NEW YORK
STATE OF
OPPORTUNITY

Department of
Environmental
Conservation

Chesapeake Bay Target Achievement and WIP Updates

EPA/NY DEC Conference Call
September 23, 2020

Presentation Outline

1) Current Conditions in NY
- Water Quality
- Population Trends
- Animal Population Trends
- Land use Trends
- Medium Household Income (MHI)

2) Overview of Proposed WIP Changes
- Wastewater Reductions
- Nutrient Exchange

3) Questions and Discussion

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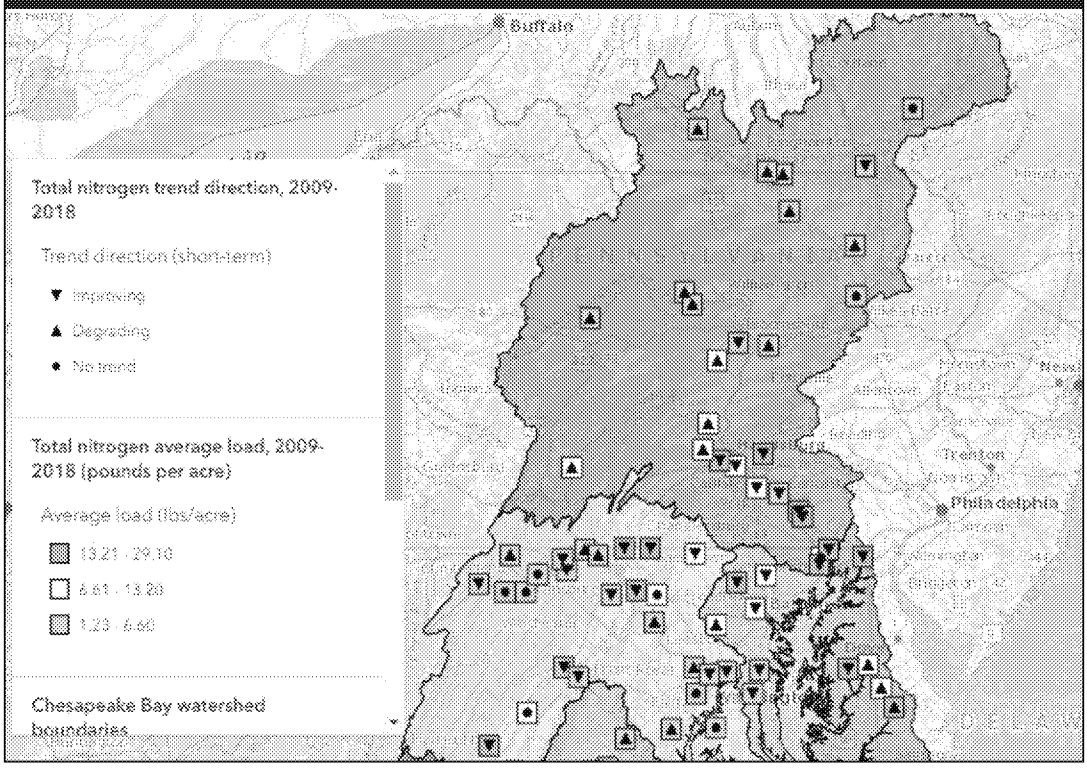
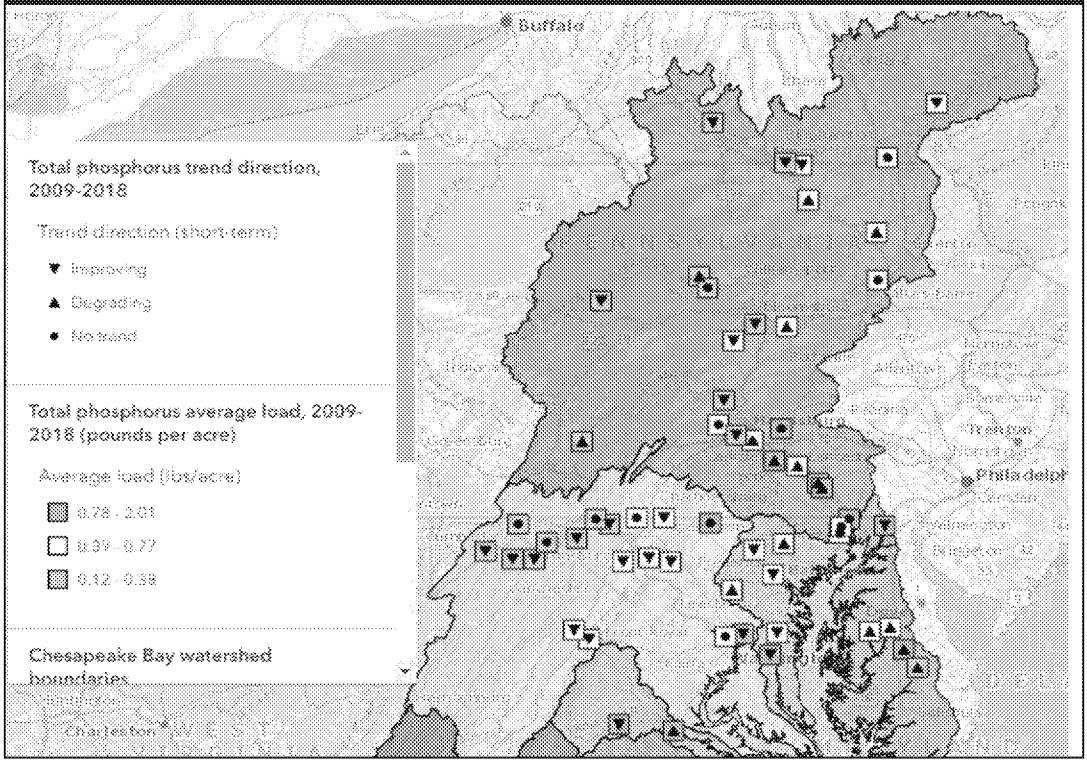
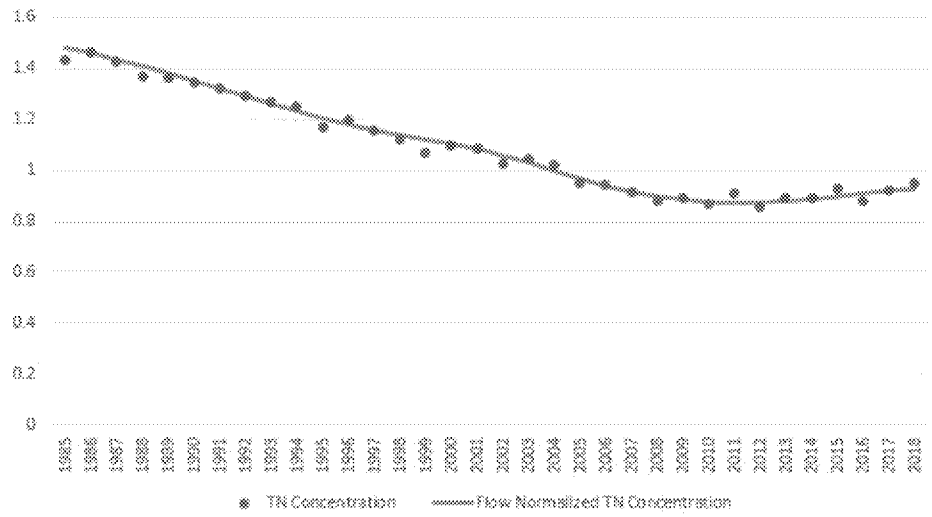
Current Conditions


