershed	22,551	304
West River Watershed	7,297	25
Totals:	265,067	1,784

Figure 1: Watersheds and Streams



Mapping our watersheds

Problem Areas Identified

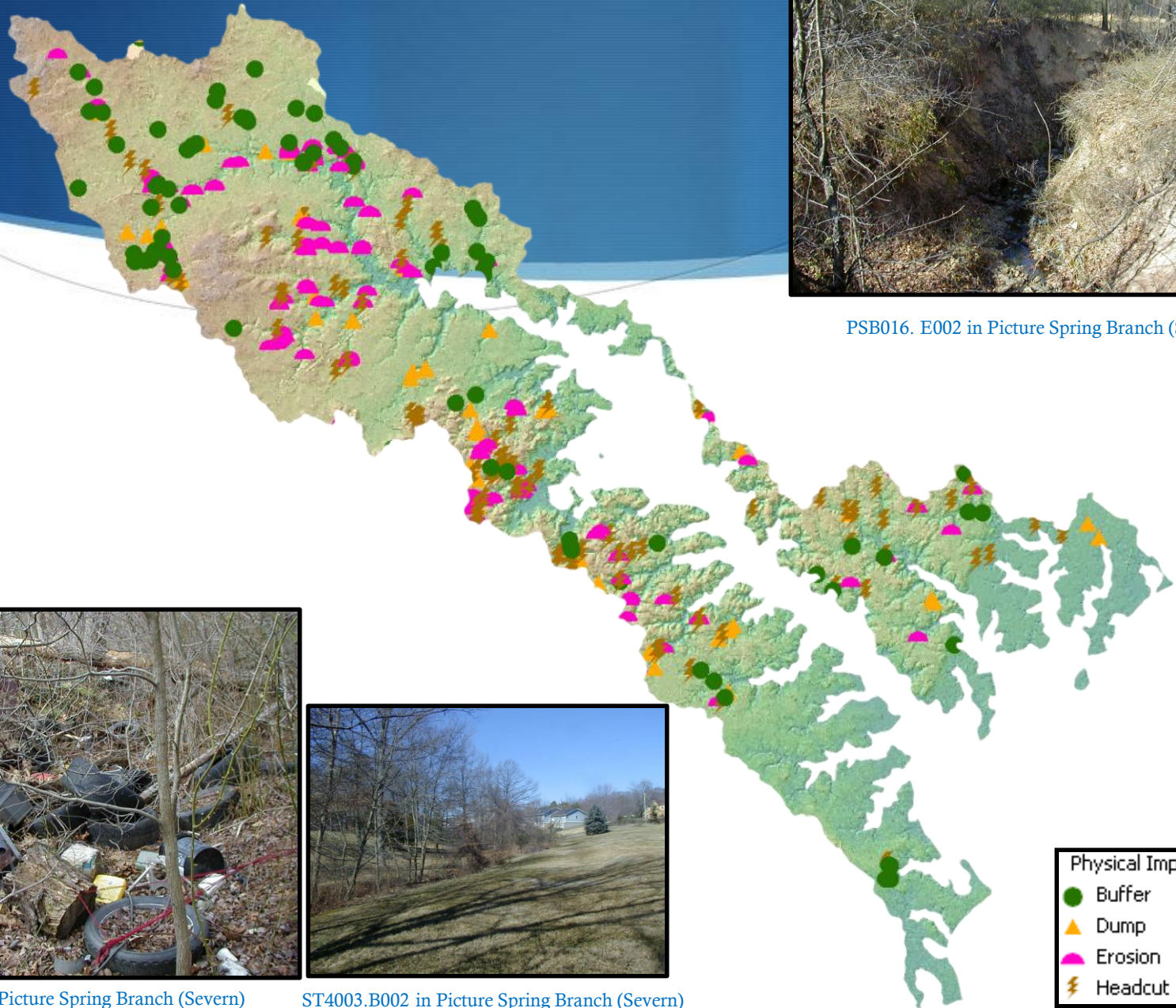


PSB015.U002 in Picture Spring Branch (Severn)



