2025 Land Use Forecasts and Timeline

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Role of Future Land Use Scenarios:

1. Develop a plausible 2025 land use scenario for consideration as the basis for “accounting for growth" in the Phase III WIPs.

2. Develop a suite of alternative future scenarios to inform CBP Partnership decisions on:
   - crediting land conservation and land use regulatory actions; and
   - identifying forests and farms at risk from development.

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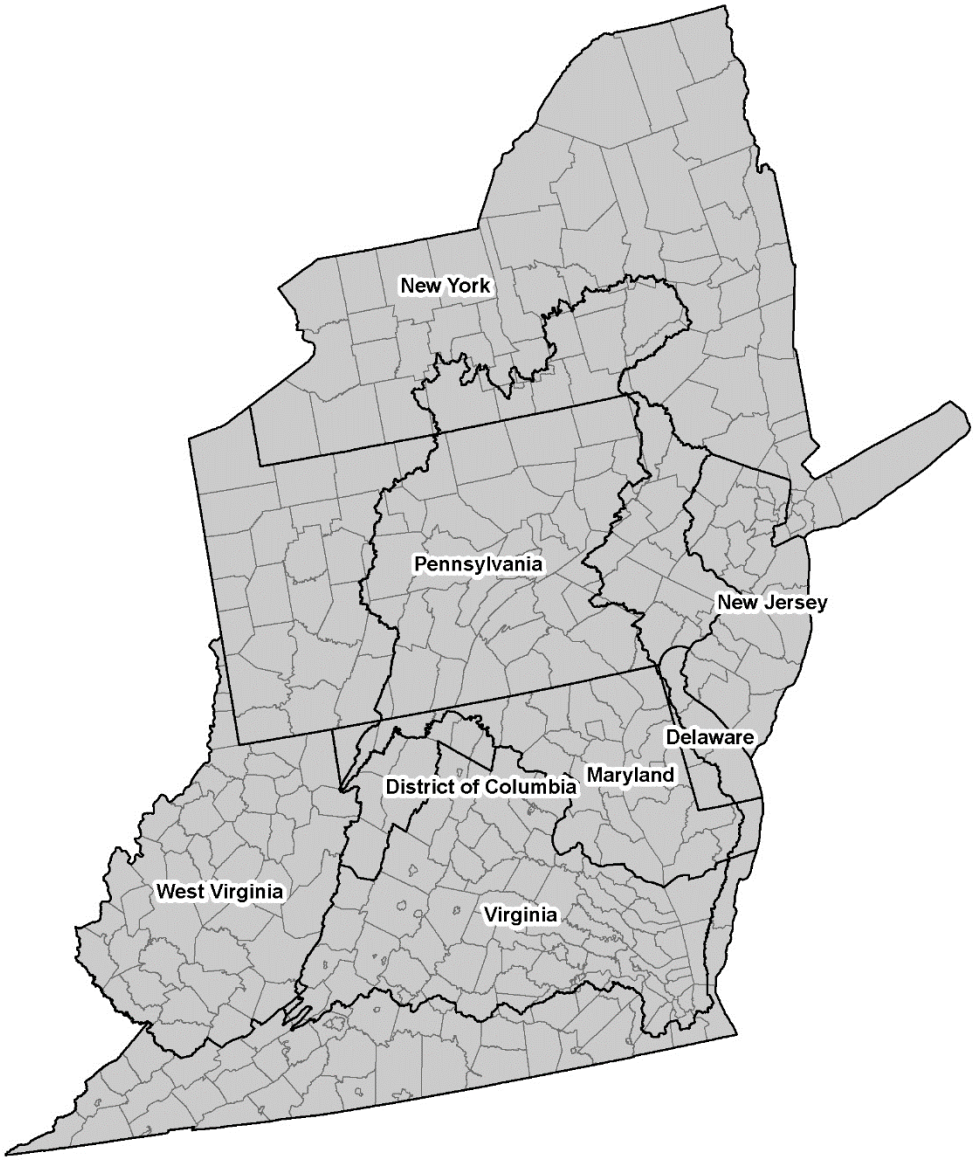
Chesapeake Bay Future Land Use Scenario Domain



