Score Four: Exploring with Maps

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Goal: Explore Links Between Land Uses & Water Quality in the Local Watershed

Maps Help Students:

- Formulate Questions
- Determine Answers

Sources:

- Maryland Department of Natural Resources (DNR)
- Maryland Department of Planning

Maryland DNR Stream Health Map

What Are Your First Impressions?
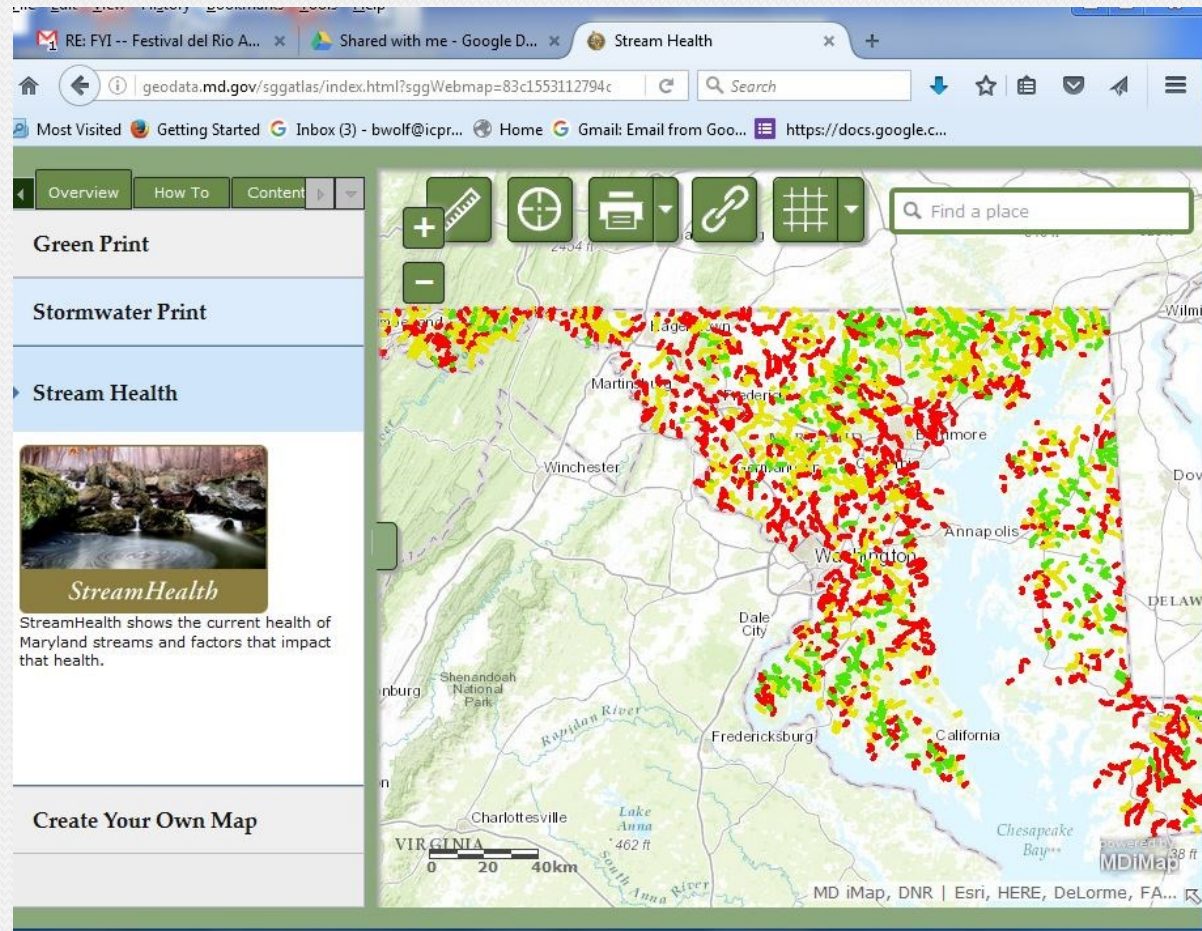
Easy to Switch to A Land-Cover Base Map
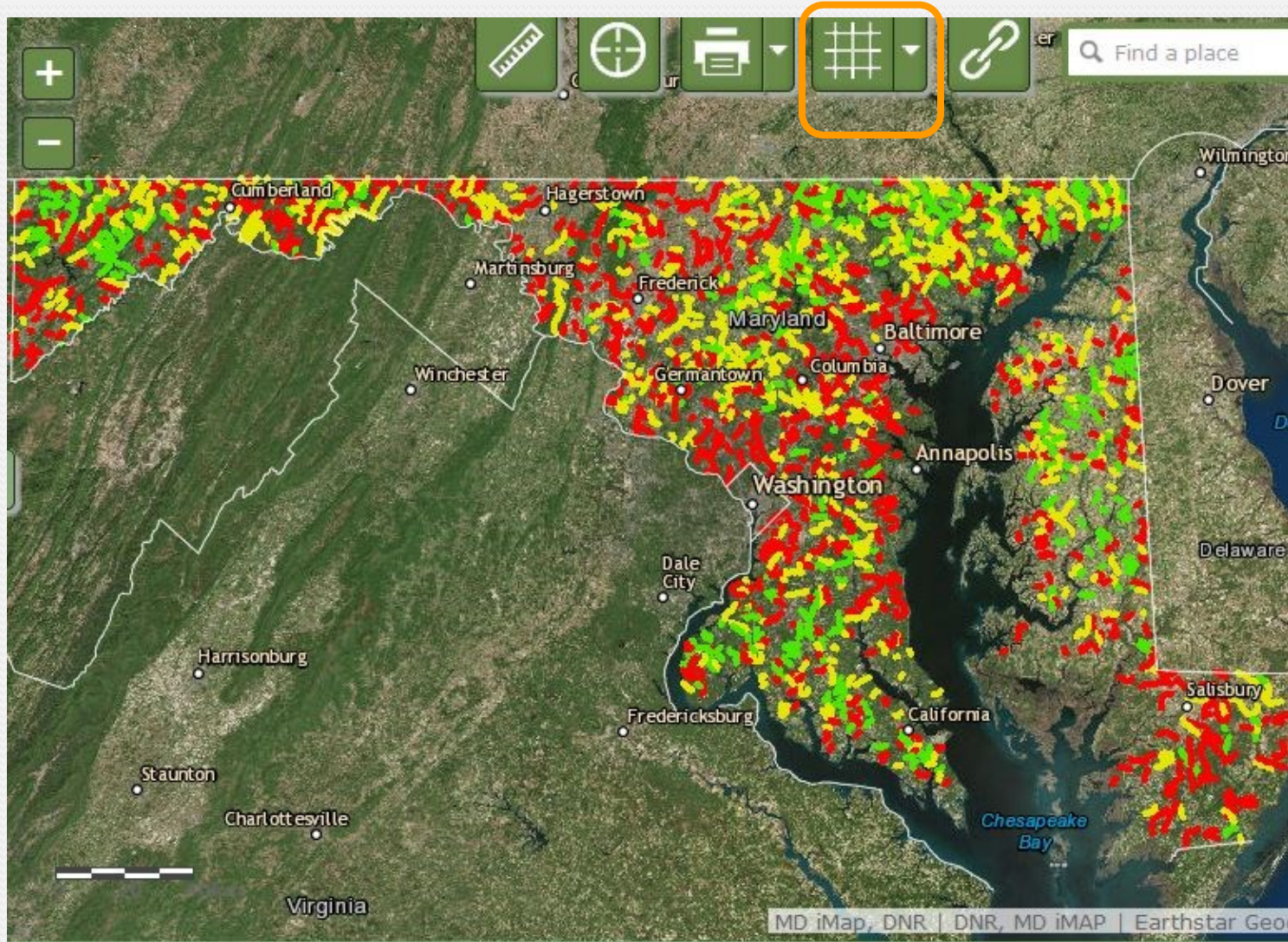
Search for Your Local School
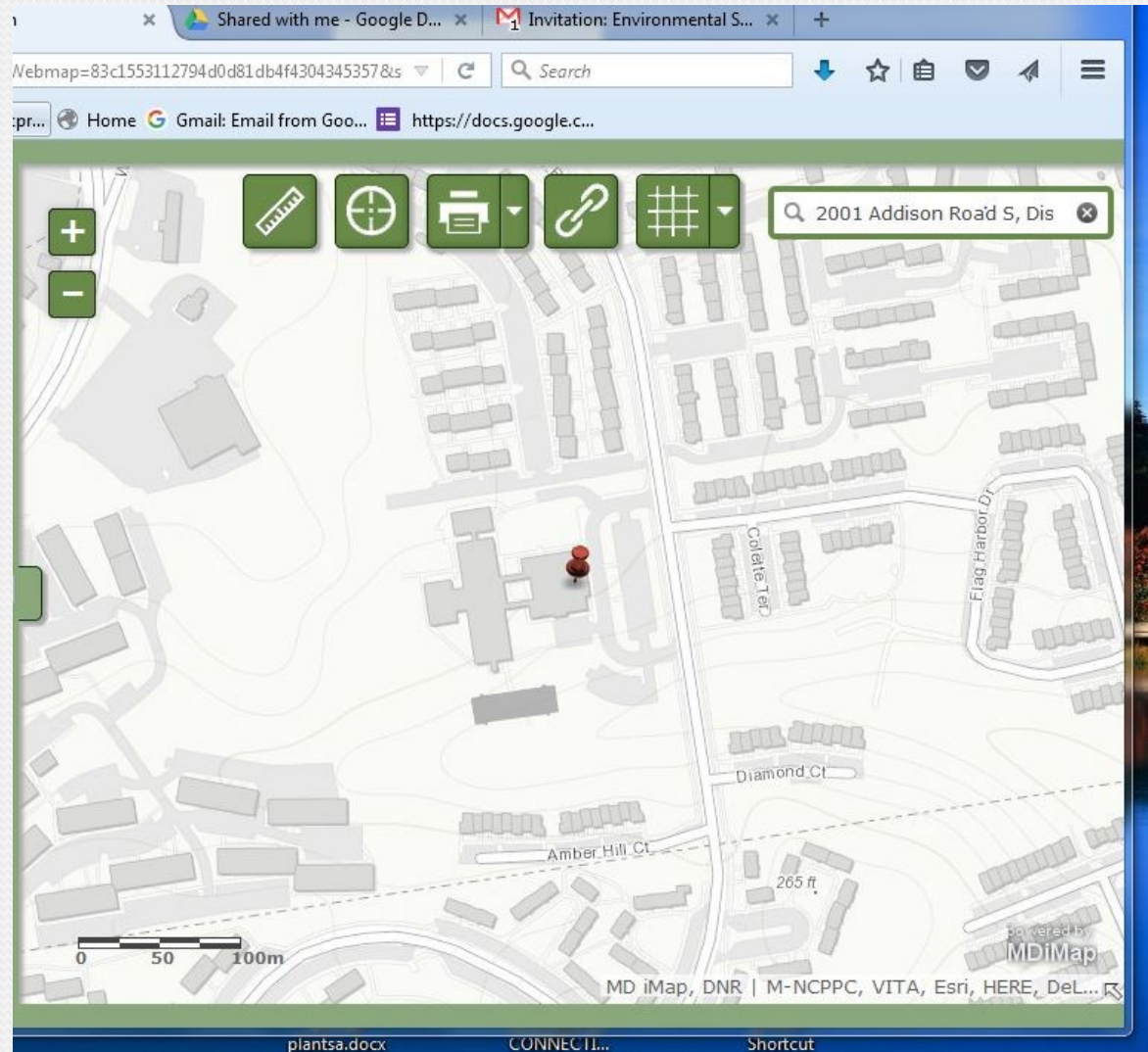
Zoom In To See Survey Results

