

**HOWARD COUNTY
WATERSHED STEWARDS ACADEMY (WSA)
HOME OWNER ASSOCIATION (HOA)
PARTNERSHIP PROGRAM**

Overview of Study Design, Parameters Sampled and Locations

2016 Stream Monitoring Roundtable February 19, 2016

**Alan Pflugrad
Howard County Master Watershed Steward**



Overview of Study Design

- Target HOA's with Streams
- MD DNR Stream Waders for biological stream data
- Use stream data to help educate and promote best management practices to HOA
- Support remediation efforts for HOA common and resident property



Parameters Sampled - Example

Chateau Valley

Site Number: 0955-01-2015

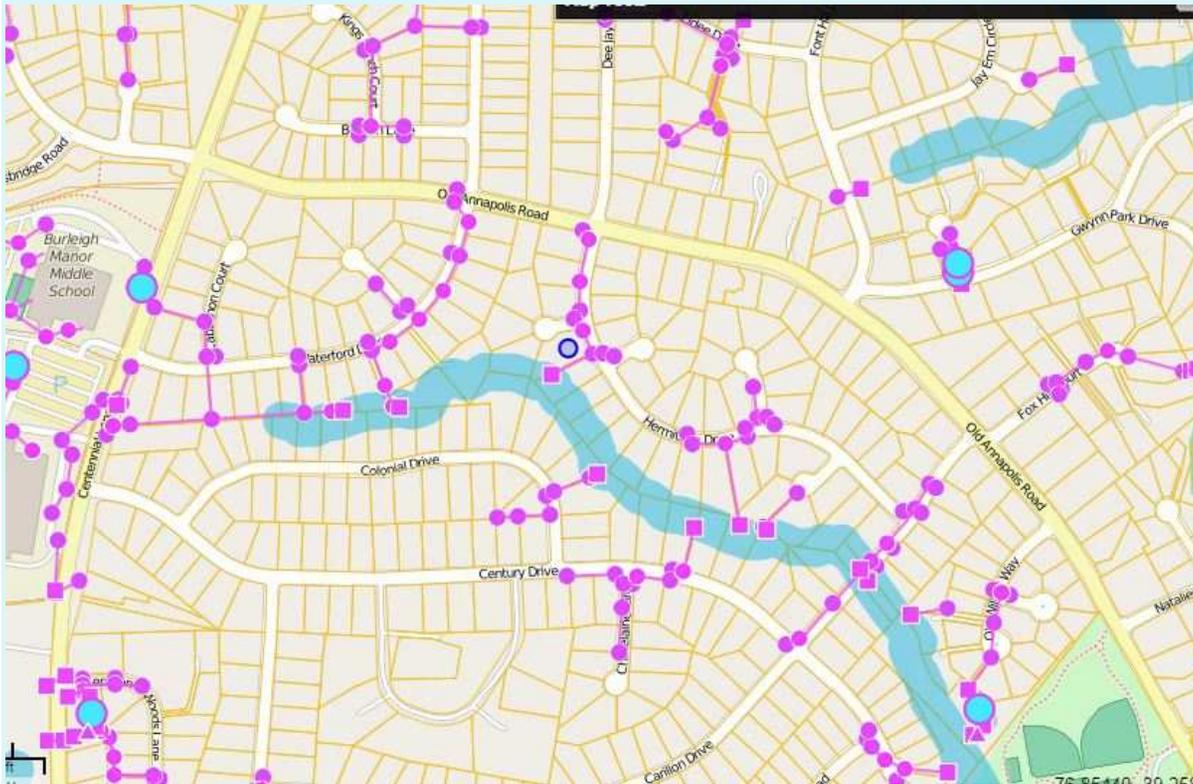
Location: Stream Name: Unnamed Trib. to Little Patuxent

Latitude: 39.25434

Longitude: -76.86027

Aquatic Invertebrates Identified
(family/common/#individuals):

Enchytraeidae	aquatic worm	1
Heptageniidae	flyhead mayfly	1
Hydropsychidae	common netspinner caddisfly	25
Limnephilidae	northern casemaker caddisfly	1
Philopotamidae	fingeret caddisfly	1
Elmidae	riffle beetle	1
Chironomidae	non biting midge	94
Tipulidae	crane-fly	6