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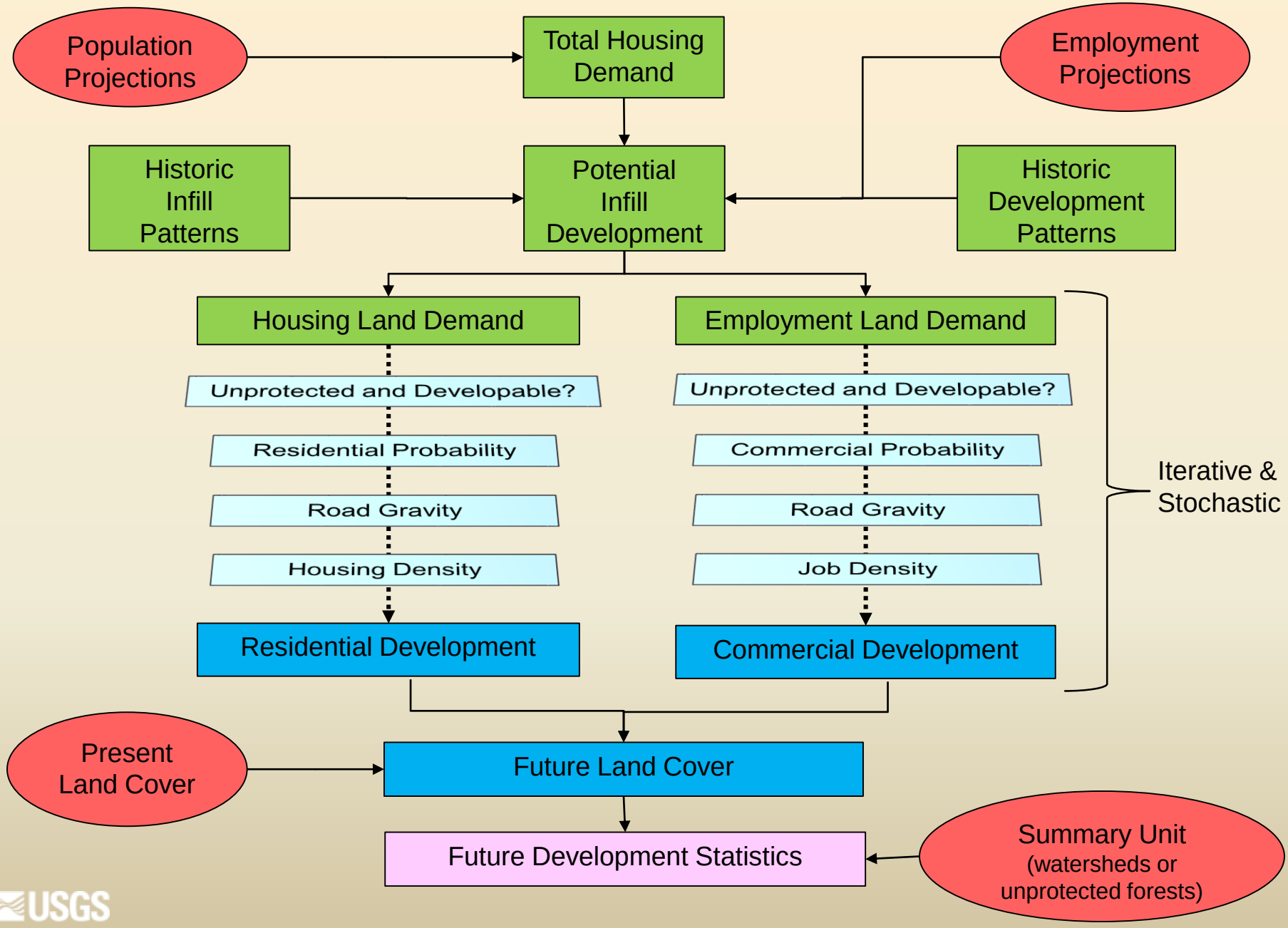
Alternative Futures Production Schedule

Schedule	Deliverable / Decision
End of April 2017	"Historical Trends" Scenario results available. LUWG works to develop Alternative Future Scenarios.
April – May 31 2017	Open collection period for local zoning, planning, and/or permit data to be incorporated into the "Current Policy" Scenario. Resolution of technical issues.
June 7, 2017 LUWG Meeting	(Proposed) Joint LUWG-LGAC forum on future scenarios. Finalization of Alternative Future Scenarios. WQGIT invited!
July (TBD) LUWG Meeting	Results of "Historical Trends", "Current Policy", and alternative future scenarios presented to LUWG.
July 2017	LUWG and WQGIT review scenarios. Issues identified during the review are resolved.
Mid-August 2017	Draft final future scenario results available.
September 6, 2017	LUWG approves draft final future scenarios.
September 11, 2017	WQGIT approves draft final future scenarios.
Early October 2017	Management Board approves draft final future scenarios.
Late October 2017	Principal's Staff Committee approves draft final future scenarios.