Symbols represent stream surveys.

Click on them to learn the who, what, where's, etc.
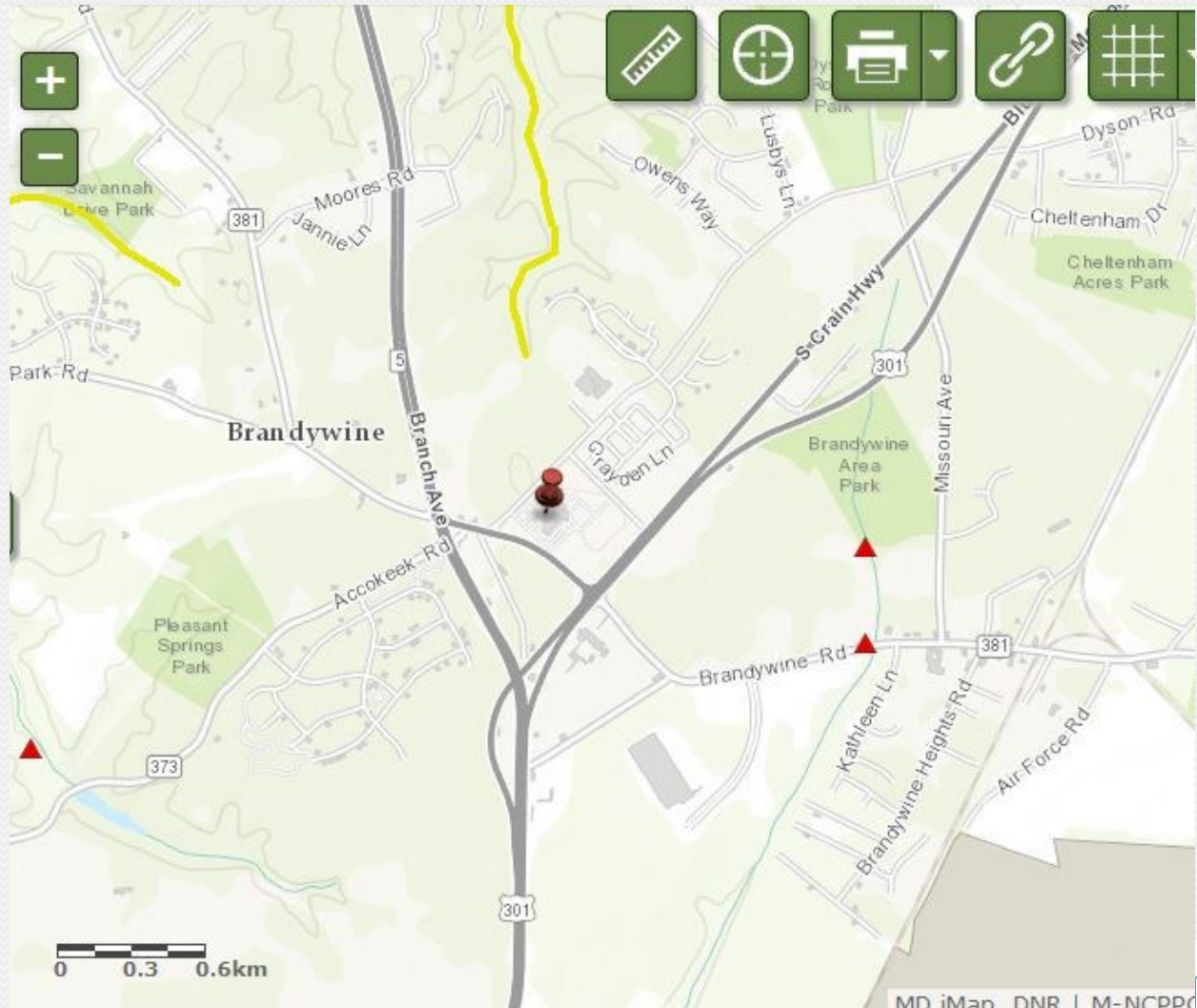
Details…

Biological Surveys of fish and Benthic Macroinvertebrates,

Results from 1-5.

Stream Reaches:

Name	
Site ID	PISC-104-B-2007
Year	2007
Combined Index of Biotic Integrity	3.19
Fish Index of Biotic Integrity	3.67
Benthic Index of Biotic Integrity	2.71
Hyperlink	More info

Zoom to

And More Details

PISC-104-B-2007 is located on **piscataway creek ut5** in the Piscataway Creek watershed, 8-digit code: (02140203). This stream was visited in the spring on 4-3-2007 and again in the summer on 7-11-2007.
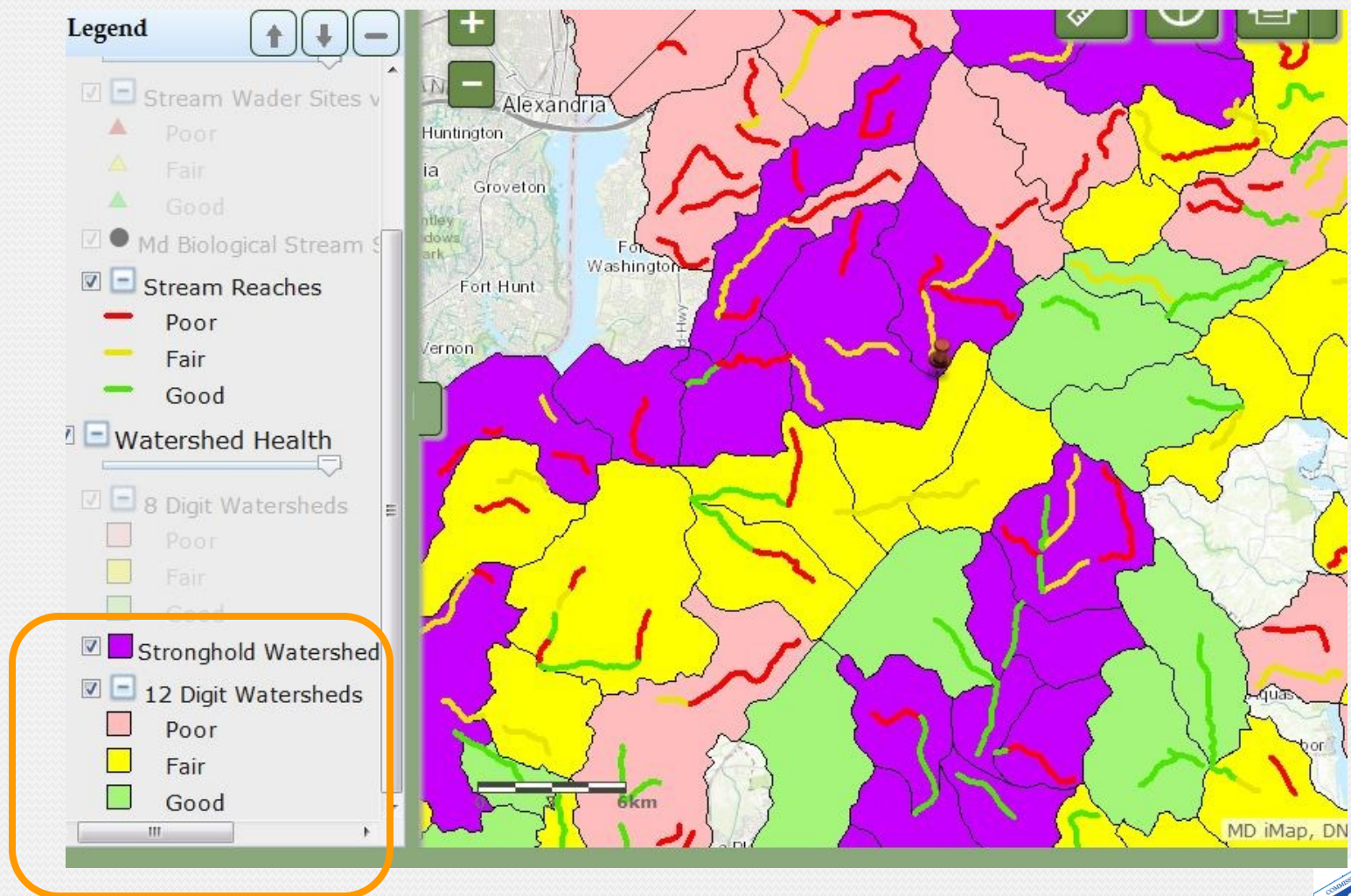
New Search