Most Common – non biting midge



Aquatic Families Identified:

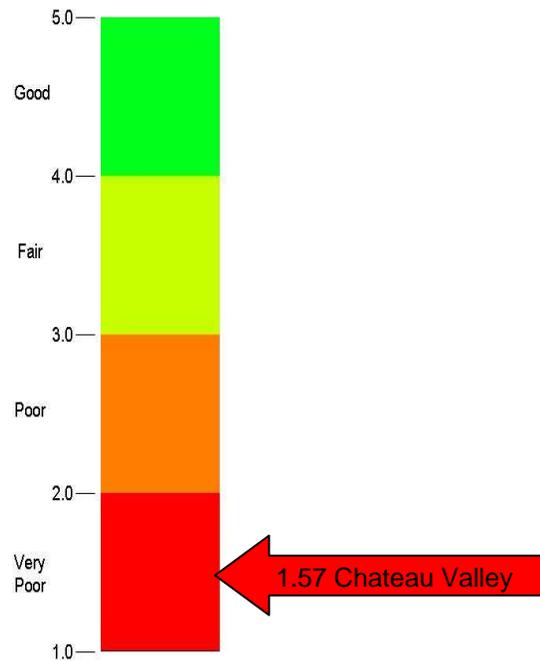
- Number of Families: 8
- EPT Families (Mayflies, Stoneflies & Caddisflies): 4
- Number of Diptera (Fly) Families: 2
- Number of taxa Intolerant to urban stressors: 2

Continued

Index of Biotic Integrity Score: **1.571429**

Overall biological condition of this site is: **VERY POOR**

Stream Waders Index of Biotic Integrity Scale



Stream Characteristics (From Howard County Stream Mapper)

Report details	
Author	Lori L.
Date	April 19, 2015
Observations	
Nearby Land Use	residential
Streamside Plants	mostly trees
Bank Cover	mostly trees
Bank Height	2 feet
Stream Width	8 feet
Left Bank Shape	sloped
Right Bank Shape	sloped
Invasive Plants	yes - vines
Blockages	none
Sedimentation	rocks half covered in mud
Trash	light trash
Exposed Utilities	none
Notes	
Lots of filamentous algae, from neighborhood fertilizer most likely Springs Stream Wader site	



Parameters Sampled

Examples - Continued

Habitat Assessment

- Unified Stream Assessment protocol
- Dominant substrate: gravel, cobble and boulders
- Potential eutrophication noted.
- Buffers:
 - right bank suboptimal, 25-50 ft
 - left bank, marginal, 10-25 ft
- Multiple invasive species
- Vegetative waste dumped in stream buffer

Slide 5

LL4

Suggest **bolding** just a couple items to highlight as there are too many words here. I bolded some that I thought were relevant.

Lori Lilly, 10/28/2015

Parameters Sampled

Example - Continued

Chemical Assessment

- Temperature and pH met MD standards.
- Conductivity was normal – conductivity of healthy freshwater streams range from 100-500 μS [2]

	Sample	MD Standard
pH	7.13	6.5-8.5
Conductivity	345 μS	n/a*
Temperature	16.9°C	32°C