Chesapeake Bay Land Change Model v3a



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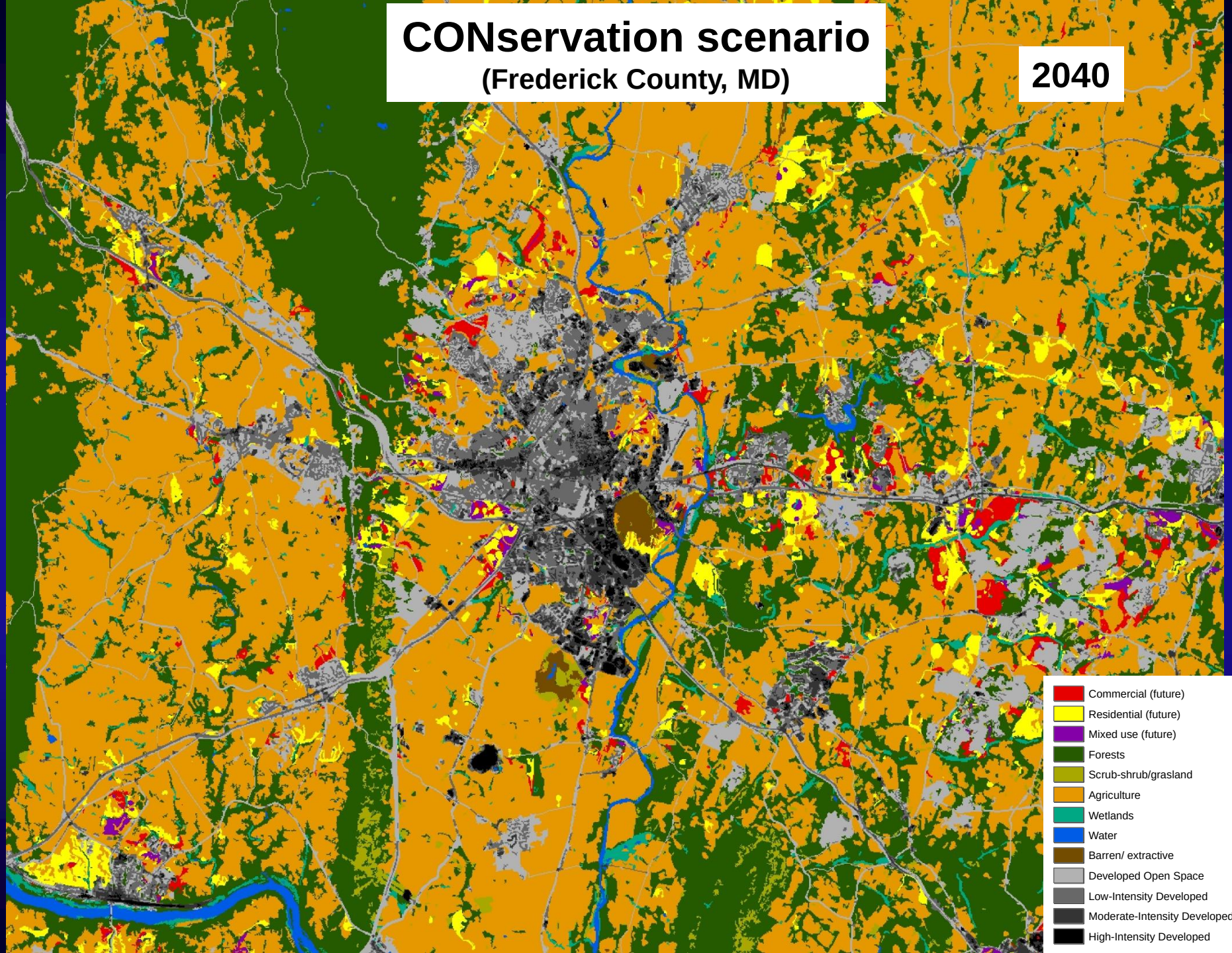
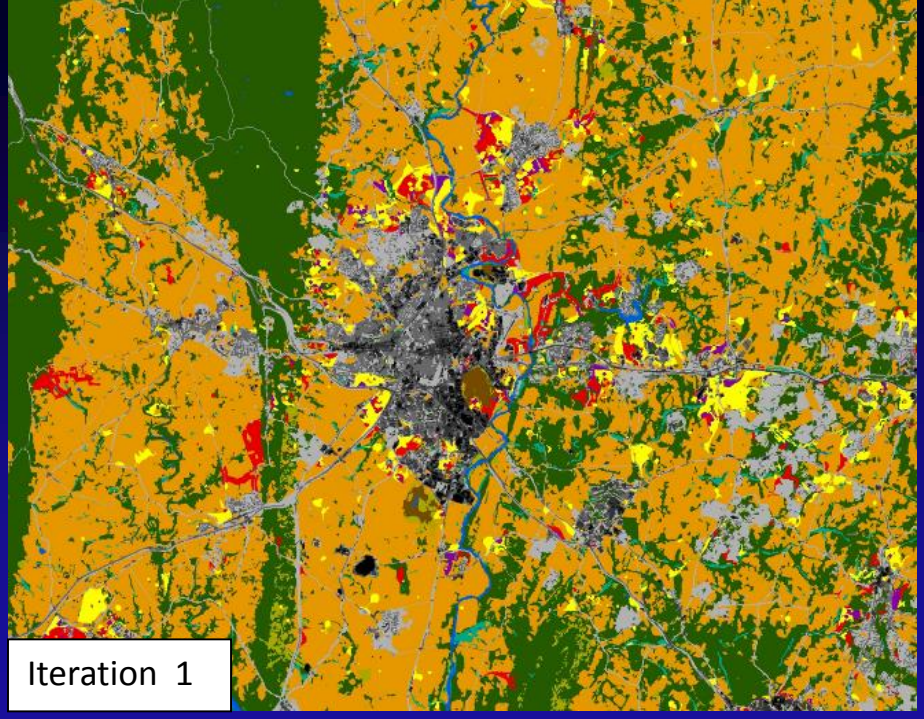
CONservation scenario