Search Tips

About the MBSS

Fish Distributions

Your Feedback

Fish IBI	3.67	Fair
Benthic IBI	2.71	Poor

Catchment area	850 acres
Urban	17.5 %
Agricultural	20.1 %
Forest	61.2 %

Amphibians and Reptiles

AMERICAN BULLFROG

GRAY TREEFROG

NORTHERN GREEN FROG

Instream Habitat	16 (Optimal)
Epifaunal Substrate	10 (Marginal)
Velocity/Depth Diversity	13 (Suboptimal)
Pool Quality Pool Extent = 60 of 75 meters	17 (Optimal)
Riffle Quality Riffle Extent = 18 of 75 meters	12 (Suboptimal)
Shading	85 %
Embeddedness	50

Extending Results to Watersheds

For State Overview & Other Info

Stream Health

Maryland's Watershed Health

Legend:
- Poor (red)
- Fair (yellow)
- Good (green)

MARYLAND
Department of Natural Resources
Monitoring and Non-Tidal Assessment Division
www.dnr.maryland.gov

0 10 20 40 60 80 Kilometers
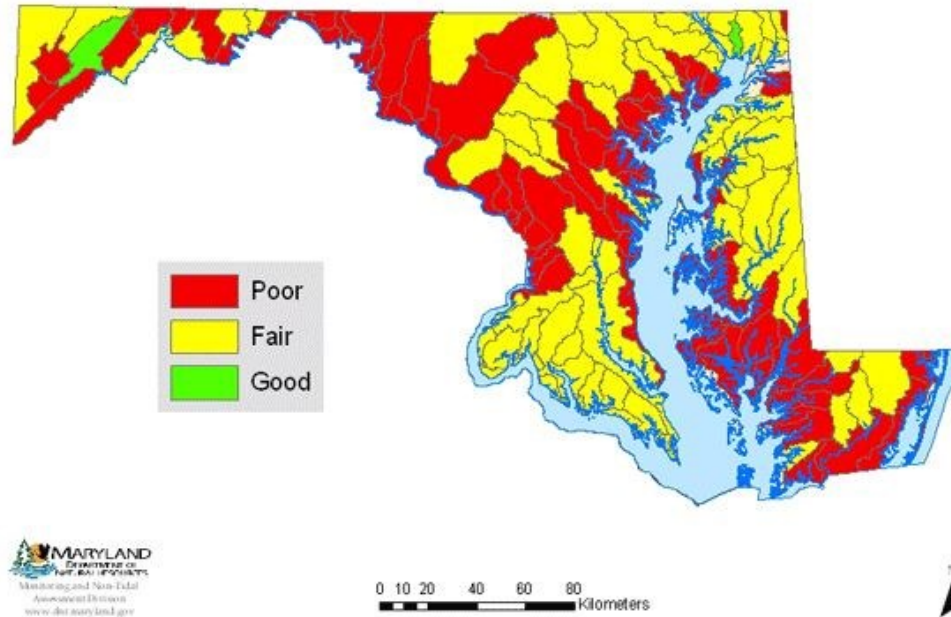
After all the sites in the watershed have been sampled, the results are then compiled to assign an overall rating of "good", "fair", or "poor" for streams in the watershed. It is important to note that stream health can vary considerably from location to location within a watershed based on activity on the adjacent land. As a result, there may be several "good" sites in an overall "poor" watershed and visa versa.

Maryland Department of Planning

Focus: Land Use and Land Cover

Students Explore Land Use/Land Cover Changes

Ancient history to some of our students.

Land Use/ Land Cover Map

MDP is a comprehensive source for maps of current Land Use/Land Cover for every jurisdiction in Maryland. The Land Use/Land Cover Interactive Map allows you to view, zoom and pan our digital map "layers." These include:

1. 1973 Land Use/Land Cover
2. 2010 Land Use/Land Cover
3. 1973 - 2010 Change
4. 2002 – 2010 Change (based on modified 2002 release)*

* Enhancements to the 2010 Land Use/Land Cover release impacted the ability to perform comparative analysis with original 2002 release data. MDP resolved this by creating a modified 2002 Land Use/Land Cover product. To read more about this process, please refer to Mapping Process and Methodology.

