

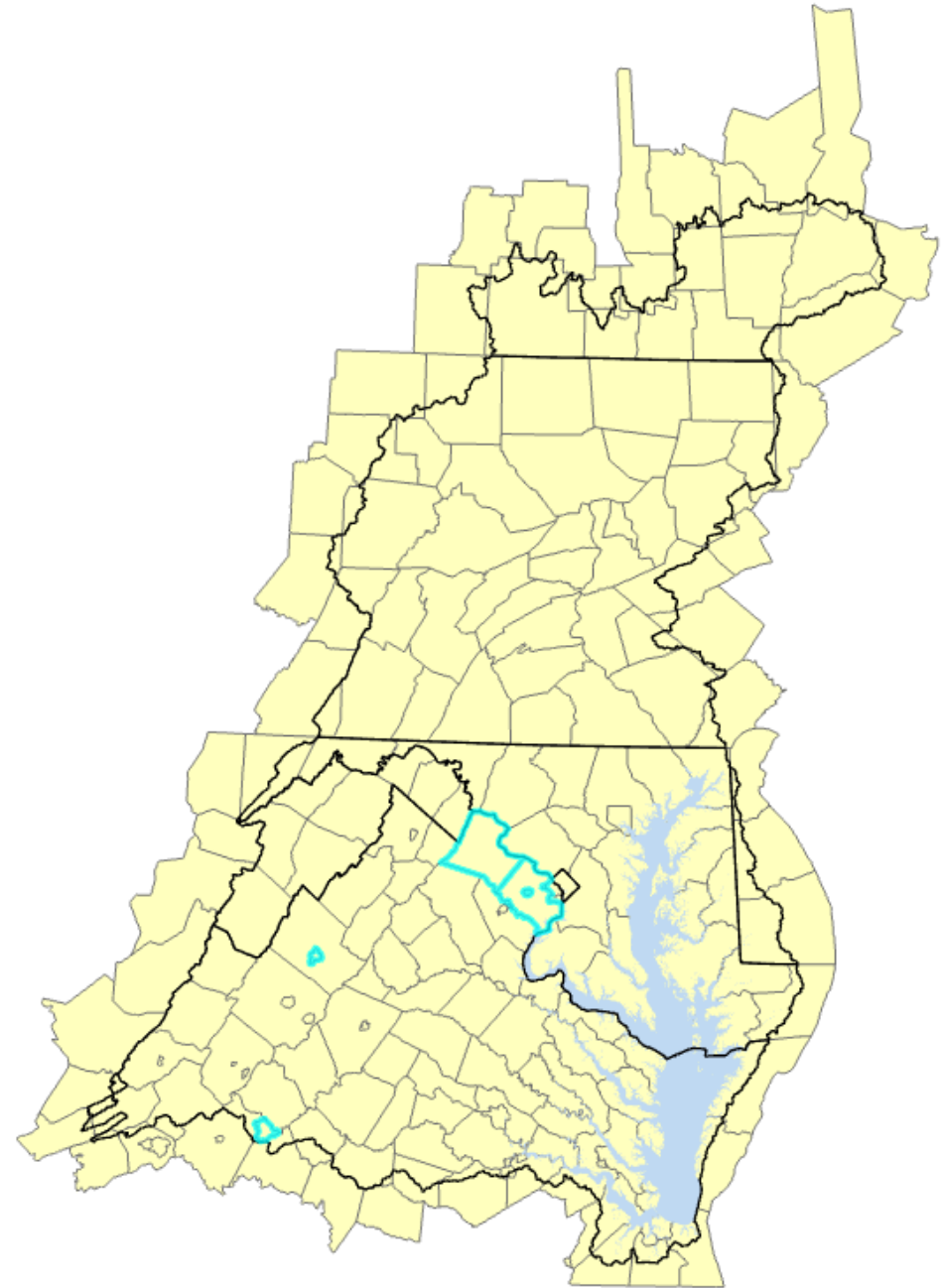
Developed Acreage in CAST-2023

Introduction

- Data provided to the Chesapeake Bay Program Office (CBPO) to map regulated areas in CAST-2017 varied by state and locality, mainly due to differences in the way each state defined regulated areas:
 - 2010 Census Urban Areas as Clusters (PA, NY, DE)
 - Some state highway lands (MD, VA)
 - Other state-owned lands (MD)
 - Public schools, universities, and airports (VA)
 - Some entire counties (MD, WV)
- Only localities were contacted for updates to these data and these data completely replaced previous data within that locality
 - In VA, there are over 100 Phase II permits which are not localities, some of which were excluded in three of the VA jurisdictions that provided updates (e.g., public schools, universities, and airports)
 - In 2016, the CBPO received regulated area files from ~35 unique entities including state, local, private, and academic organizations
 - In VA, this resulted in decreases in regulated lands where updates included only the locality's MS4 areas
 - There were few updates to regulated land use in CAST-2019, so these updates primarily affect VA in CAST-2023
 - MS4s in other jurisdictions--there were minor changes. Each was examined, and the changes seem to be boundary clarifications