(Frederick County, MD)

2040

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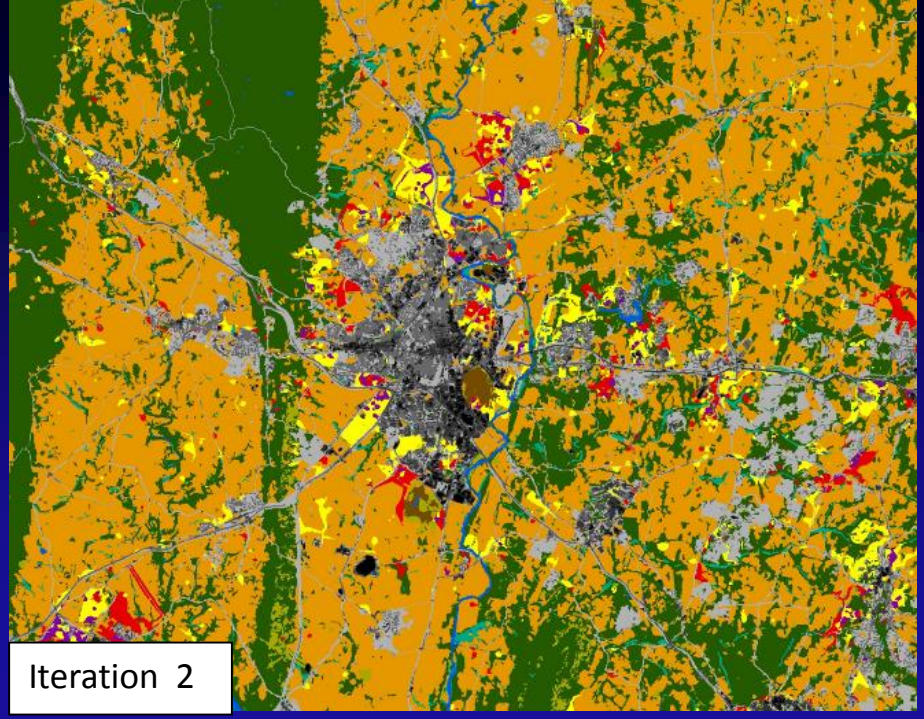
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