



Land Cover Data

August 31, 2017



VGIN 1-m resolution Land Cover Data

differences from previous land cover datasets?
(NLCD)

- **Accuracy**

- 900 times more accurate than previous land cover data in Bay model (1 meter vs. 30 meter pixel)
- More than 90% accurate for describing actual land cover at ground level














Eg. Tree stands and forests can be differentiated

- **Cohesiveness**

- Standardized product is preferable as previous datasets with multiple sources, as the data may be inconsistent in classification
- Redundant due to lack of data collection coordination
- Temporally inconsistent
- Varying quality

VA_Land_Cover

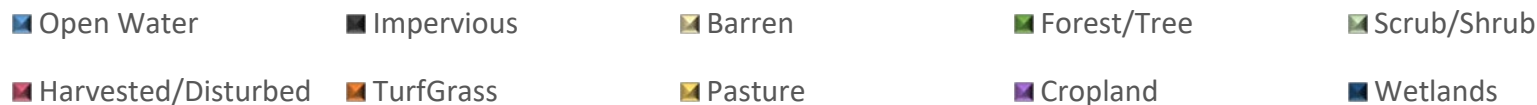
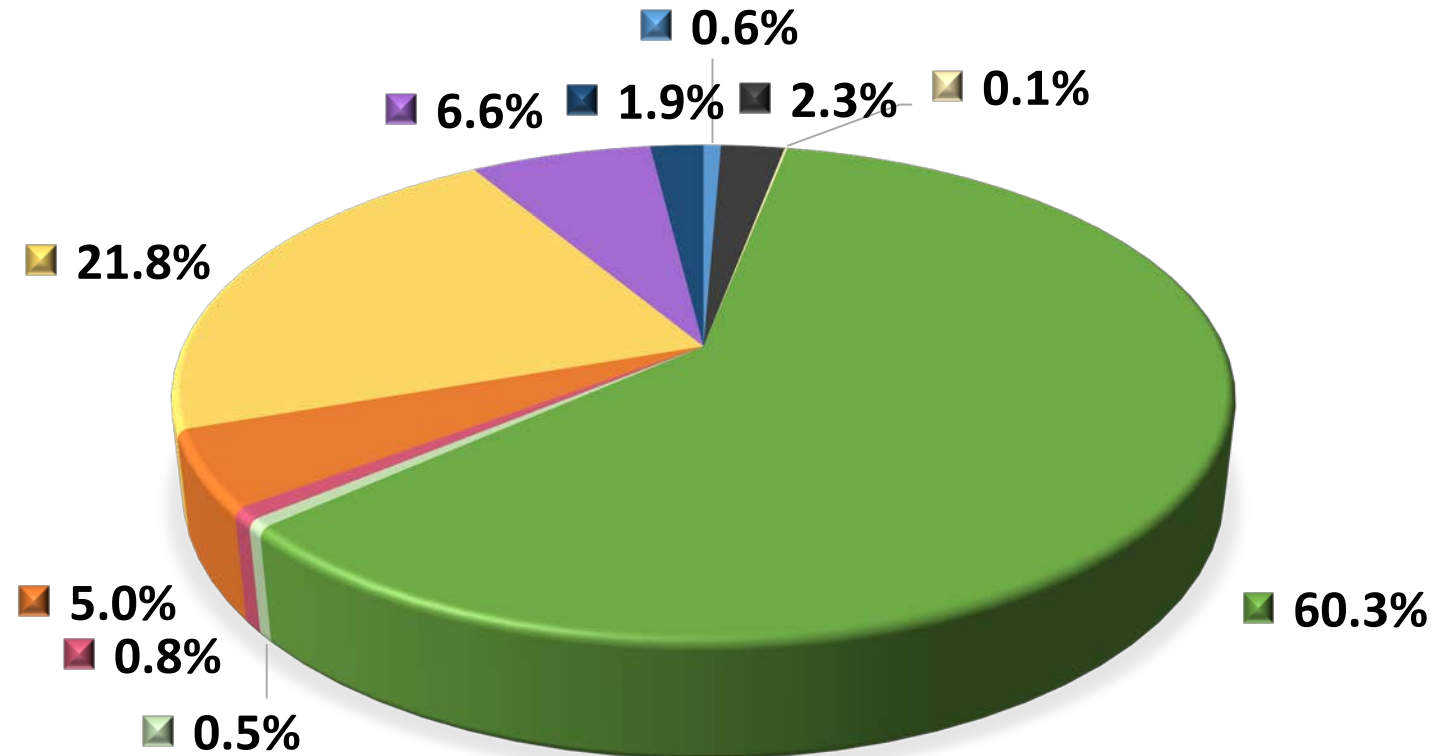
Land Cover