PSB019.H0013 in Picture Spring Branch (Severn)

Problem Areas Identified



PSB016. E002 in Picture Spring Branch (Severn)



ST3001.M001 in Picture Spring Branch (Severn)



ST4003.B002 in Picture Spring Branch (Severn)

Physical Impairments	
●	Buffer
▲	Dump
◐	Erosion
⚡	Headcut

The County's Regulatory Mandates

TMDLs

MS4s

NPDES

TMDLs (Total Maximum Daily Loads)

- Think of it as a “recommended annual intake” of pollution required by the Clean Water Act.
- Based on models created by EPA.
- Reductions required in nitrogen, phosphorus, and sediment loads by 2025 as part of the Chesapeake Bay TMDL.

Nutrition Facts	
Serving Size 1 tsp. (0.5g)	
Servings Per Container 550	
Amount Per Serving	
Calories 0	
% Daily Value*	
Total Fat 0g	0%
Sodium 0mg	0%
Total Carbohydrate less than 1g	0%
Protein 0g	
Not a significant source of calories from fat, saturated fat, trans fat, cholesterol, dietary fiber, sugars, vitamin A, vitamin C, calcium and iron.	
*Percent Daily Values are based on a 2,000 calorie diet.	

INGREDIENTS: Nitrogen, Phosphorus, & Sediment

MS4 Permit



- ◆ Municipal Separate Storm Sewer System (MS4) Permit (issued by MDE).
- ◆ Issued to each county (and Baltimore City in the state) with a population over 100,000.
- ◆ 5-year cycle, newest permit issued in February 2014.
- ◆ Requires treatment of 20% of the untreated impervious area in the county during the permit cycle. (5,862 acres)
- ◆ Anne Arundel County has committed over \$250 million to stormwater restoration efforts.

Upgrade of the County's 7 Water Reclamation Facilities to ENR



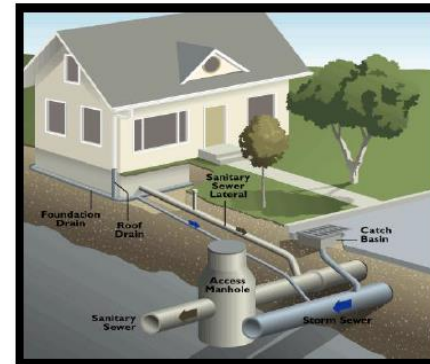
At a cost of approximately \$252 million, Anne Arundel County completed the upgrade of all its wastewater treatment plants to enhanced nutrient removal in mid-2017.

ANNE ARUNDEL COUNTY

SEPTIC TASK FORCE

FINAL REPORT

JUNE 2018



Anne Arundel County has approximately 42,000 privately-owned septic systems throughout the County, and has worked for a number of years to devise a strategy to transition them to less polluting alternatives.

Initial estimates to convert 20,000 septs were approximately \$1.5 billion.