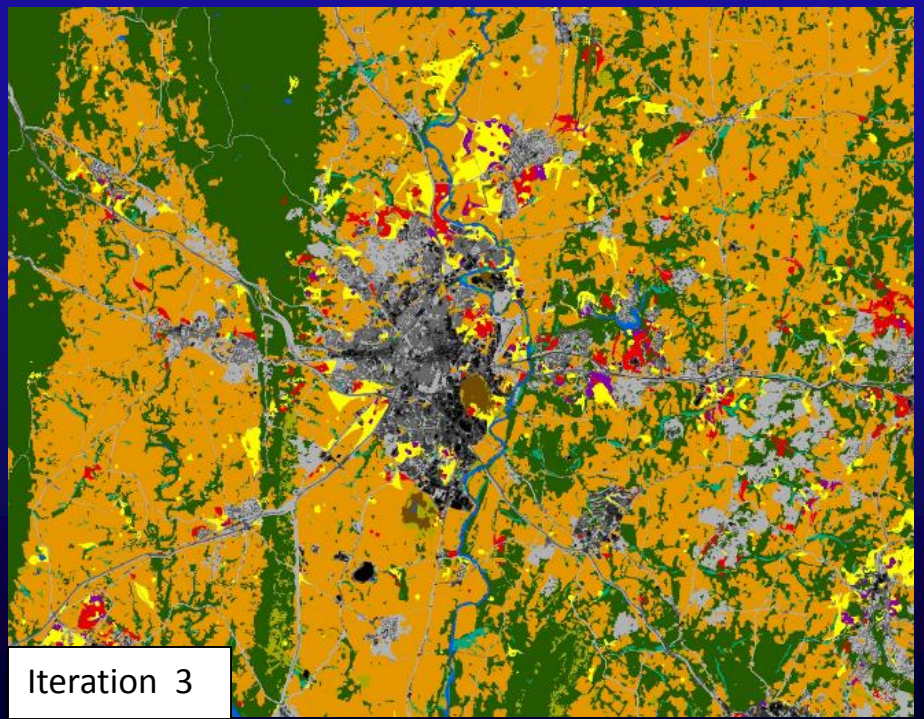
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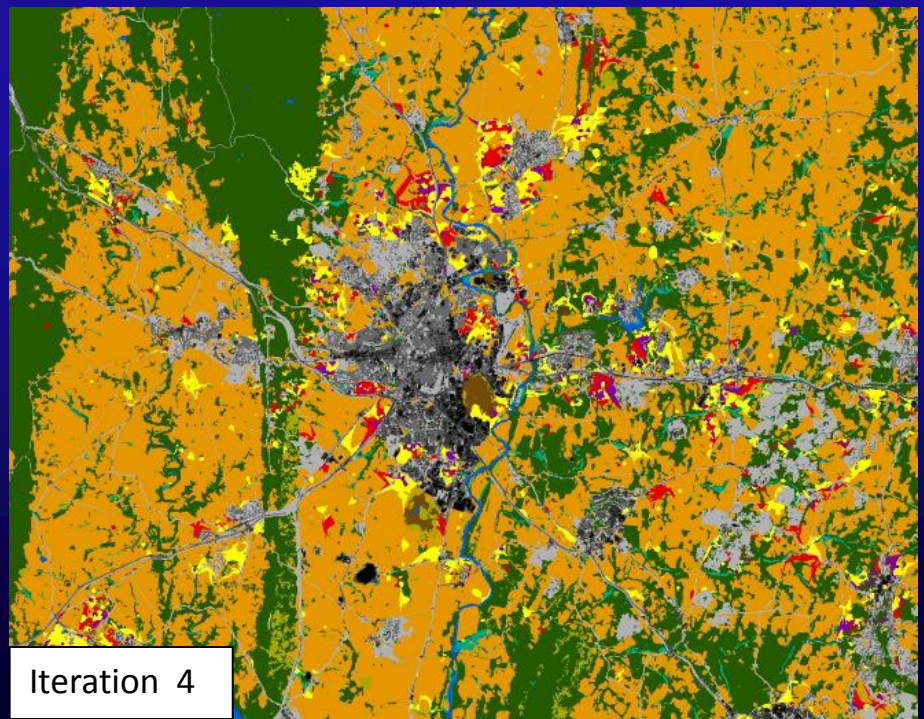
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