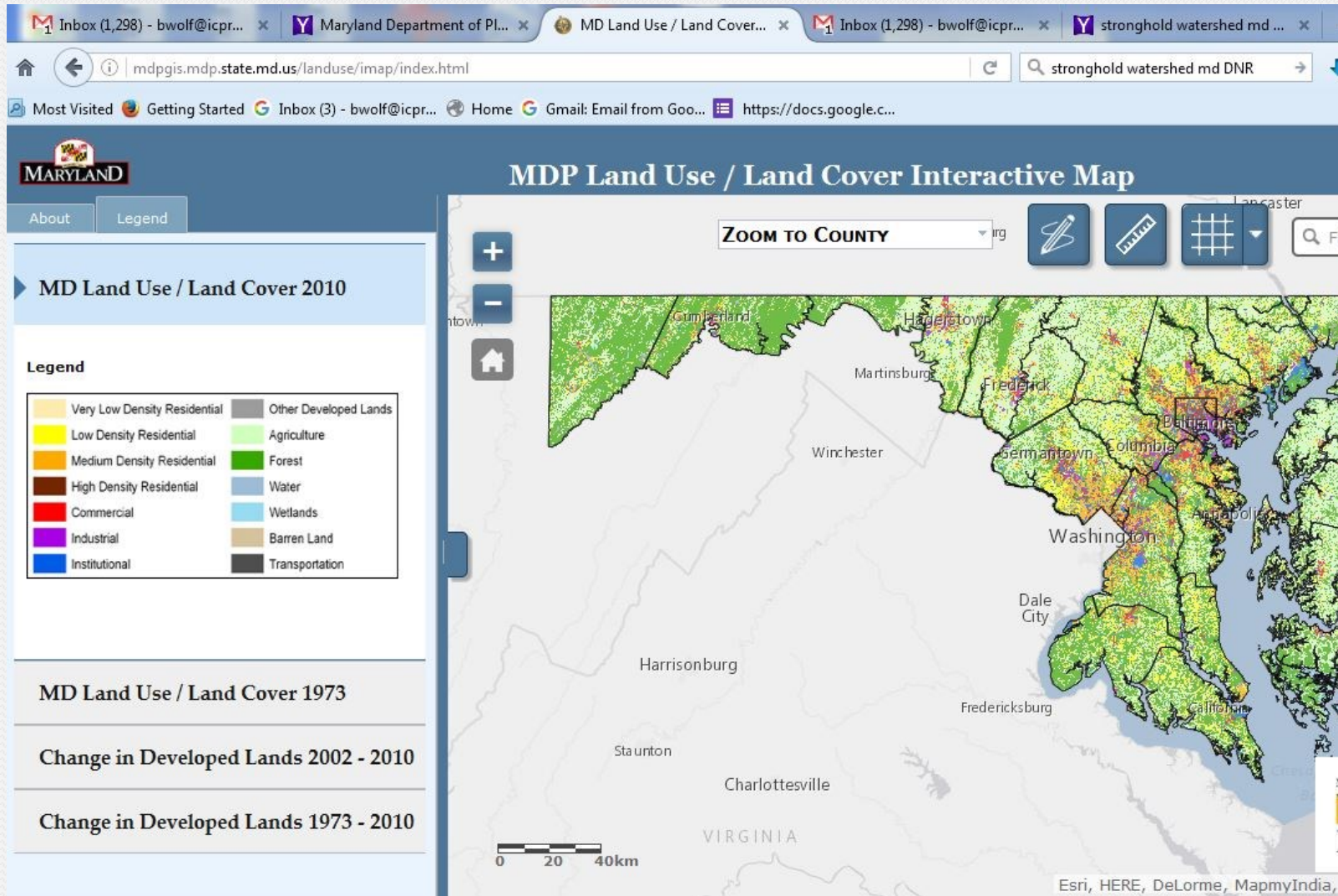Click on the picture of the map below to begin using MDP's Interactive Land Use/Land Cover Map. To familiarize yourself with the 2010 Land Use/Land Cover release, please refer to these materials:

- Mapping Process and Methodology
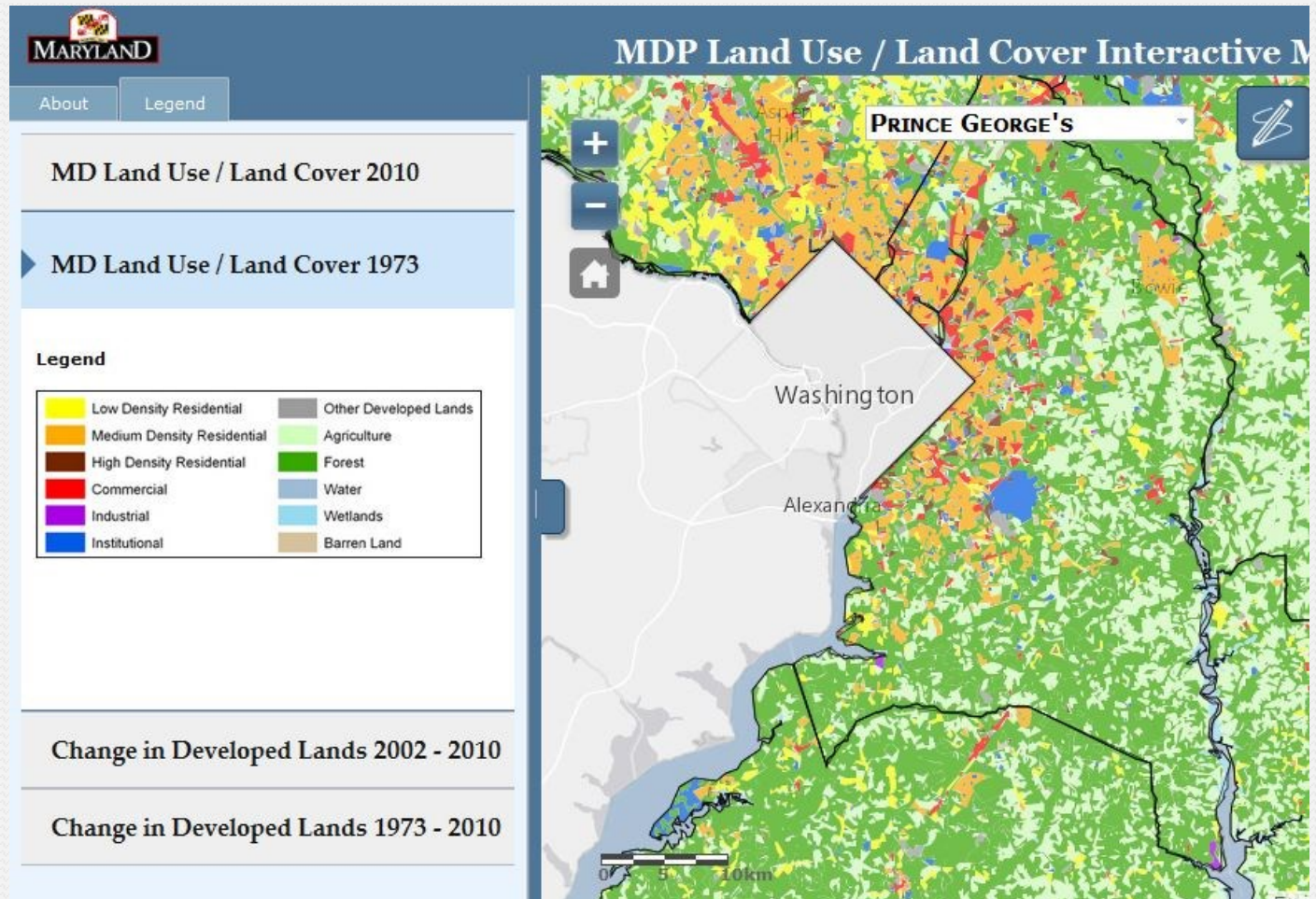- Land Use/Land Cover Classification Definitions
- Metadata