Streams & Stream Buffers



Approximately 1,750
miles of streams

Current stream projects



Towsers Branch
Little Patuxent Watershed

Tributary to
Severn Run
Severn Watershed



Cat Branch
Magothy
Watershed

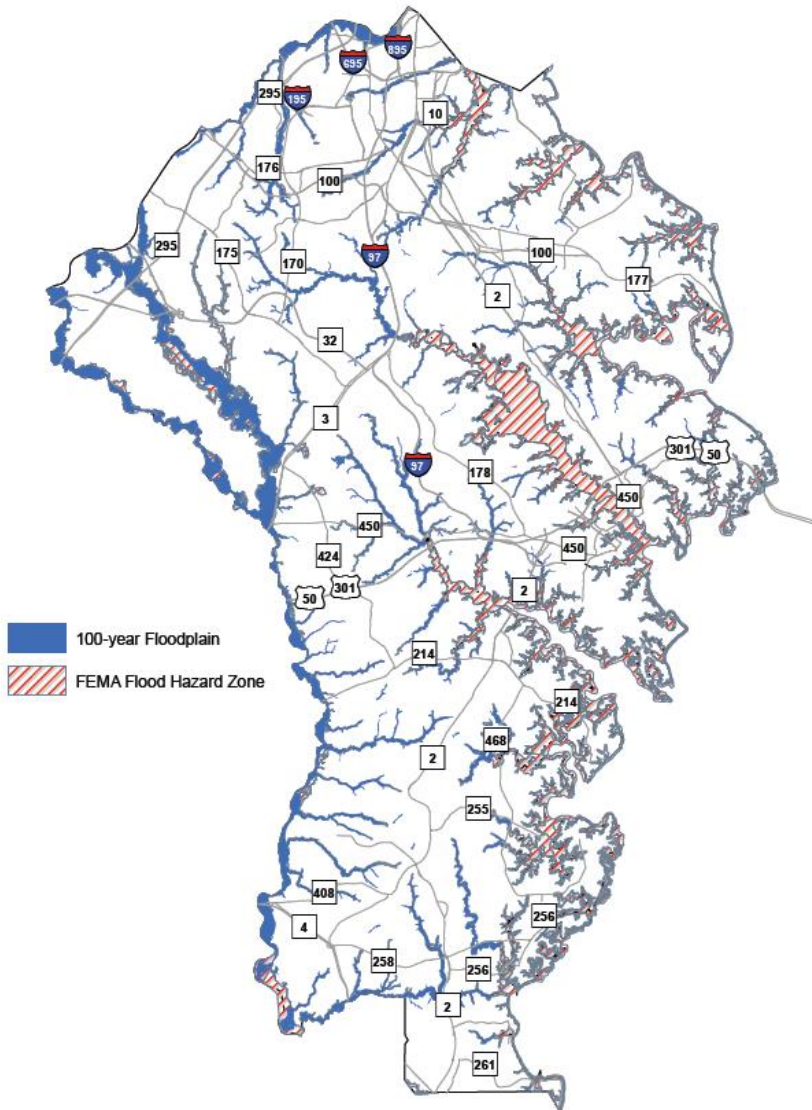


FURNACE BRANCH RESTORATION – PATAPSCO WATERSHED

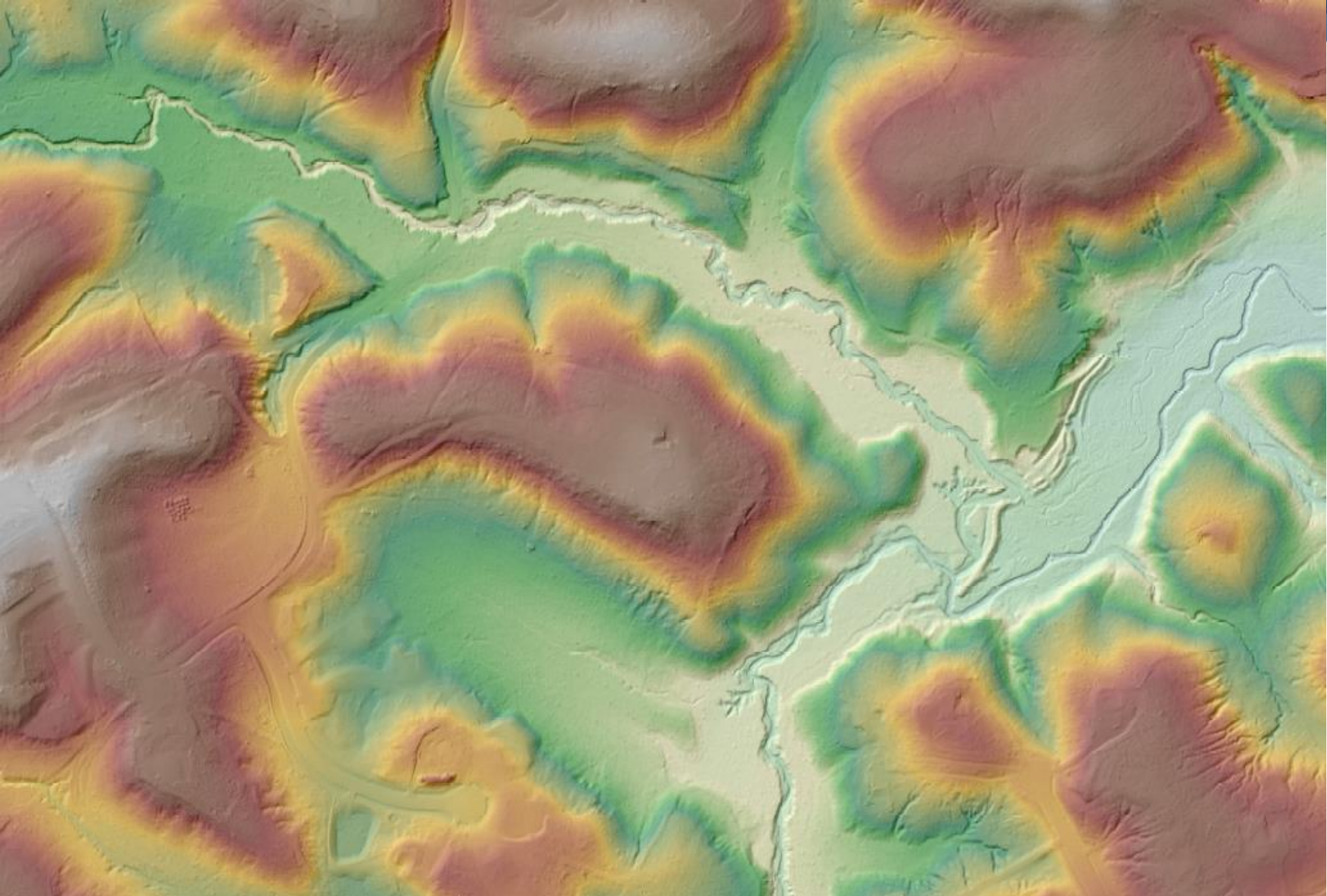


Floodplains

Figure 4: Floodplains and FEMA Flood Hazard Zones



- Anne Arundel County requires floodplains identified as part of the subdivision process to either be deeded to the County or permanently eased as open space.
- 100' stream buffer requirements also provide protection for these floodplain areas.
- All structures must be elevated above the 100-year flood level.