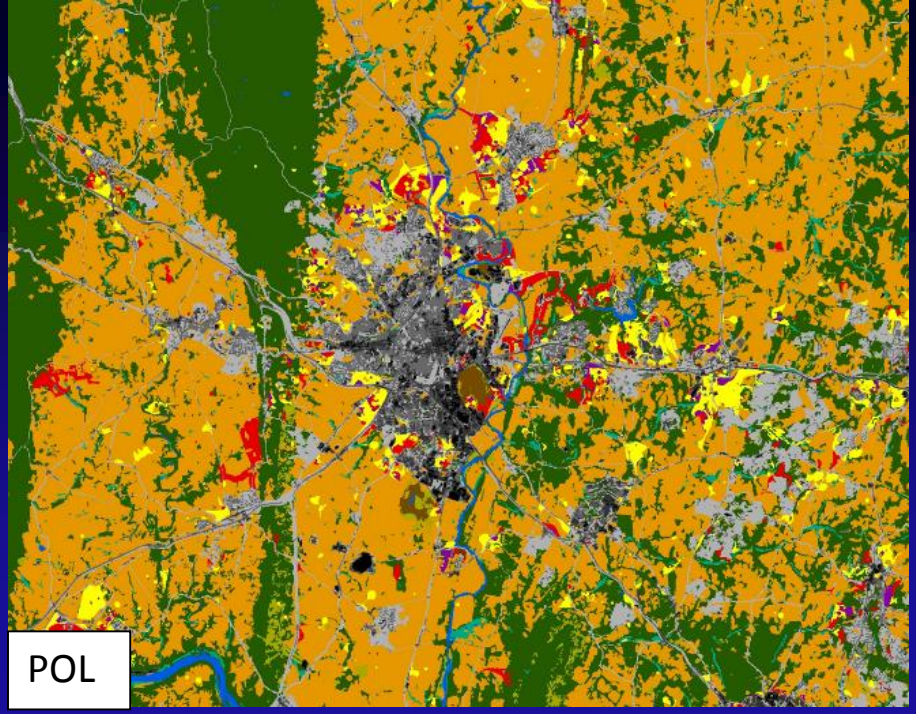
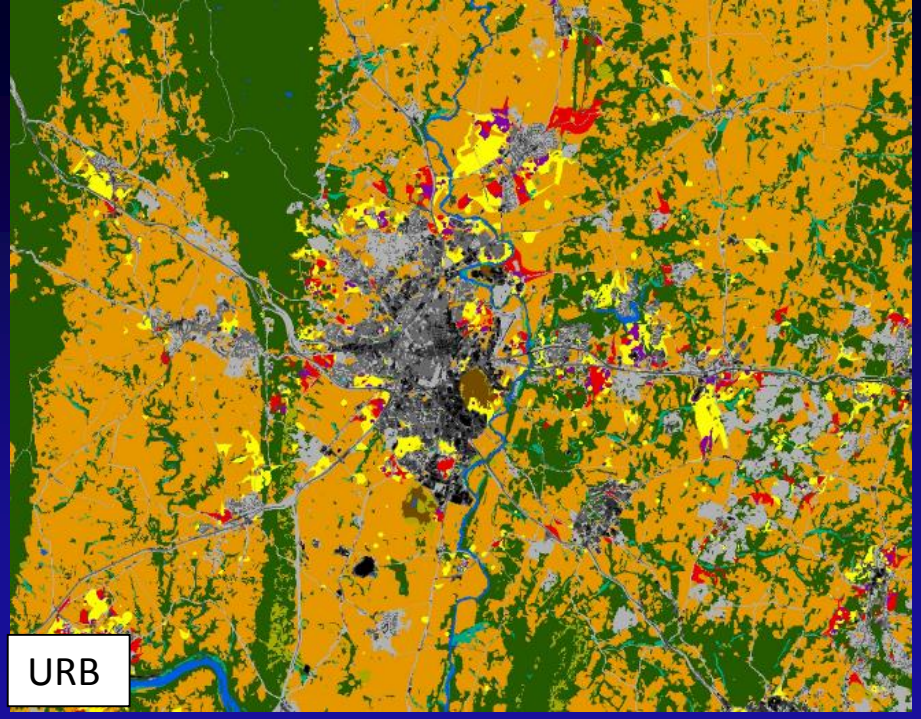
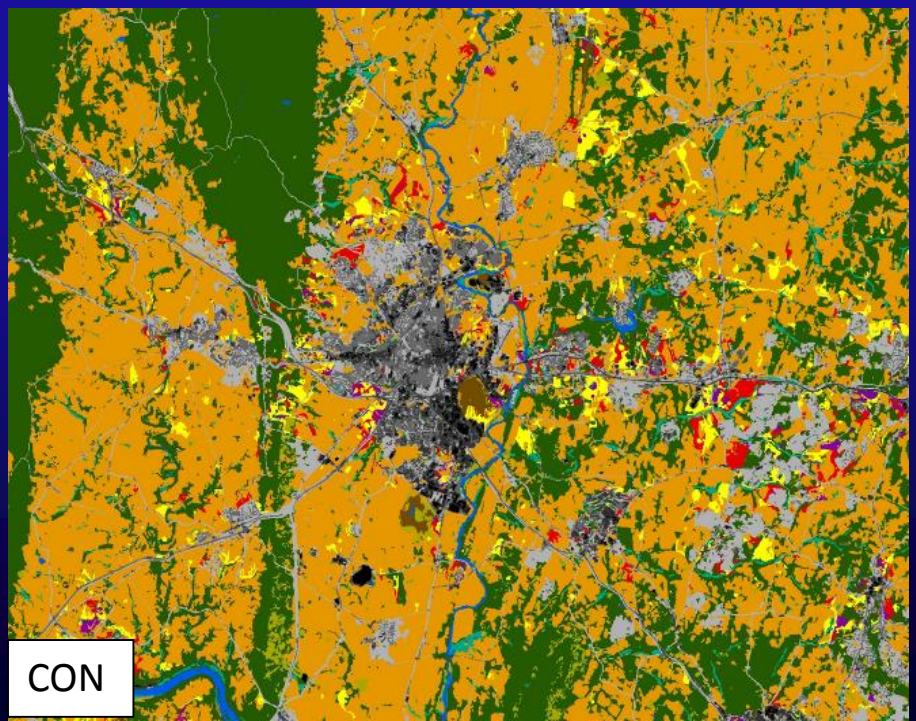
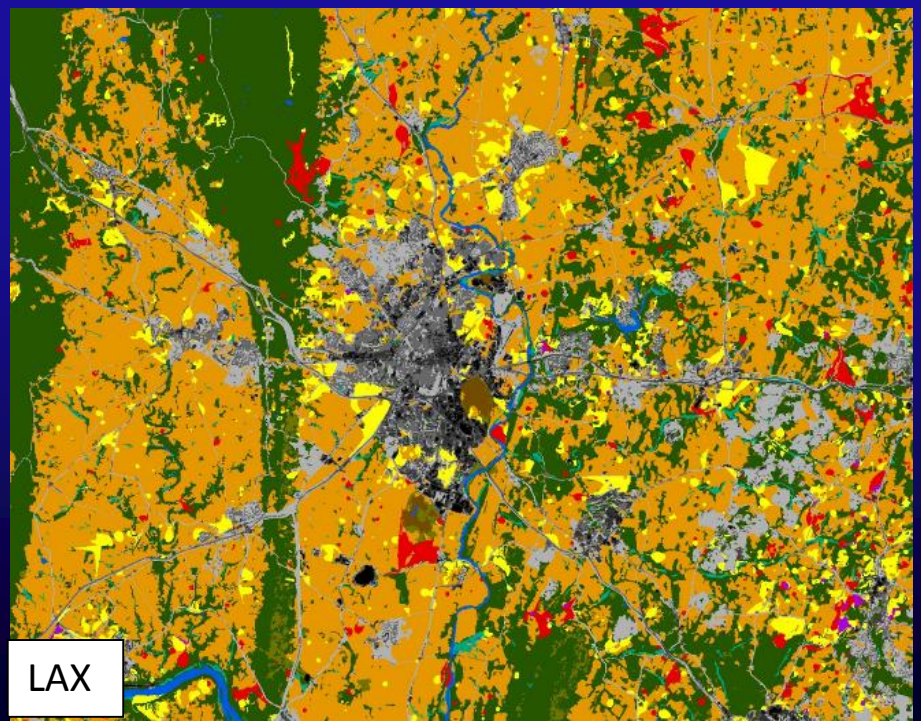