-  11 - Hydro
-  21 - Impervious (extracted)
-  22 - Impervious (Local datasets)
-  31 - Barren
-  41 - Forest
-  42 - Tree
-  51 - Scrub/Shrub
-  61 - Harvested/Disturbed
-  71 - TurfGrass
-  81 - Pasture
-  82 - Cropland
-  91 - Woody Wetlands
-  92 - Emergent Wetlands

Why is this important?

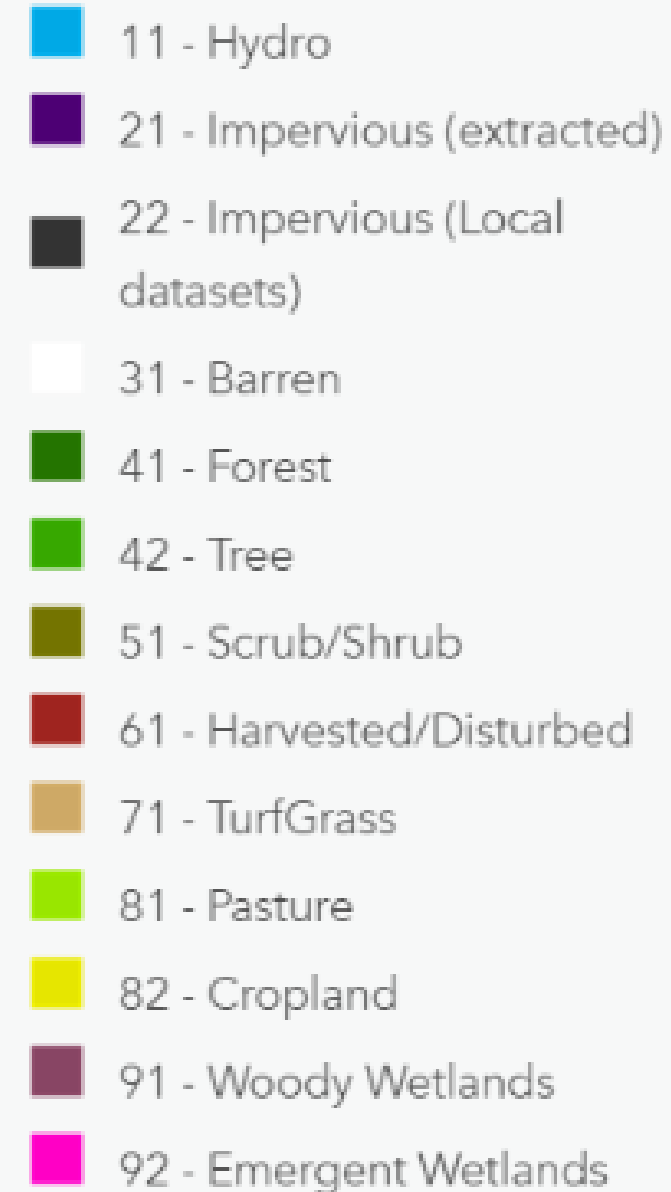
Outputs are only as good as inputs

RAPPAHANNOCK-RAPIDAN REGION'S LAND COVER

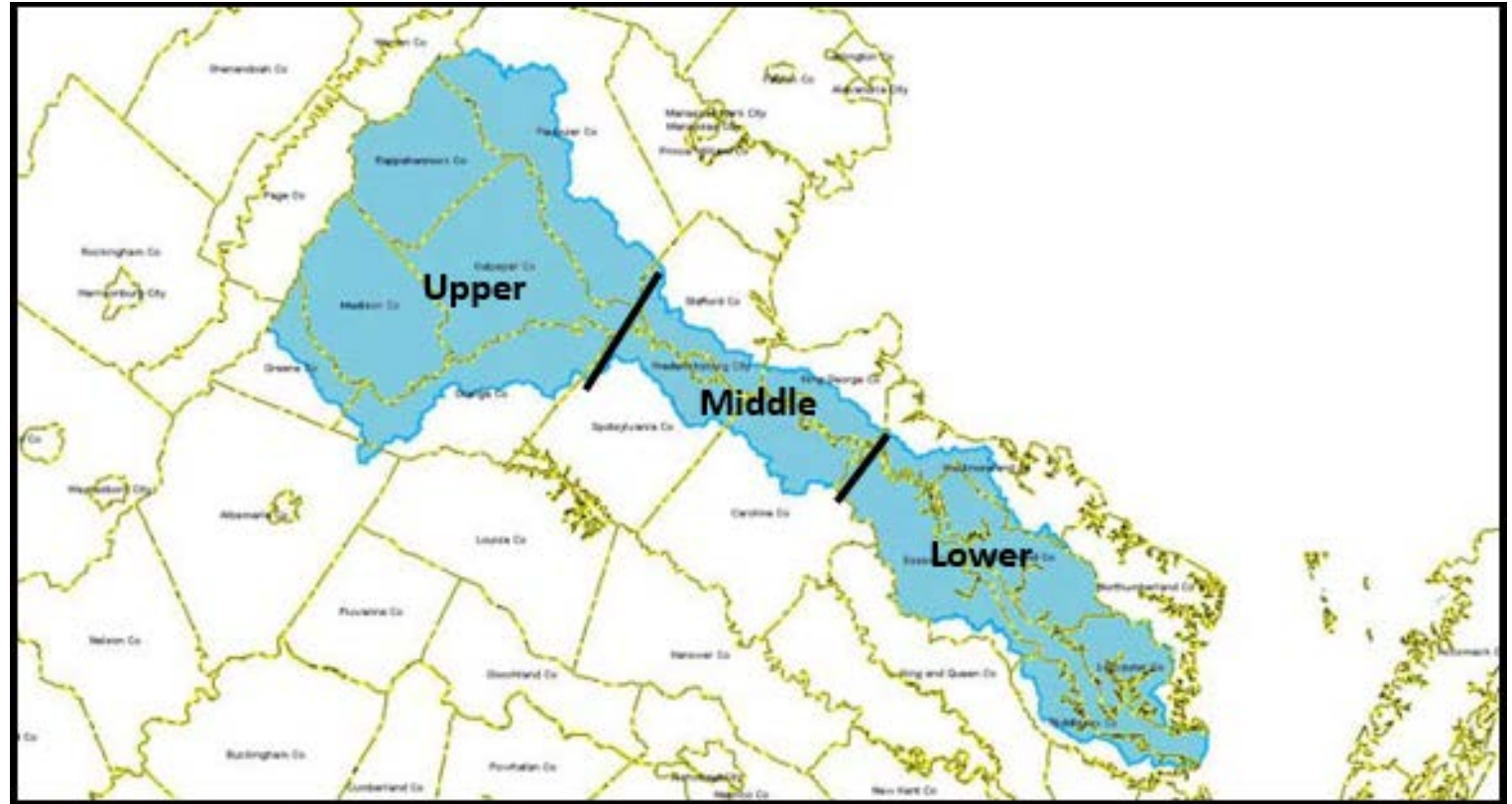


VA_Land_Cover

Land Cover



Kevin Byrnes
former
GWRC
director



Watershed & Basin Communities



	2010	2016	2020	2030	2040
	Census	Estimate	Projection	Projection	Projection
UPPER	107,123	112,391	113,981	127,004	140,479
	184,457	193,731	196,977	222,774	244,969
MIDDLE	121,121	133,205	137,908	178,701	231,925
	327,773	358,633	371,922	441,817	504,181
LOWER	35,773	34,661	35,025	36,659	38,150
	60,209	58,905	59,972	61,621	62,387
TOTAL	264,017	280,257	290,044	334,939	374,292
	572,439	611,269	628,871	726,212	811,537

Watershed & Basin Communities



Kevin Byrnes
former
GWRC
director

RRBC AREA	2013			2020		2030		2040	
	July 1, 2013	Impervious	Impervious Area (Acres)	Population	Impervious Area (Acres)	Population	Impervious Area (Acres)	Population	Impervious Area (Acres)
	Population	Area (Acres)	Per Capita	Projection	Projection	Projection	Projection	Projection	Projection
UPPER BASIN	189,062	31,828	0.1673	196,977	32,957	222,774	36,993	244,969	40,435
MIDDLE BASIN	342,582	37,988	0.1109	371,922	41,076	441,817	45,081	504,181	55,481
LOWER BASIN	60,374	12,921	0.2140	59,972	12,921	62,303	13,284	62,387	13,308
RRBC Area	592,018	82,737	0.1397	628,871	86,954	726,893	95,358	811,537	109,225