Introduction

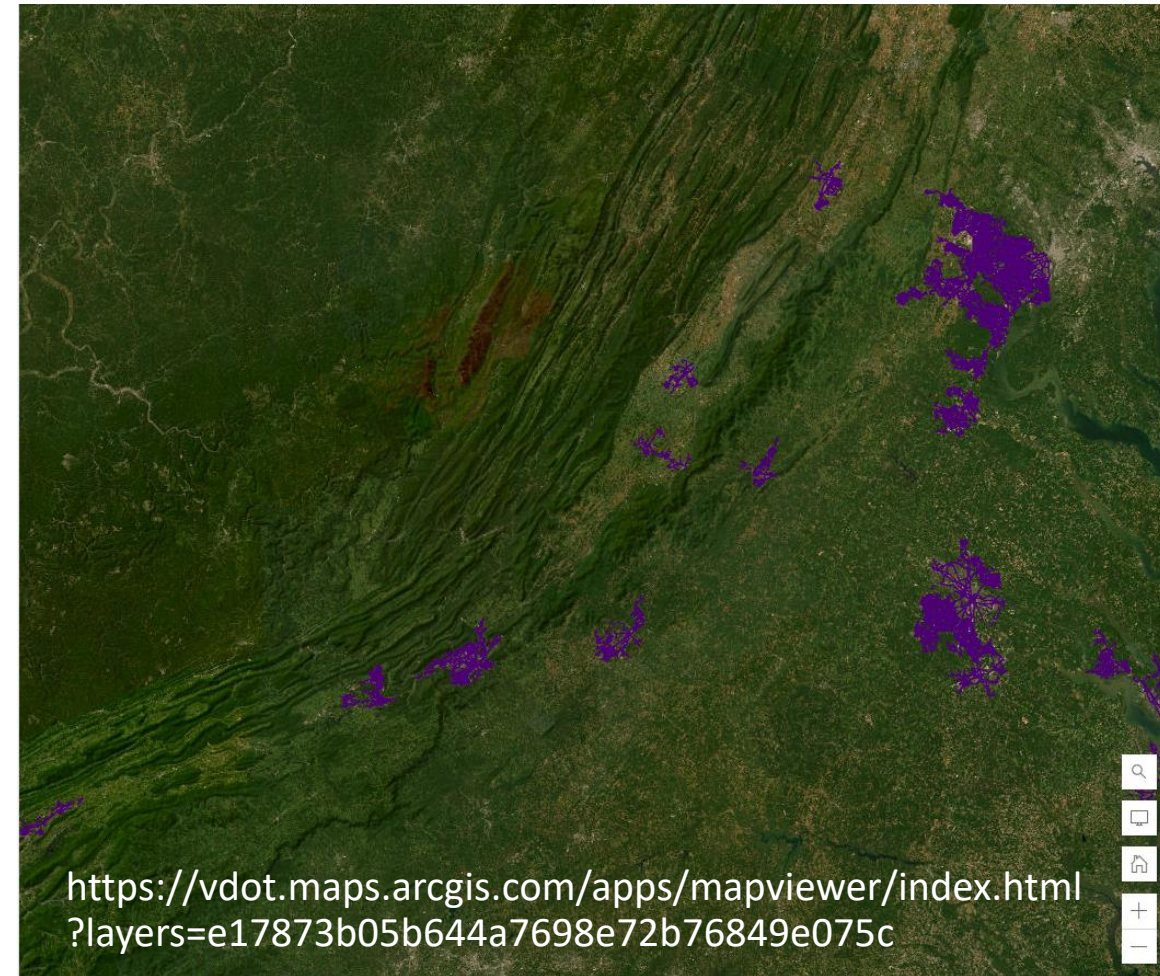
- The main jurisdictions impacted by this area change are:
 - Fairfax County
 - Fairfax City
 - Falls Church City
 - Loudoun County
 - Harrisonburg City
 - Lynchburg City