POL


URB

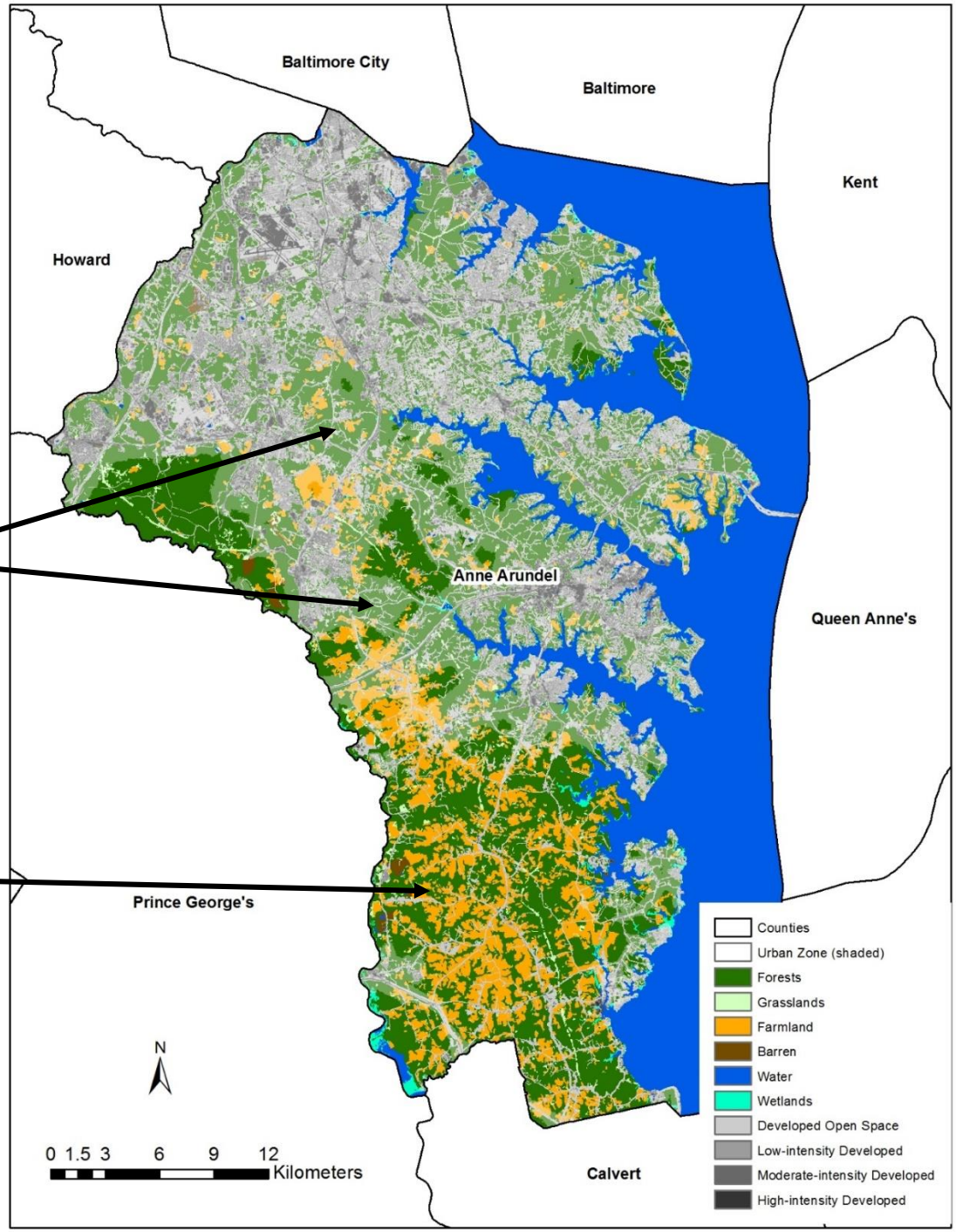

CON


LAX

Why development may disproportionately impact forests:

Unprotected forests within the urban zone with high demand for land and probability of development

Agriculture dominant in rural zone but demand for land is relatively low



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Scenario Results For Review

Scales: P6 Land-River Segments & Counties

1. New development acres
2. Future population on sewer and septic
3. Residential land consumption rate (acres / household)
4. Commercial land consumption rate (acres/ job)
4. Forest acres converted to development
5. Farmland acres converted to development
6. Δ Total Nitrogen (# / acre / yr.)
7. Δ Total Phosphorus (# / acre / yr.)
8. Δ Total Sediment (tons / acre / yr.)

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Future Scenario Results for Maryland

POL Scenario	2020	2030	2040
Total Development	27,858	53,610	72,360
Forest Loss	13,795	25,699	34,075
Farmland Loss	9,980	20,223	27,947
Forest:Farm Conversion Ratio	1.38	1.27	1.22

URB Scenario	2020	2030	2040
Total Development	23,179	44,221	59,318
Forest Loss	11,353	20,877	27,559
Farmland Loss	8,243	16,693	22,921
Forest:Farm Conversion Ratio	1.38	1.25	1.20

CON Scenario	2020	2030	2040
Total Development	24,848	48,404	63,203
Forest Loss	14,094	26,149	33,473
Farmland Loss	9,289	19,481	26,175
Forest:Farm Conversion Ratio	1.52	1.34	1.28

LAX Scenario	2020	2030	2040
Total Development	38,677	74,625	102,369
Forest Loss	17,288	32,737	44,576
Farmland Loss	16,515	32,481	44,896