Click to access the interactive map
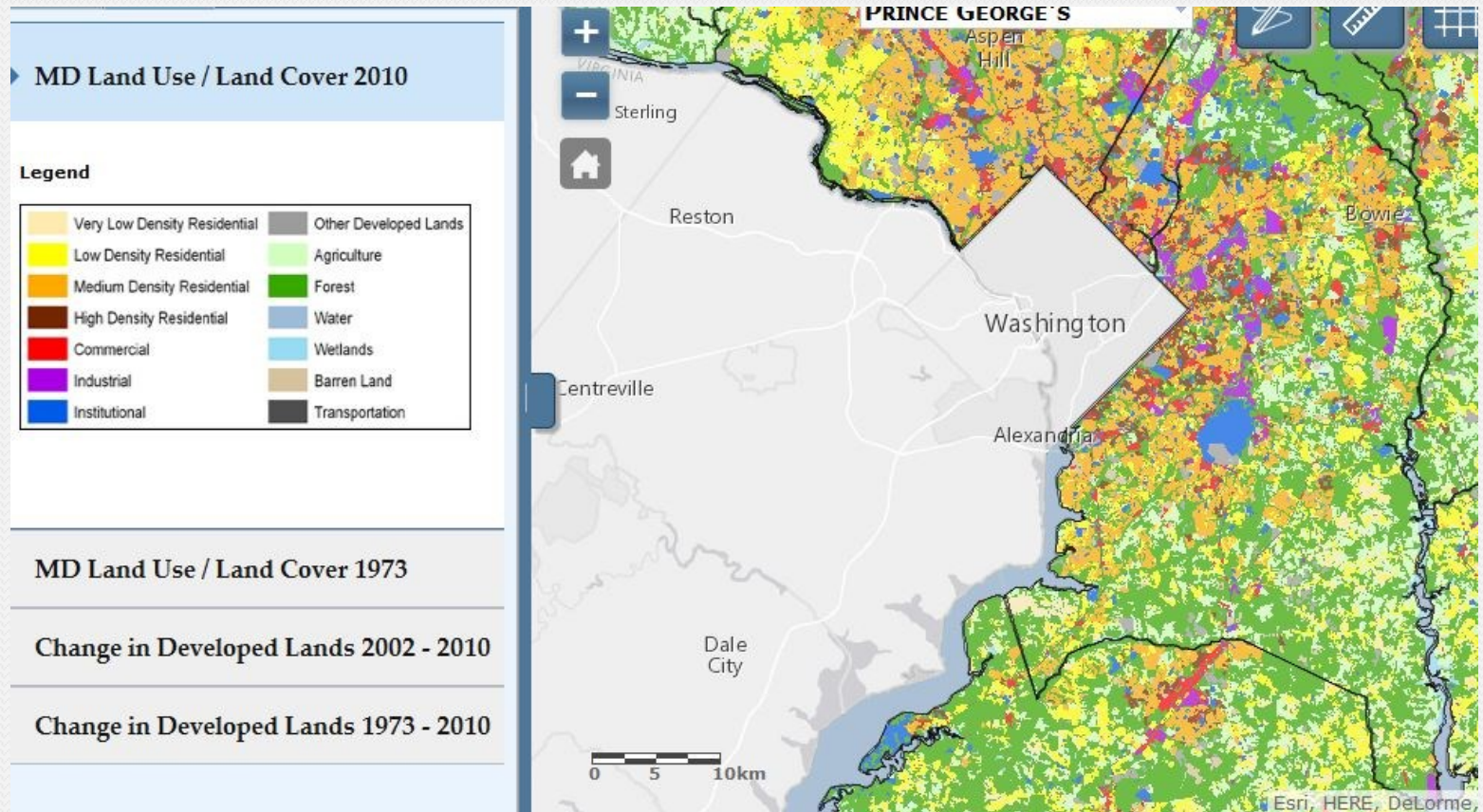
Look At Maryland or Look Locally