Watershed & Basin Communities

Kevin Byrnes
former
GWRC
director

	2013-2020		2020-2030		2030-2040	
	Population Change	Impervious Acreage Change	Population Change	Impervious Acreage Change	Population Change	Impervious Acreage Change
Lower	7,915	1,129	25,797	4,035	22,195	3,442
Middle	29,340	3,088	69,895	4,005	62,364	10,400
Upper	-402	0	2,331	363	85	24
Total	36,853	4,217	98,022	8,404	84,644	13,866

Watershed & Basin Communities



Kevin Byrnes
former
GWRC
director

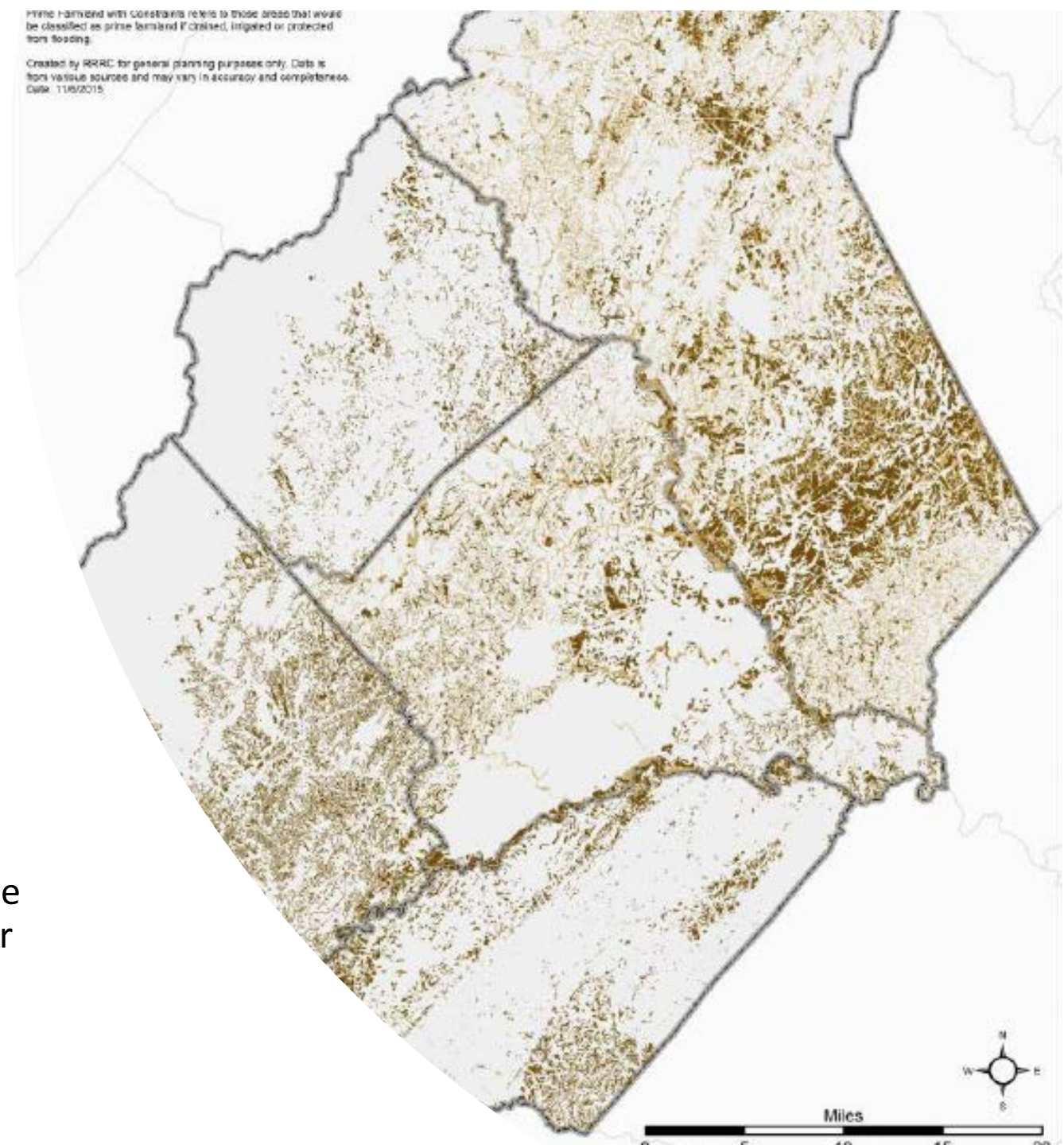
**Cumulative impervious increase in Basin =
approximately
20,066 paved football fields**