Forest:Farm Conversion Ratio	1.05	1.01	0.99

Conclusions:

Infill, redevelopment, and densification achieve the greatest reductions in future greenfield development, minimizing impacts to BOTH forests and farms.

Conserving prime farmland and large forest tracts (>250 acres) ensures that the most valuable natural assets remain intact.

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Scenario Evaluation Metrics
Scale: P6 Land-River Segments & Counties

1. New impervious per capita
2. Large forest patches converted / total forest converted
3. Prime soils converted / total farmland converted
4. Forest and farmland fragmentation
5. Concentration or excess of manure
6. Loss of BMPs (due to the conversion of farmland)

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Proposed Alternative Future Scenarios

"Historical Trends": growth follows patterns prevalent over previous decade.

"Current Policy": (with zoning): direct growth to areas either zoned for it and/or with necessary infrastructure and capacity to support it.

"Land Conservation": protect state and local priority conservation areas.

"Rural Character": up-zone urban areas and down-zone rural areas.

"Infill and Redevelopment": direct more growth into urban areas.

Approved by Land Use Workgroup
Discussed in Alternative Futures Workshop:
Alternative Futures: Accounting for Growth in the Chesapeake Bay Watershed USGS sponsored workshop on September 15, 2011, https://pubs.usgs.gov/of/2012/1216/OFR2012-1216.pdf

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