Prince George's County 1973

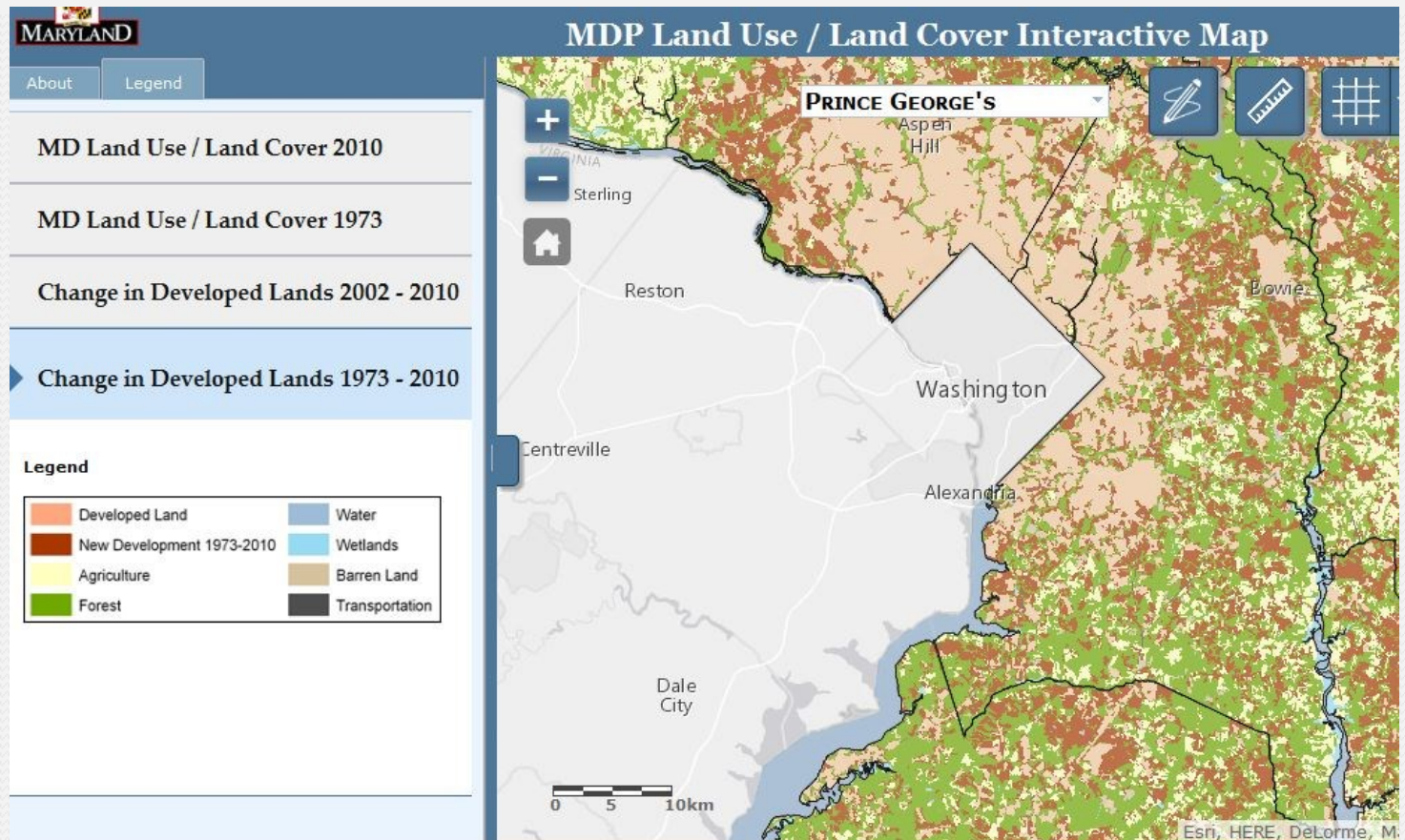What do you notice about the land use?

Prince George's County 2010

What changes do you notice?
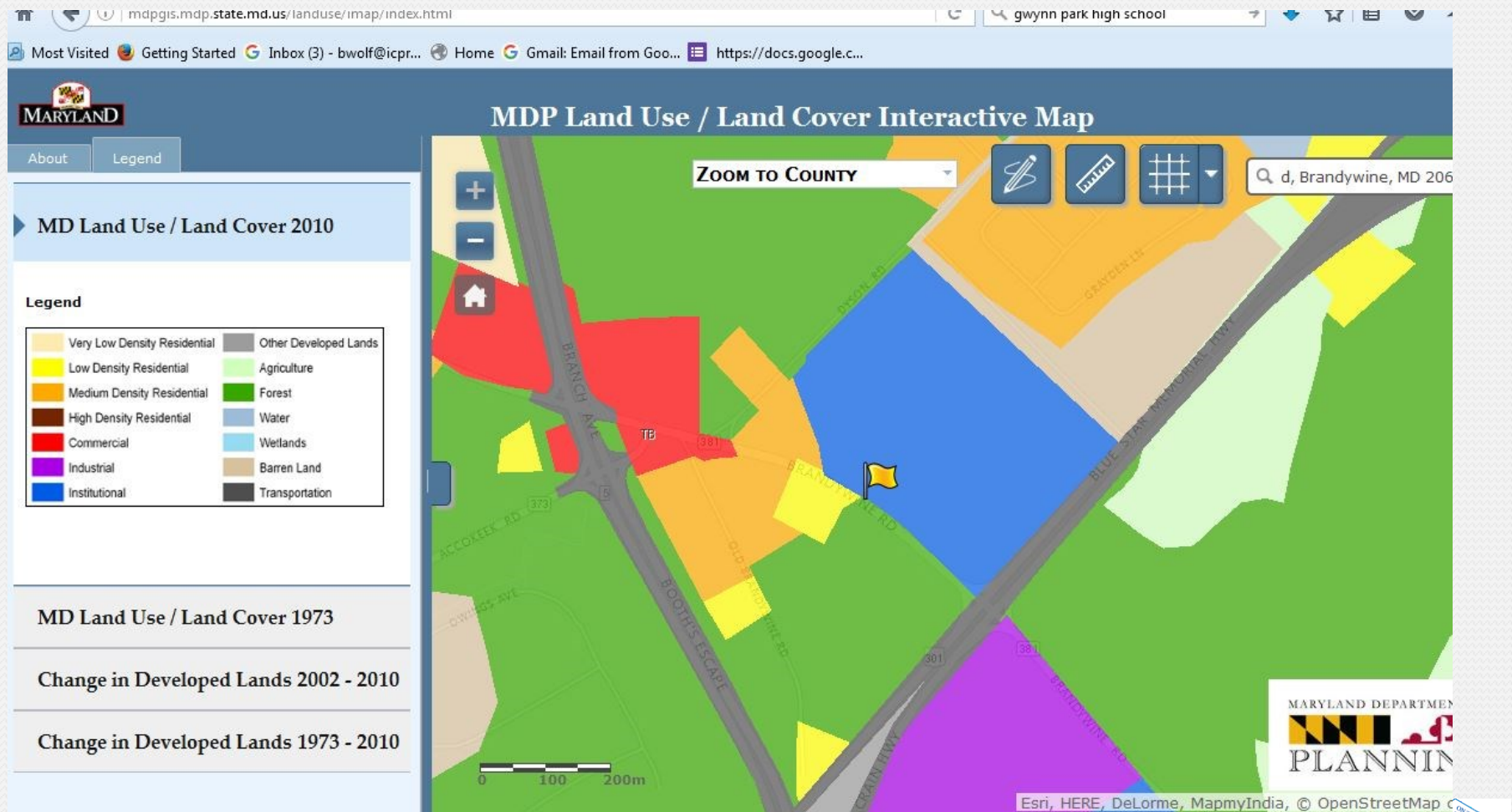What questions does this map raise?
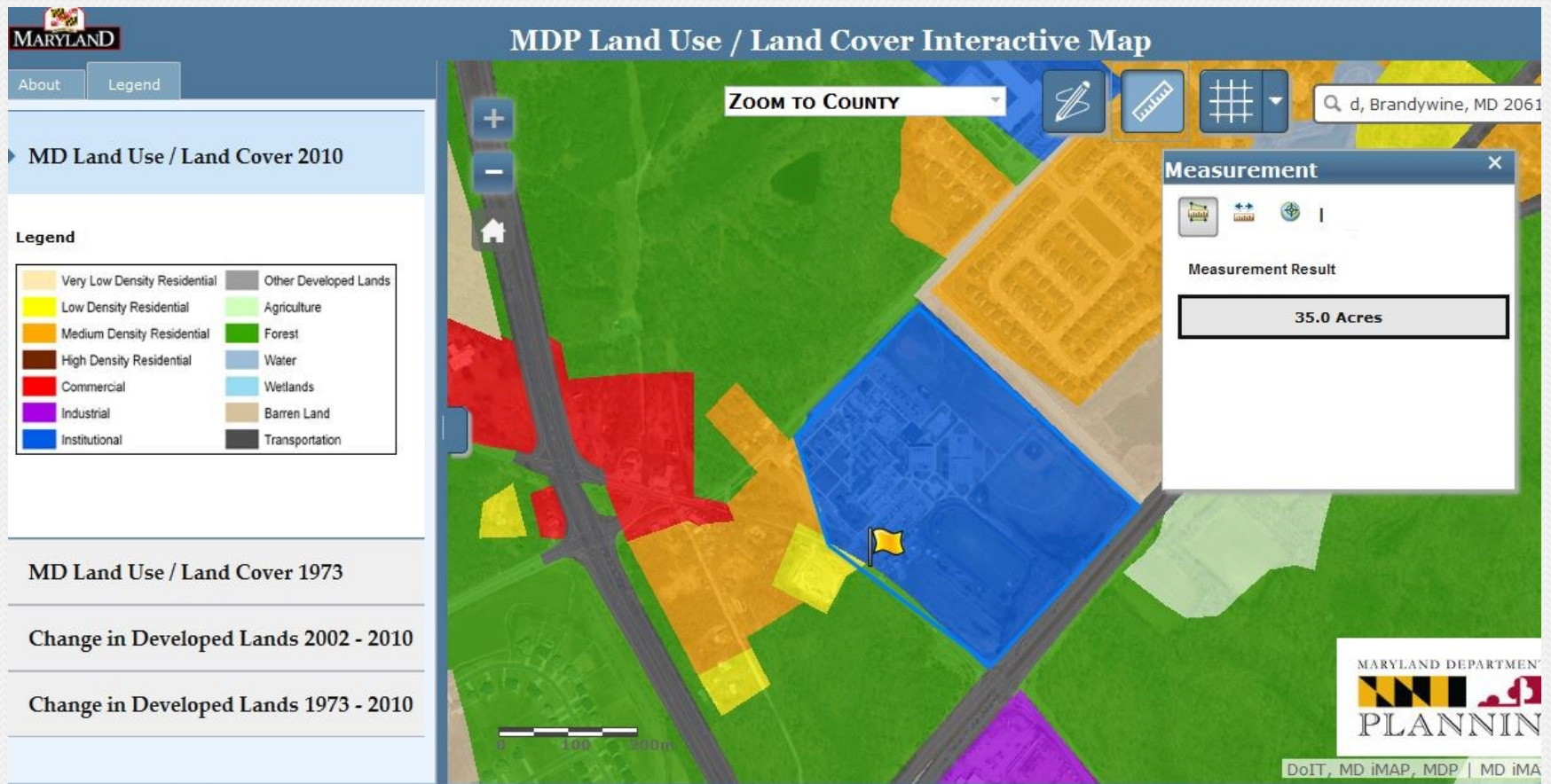
Prince George's County Changes