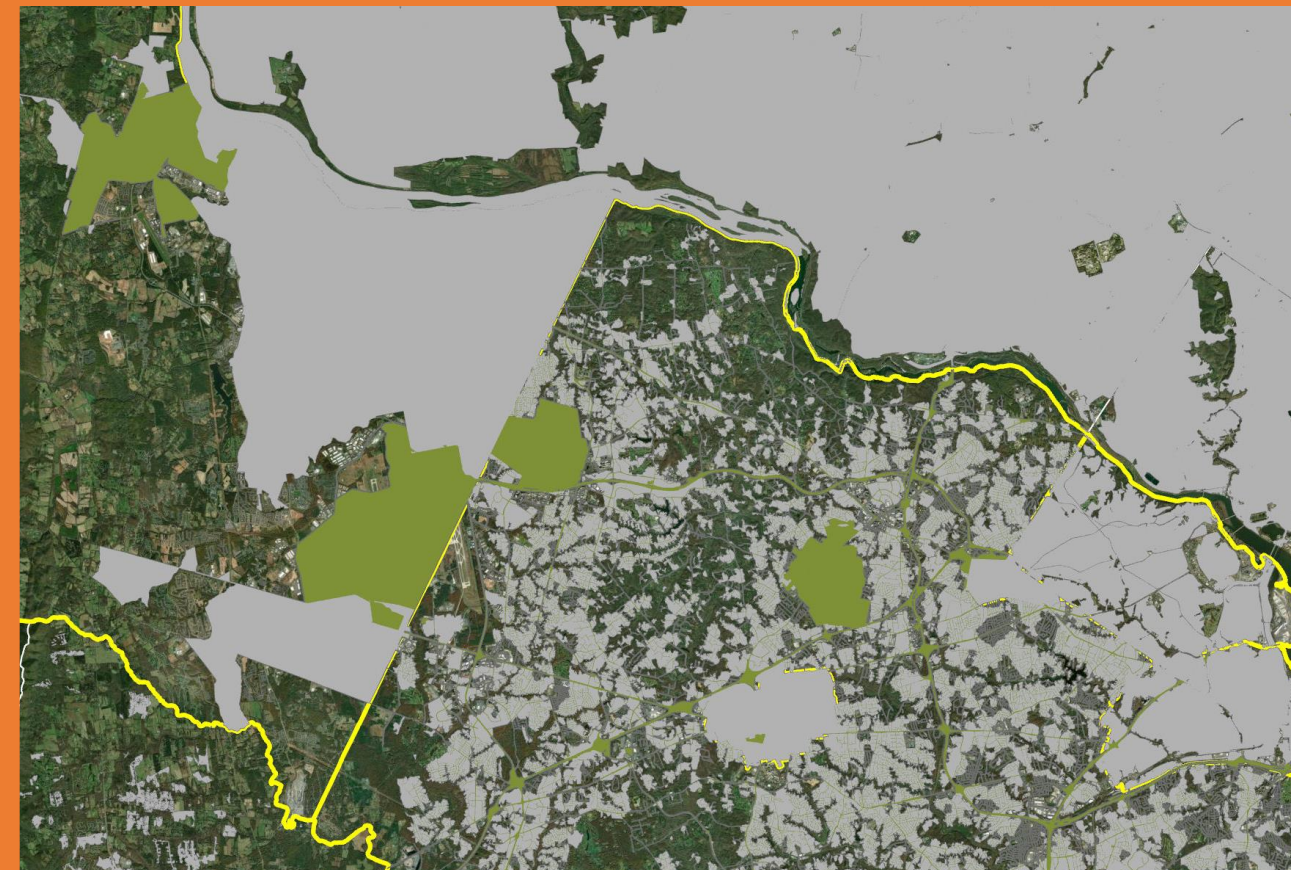