* n/a: No water quality standard exists

Slide 6

LL5

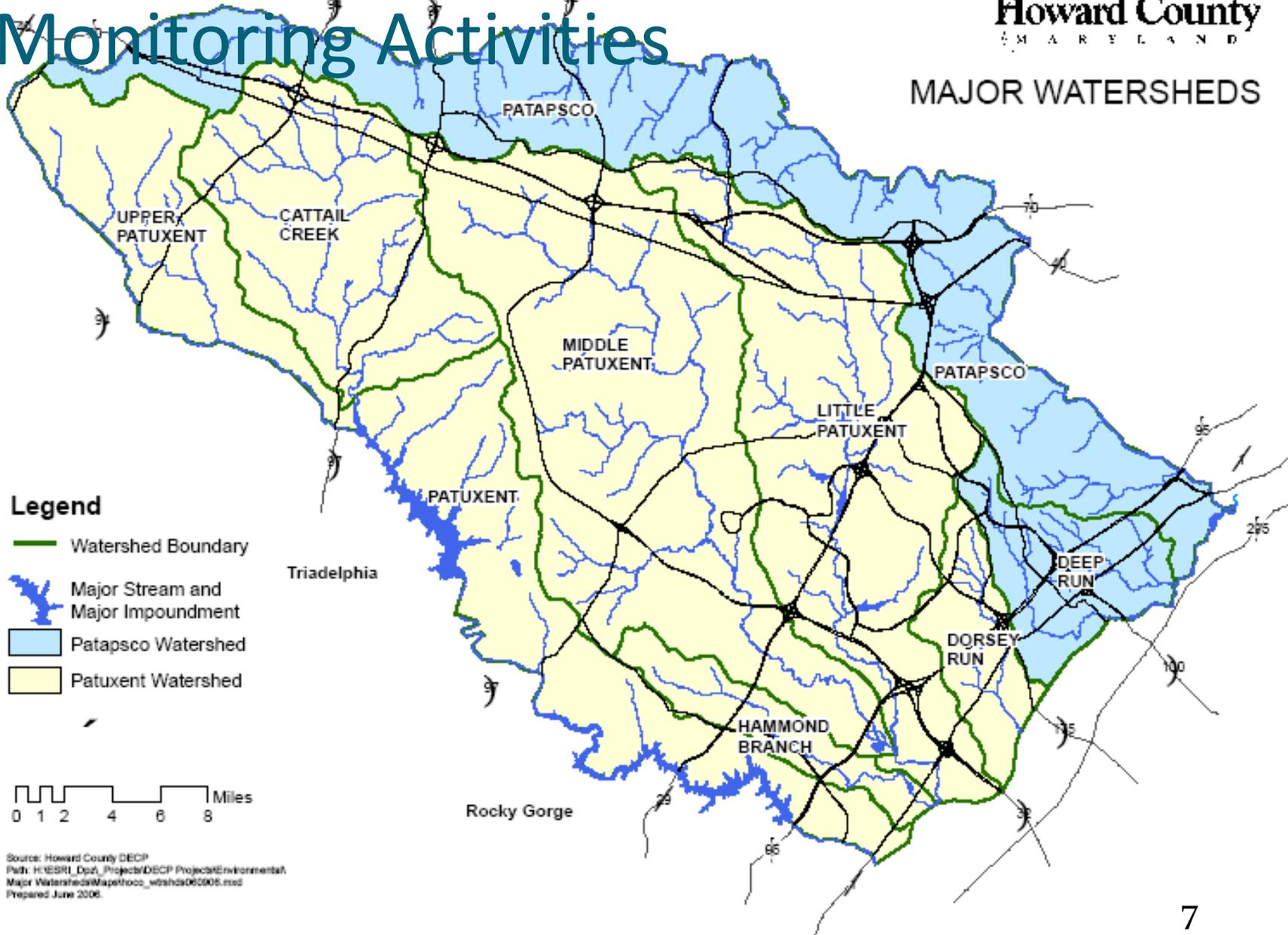
Suggest **bolding** just a couple items to highlight as there are too many words here. I bolded some that I thought were relevant.