- What patterns do you notice?
- How could these changes affect waterways?

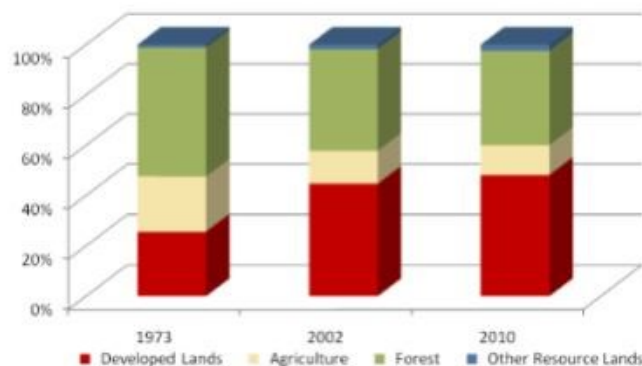# Close-up Inspection: Gwynn Park HS

Bringing in Math & Science …

One last thing: Graphs and Charts

Prince George's County

	Land Use in Acres 2002 [3]	Land Use in Acres 2010 [2]	Land Use Change 2002-2010	
	Acres	Acres	Acres	Percent
Very Low Density Residential [1]	9,450	10,659	1,209	12.8%
Low Density Residential	23,558	26,389	2,830	12.0%
Medium Density Residential	49,869	53,298	3,429	6.9%
High Density Residential	12,990	13,765	774	6.0%
Commercial	8,946	9,670	724	8.1%
Industrial	7,776	8,438	662	8.5%
Other Developed Lands/ institutional/Transportation [1]	25,705	26,784	1,079	4.2%
Total Developed Lands [5]	138,294	149,002	10,709	7.7%
Agriculture	40,531	36,829	-3,702	-9.1%
Forest	125,095	115,990	-9,104	-7.3%
Extractive/Barren/Bare	2,357	4,456	2,099	89.1%
Wetland	2,998	2,997	-1	0.0%
Total Resource Lands [5]	170,981	160,273	-10,708	-6.3%
Total Land	309,275	309,275		
Water	9,515	9,515		

	Land Use in Acres 1973 [4]	Land Use in Acres 2002 [3]	Land Use in Acres 2010 [1,2]	Land Use Change 1973-2010 Acres
All Residential	52,533	95,867	104,110	51,578
All Non-Residential	27,284	42,426	44,892	17,609
Total Developed Lands [5]	79,816	138,294	149,002	69,186
Total Resource Lands [5]	230,833	170,981	160,273	-70,560
Total Land	310,649	309,275	309,275	
Water	8,722	9,515	9,515	

Land Use Change 1973 - 2010

100%
80%
60%
40%
20%
0%
1973   2002   2010

■ Developed Lands   ■ Agriculture   ■ Forest   ■ Other Resource Lands