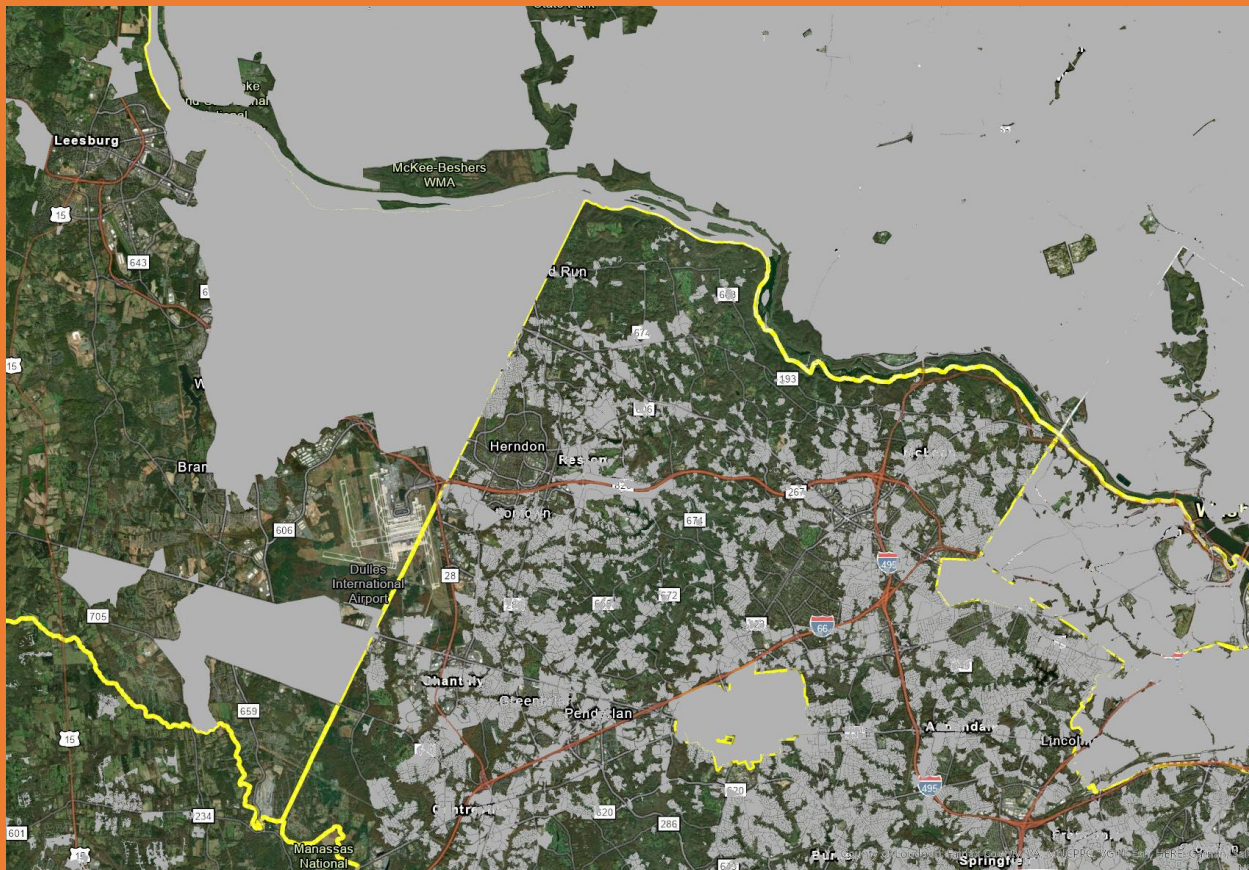
VDOT Permitted Areas:

*Does not include other
Phase II permitted areas*

VDOT MS4 Service Area - APPROXIMATE		
15 records, 0 selected		
	Name	area_sq_mi
<input type="checkbox"/>	NoVA - North	57.49
<input type="checkbox"/>	NoVA - South	26.14
<input type="checkbox"/>	Williamsburg	5.12
<input type="checkbox"/>	VA Beach	21.52
<input type="checkbox"/>	Staunton	2.31
<input type="checkbox"/>	Roanoke	10.09
<input type="checkbox"/>	Richmond	39.75
<input type="checkbox"/>	Lynchburg	4.30
<input type="checkbox"/>	Kingsport	0.49
<input type="checkbox"/>	Harrisonburg	2.08
<input type="checkbox"/>	Fredericksburg	7.63
<input type="checkbox"/>	Charlottesville	2.40
<input type="checkbox"/>	Bristol	2.34
<input type="checkbox"/>	Blacksburg	5.04
<input type="checkbox"/>	Winchester	3.84



Purple areas are MS4s.
VDOT permitted roads fall within these areas.



Fairfax and Loudoun Counties: C-23 (grey), C-19 (green)

Green areas show areas not in CAST-2023
that were in CAST-2019 and CAST-2017d



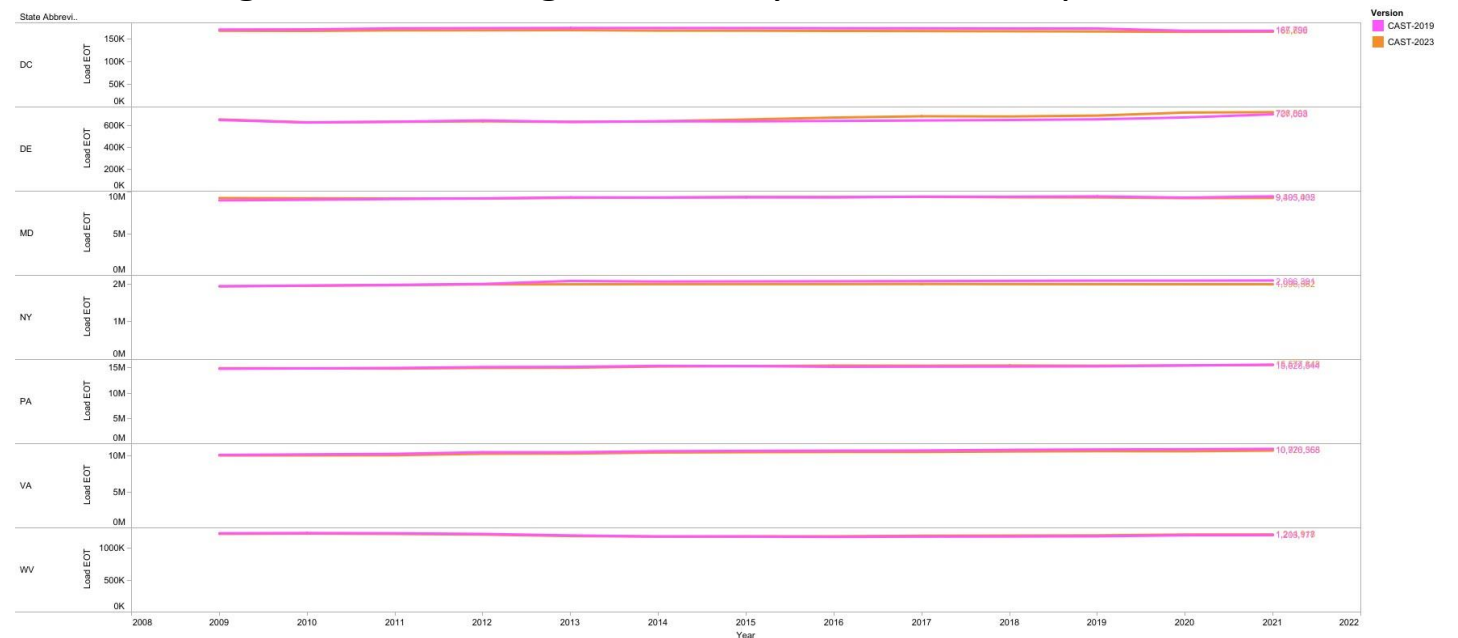
City of Harrisonburg: C-23 (grey), C-19 (green)

Green areas show areas not in CAST-2023
that were in CAST-2019 and CAST-2017d

No Substantial Impact on Loads

- Land does not know if it is regulated so the pollution runoff does not change based on its classification
- BMPs can be targeted toward one of the categories of developed land classifications: regulated, nonregulated, or combined sanitary and stormwater sewer (CSS)
- Incorrect classification can affect the amount of land available for BMPs for tracking progress and planning implementation in the future
- The reduction in regulated lands resulted in an excess of BMPs acres treated in Fairfax County (2,521) and Fairfax City (7) in the 2022 Progress Scenario
- The reduced regulated areas did not result in excess BMP acres in any other jurisdictions

Edge of Tide Nitrogen Loads by State: Developed Sector



Proposed Solution for Developed Acreage

- Determine the CAST-2019 ratio of unregulated/regulated lands
- The ratio will be determined for each:
 - Modeling segment (land-river segment)
 - Load source: buildings and other, roads, tree canopy over turfgrass, and tree canopy over impervious
 - Nonfederal and each federal agency type
 - Each year after 2012, e.g., 2013 – 2025
- The VA Partner decides if/where this ratio is applied to CAST-23 developed lands:
 - a) Fairfax, Loudoun, and Harrisonburg; or
 - b) All Virginia jurisdictions; or
 - c) All jurisdictions; or
 - d) Something else
- This approach limits the unintended effects that are likely to transpire if recreating the entire land use and/or regulated land overlay
- This is the proposed correction for VA, if other jurisdictions have found a similar issue, same solution can be applied
- Partnership determines who is responsible for submitting, updating, reviewing, and approving regulated land geospatial data for Phase 7
- CBP geospatial team institutes updated QA procedures to examine for potential outliers in resulting products before partnership review