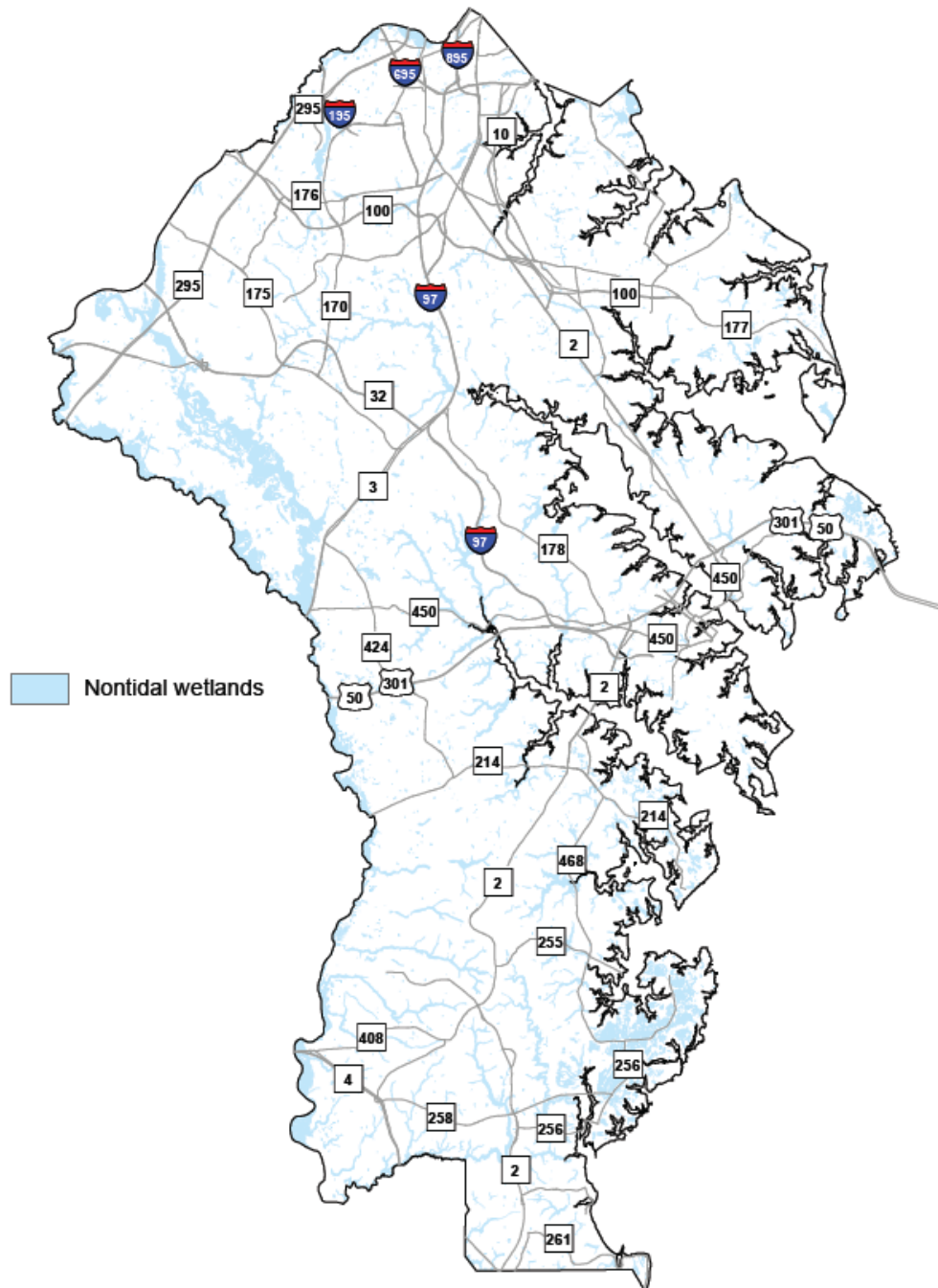
Flat Creek, South River watershed

Wetlands

Non-Tidal Wetlands



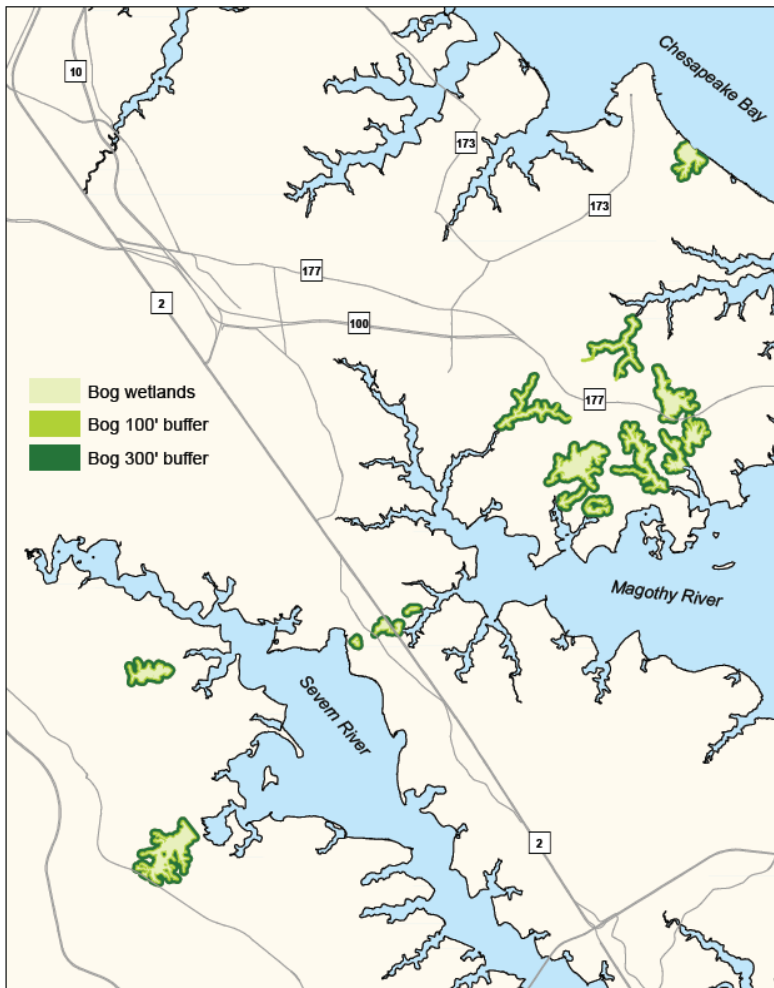
Figure 5: Nontidal Wetlands



- Generally have a 25' buffer protection against development

Bogs

Figure 6: Bog Wetlands



- Have an enhanced 100' and 300' buffer protection against development. Similar to critical area protections.



Tidal Wetlands

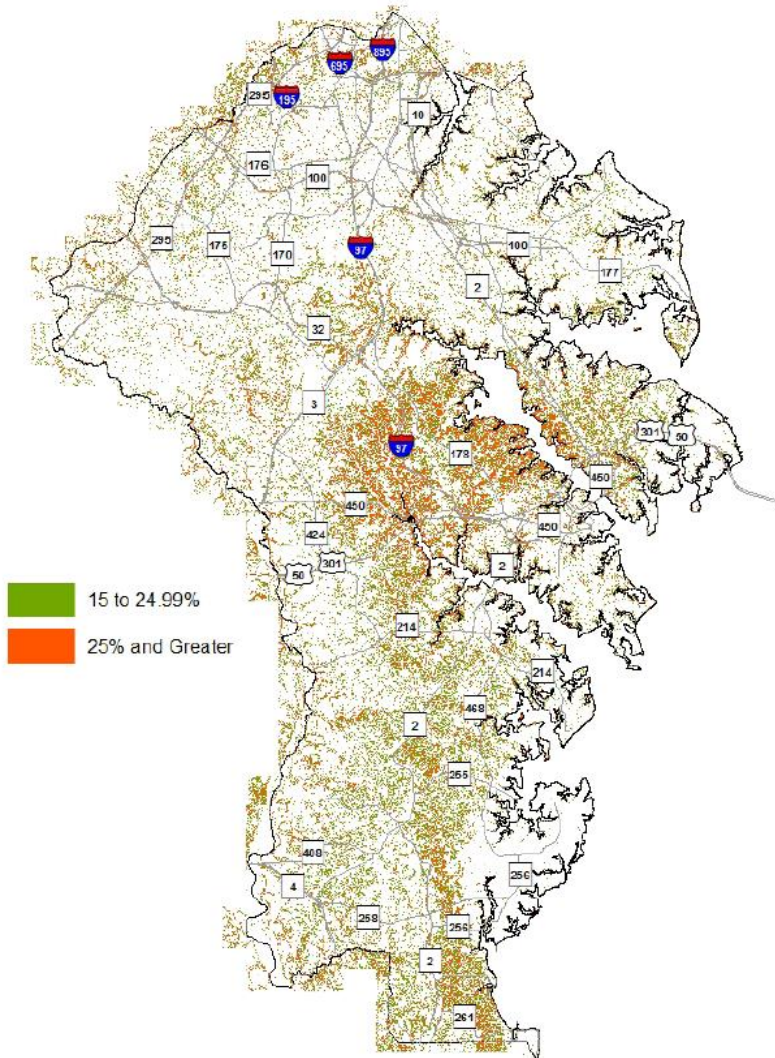


- Have a 100' buffer protection via critical area protections.



Steep Slopes

Figure 7: Steep Slopes



- Steep slopes (those with a 25% or greater slope, with greater protections (15%) in the critical area) have protections within the County Code.
- Development should not occur on steep slopes or within 25' feet of the top of steep slopes.



Questions?

Erik Michelsen

Administrator

Anne Arundel County Watershed
Protection & Restoration Program

pwmich20@aacounty.org

aarivers.org