Lori Lilly, 10/28/2015

Types and Locations of Stream Monitoring Activities

Howard County
MARYLAND

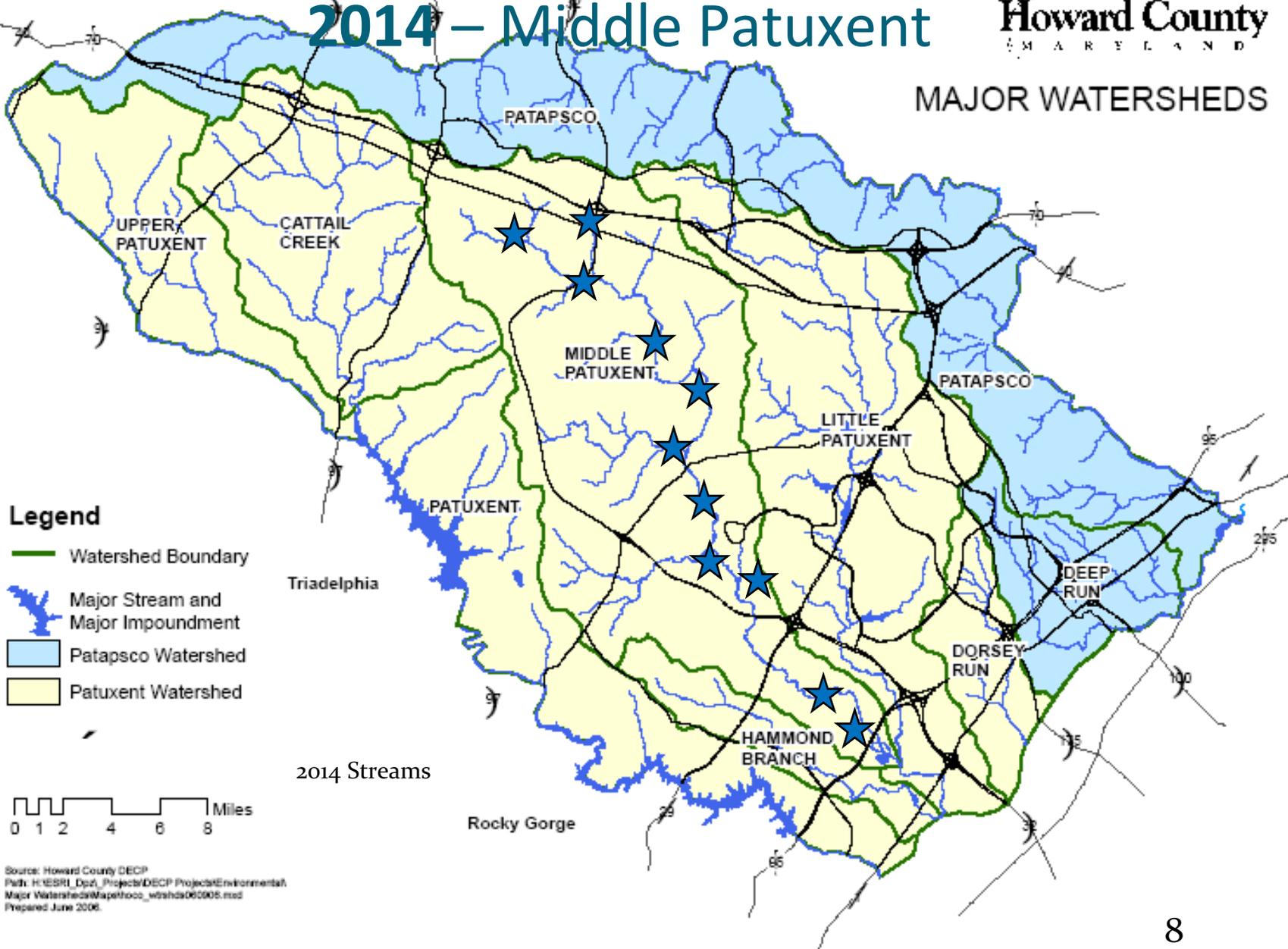
MAJOR WATERSHEDS



HoCo WSA Streams Surveyed 2014 – Middle Patuxent

Howard County
MARYLAND

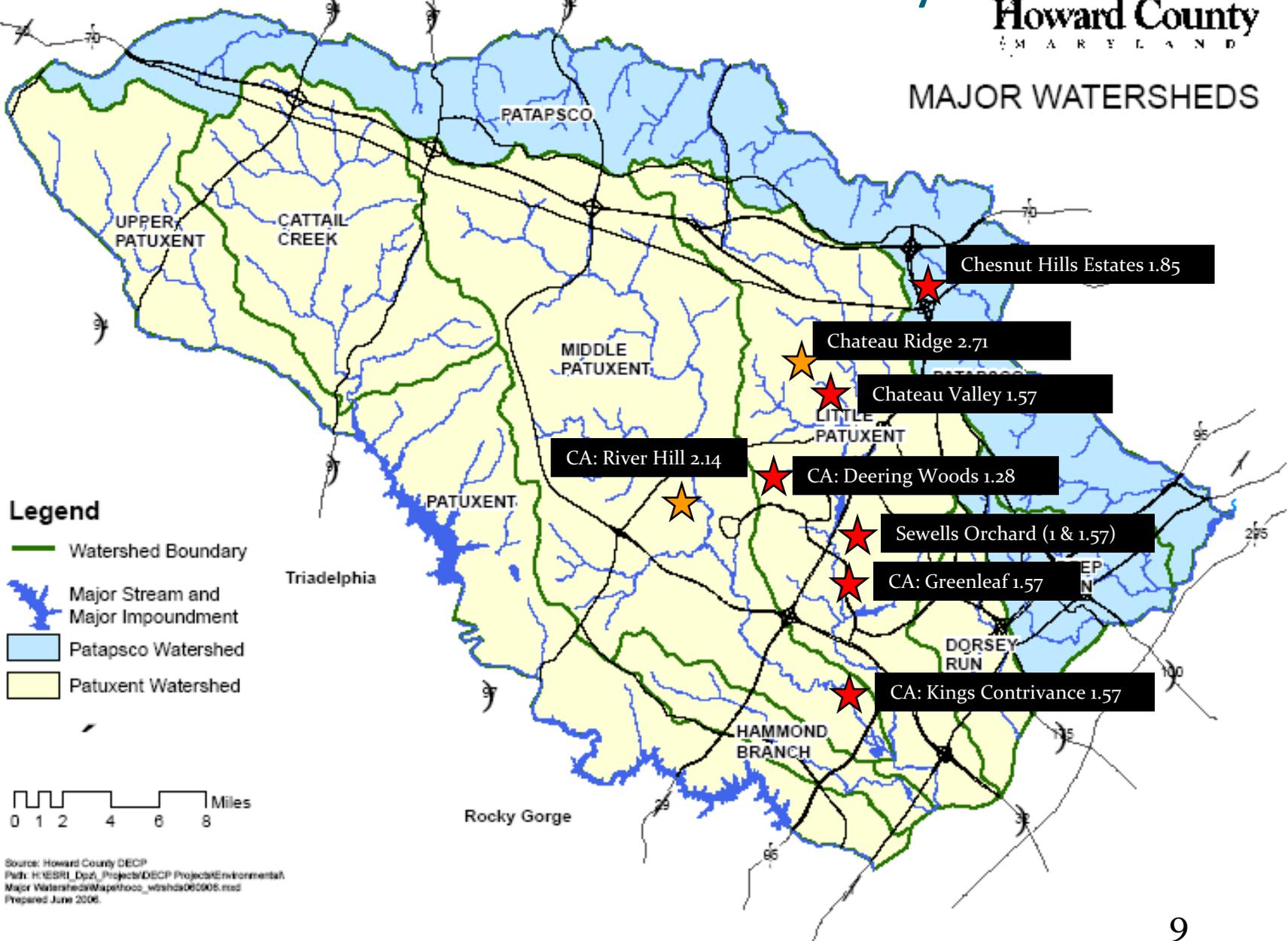
MAJOR WATERSHEDS



2015 - HOA Streams Surveyed

Howard County
MARYLAND

MAJOR WATERSHEDS



Legend

- Watershed Boundary
- Major Stream and Major Impoundment
- Patapsco Watershed
- Patuxent Watershed

0 1 2 4 6 8 Miles

Source: Howard County DECP
Path: H:\ESRI_Dcp_Projects\DECP Projects\Environmental
Major Watersheds\MapInfo\wshds060006.mxd
Prepared June 2006

Outreach, Education and Remediation 2015

- **Initiated Positive Contact with 8 HOA's**
 - **Many others contacted with varying degrees of interest in participation**
- **Outreach on 8 HOA's**
- **Site Survey's completed on 8 HOA's**
- **General Education Workshops completed on 5 HOA's**
- **Remedial Education Workshops completed on 1 HOA**
- **Best Management Practices Implemented on 1 HOA**



HOAs Targeted 2016

MAJOR WATERSHEDS