Lower	7,915	1,129	25,797	4,035	22,195	3,442
Middle	29,340	3,088	69,895	4,005	62,364	10,400
Upper	-402	0	2,331	363	85	24
Total	36,853	4,217	98,022	8,404	84,644	13,866

Watershed & Basin Communities

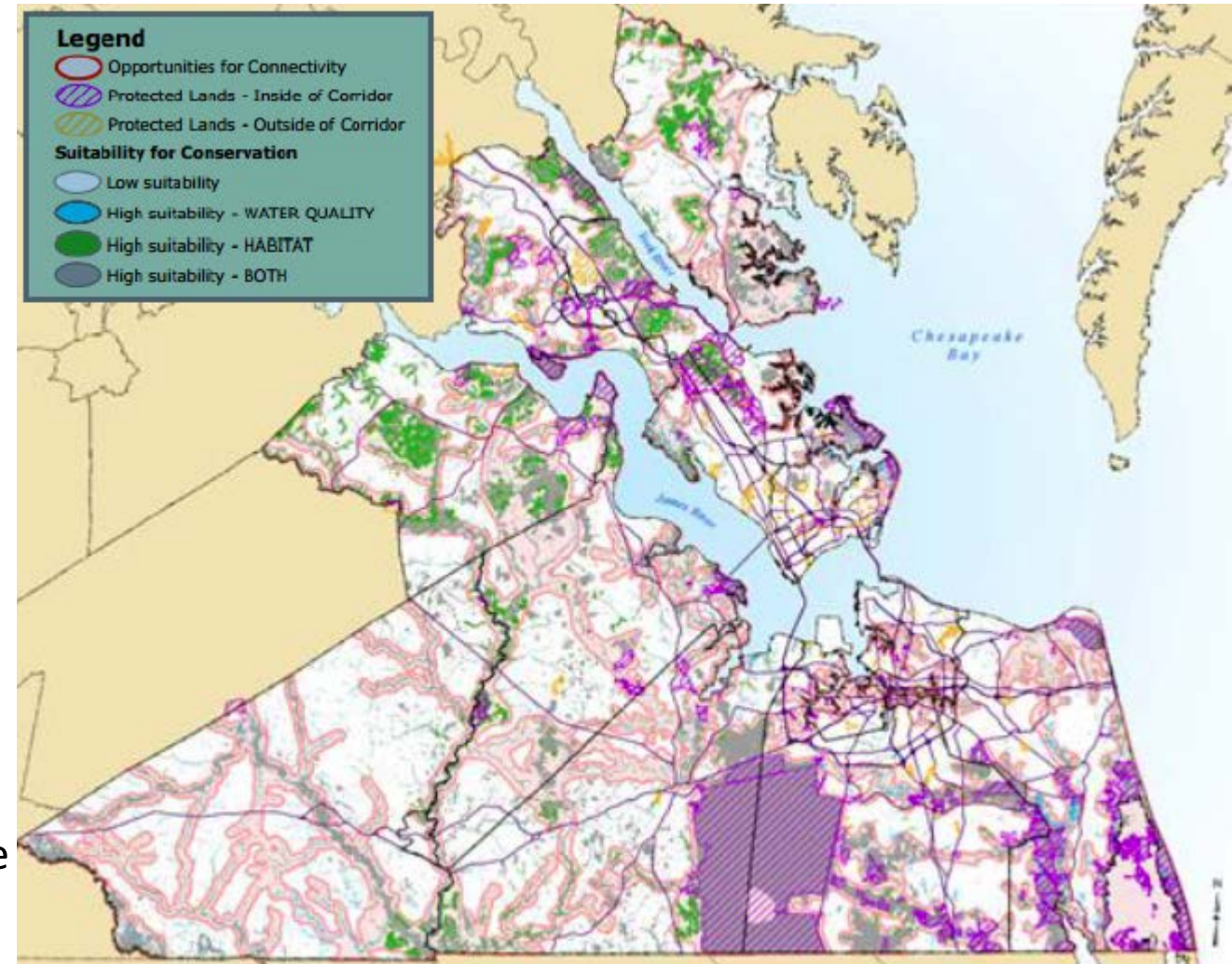
Localities

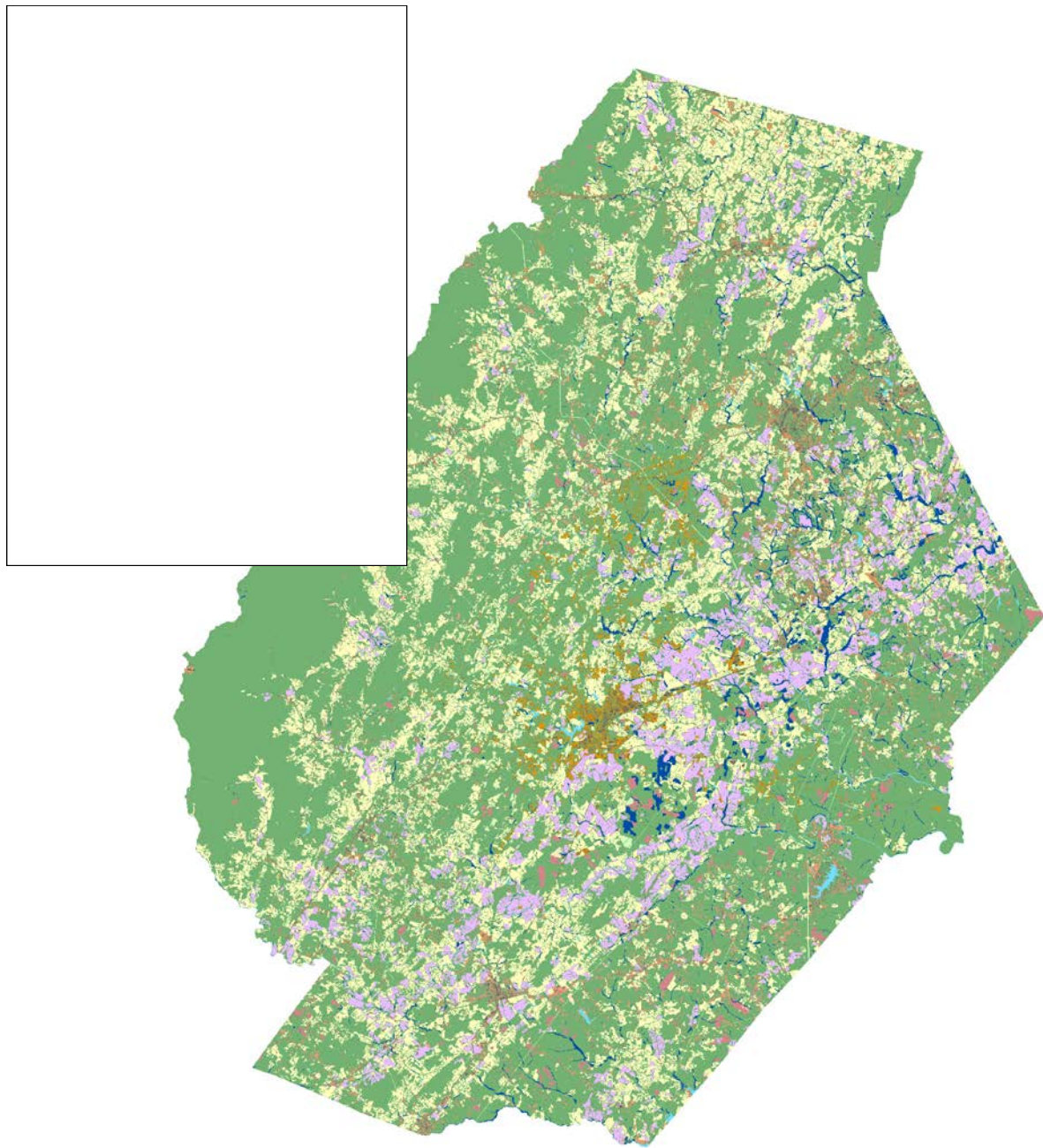
- **How can we use the land cover dataset?**
- Storm-water management- modeling and forecasting
- Green infrastructure planning
- Urban planning
- Buffer analysis-Overlay other existing datasets
- Resource protection areas and riparian buffer zone analysis -- benefit hydrological assessments, water resource planning and resource management



Localities

- **How can we use the land cover dataset?**
- Storm-water management- modeling and forecasting
- Green infrastructure planning
- Urban planning
- Buffer analysis-Overlay other existing datasets
- Resource protection areas and riparian buffer zone analysis -- benefit hydrological assessments, water resource planning and resource management





Questions?