Buffalo
Total nitrogen trend direction, 2009-2018
Trend direction (short-term)
Improving
Degrading
No trend
Total nitrogen average load, 2009-2018 (pounds per acre)
Average load (lbs/acre)
13.21 - 29.10
6.61 - 13.20
1.23 - 6.60
Chesapeake Bay watershed boundaries
Trenton
Philadelphia


Buffalo
Philadelphia
Charleston
Total phosphorus trend direction, 2009-2018
Trend direction (short-term)
Improving
Degrading
No trend
Total phosphorus average load, 2009-2018 (pounds per acre)
Average load (lbs/acre)
0.78 - 2.01
0.39 - 0.77
0.12 - 0.38
Chesapeake Bay watershed boundaries

Nitrogen Concentration Trend



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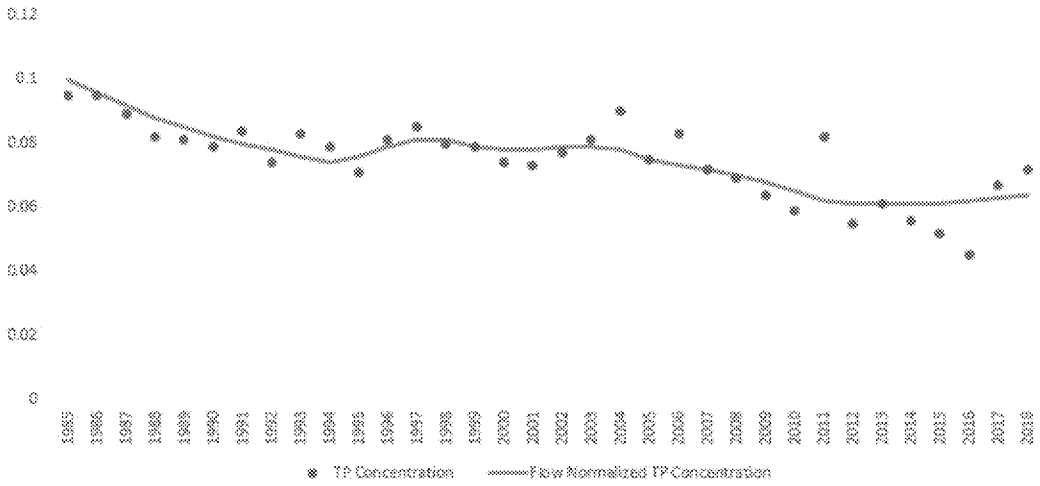
Phosphorus Concentration Trend



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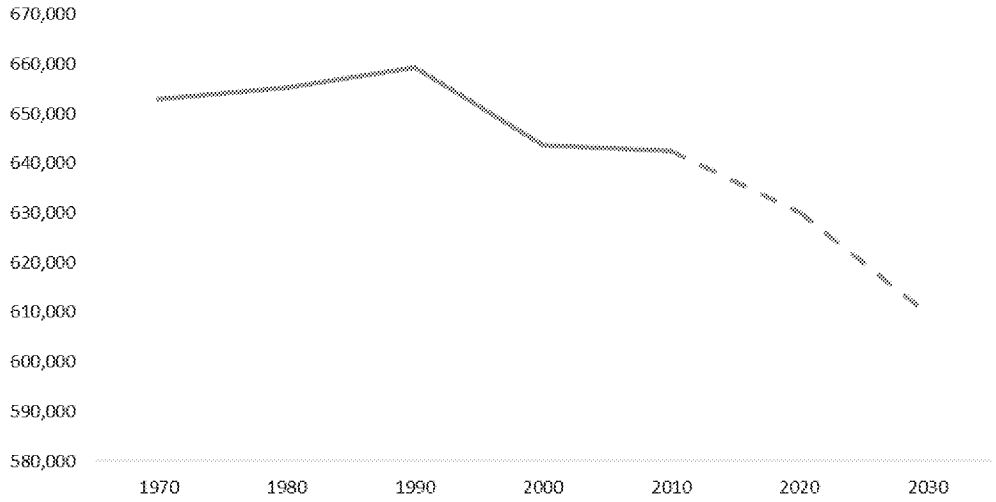
Population Trends 1970-2030



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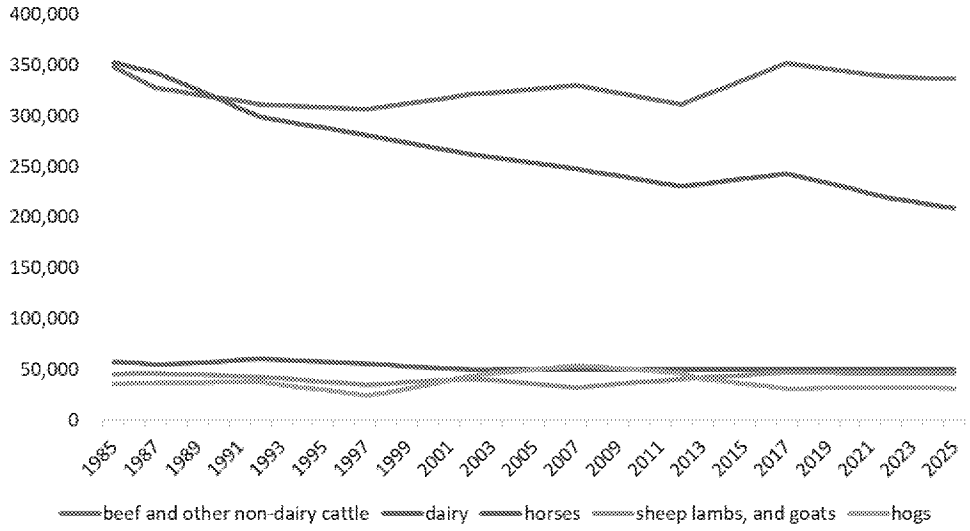
County Trends

County	Population Change 1970-1980	Population Change 1980-1990	Population Change 1990-2000	Population Change 2000-2010	Population Change 2010-2019
Allegany	5,284	304	-589	-958	-2,832
Broome	-8,167	305	-11,745	260	-10,187
Chemung	-3,881	306	-4,076	-2,272	-5,391
Chenango	2,976	307	-412	-845	-3,304
Cortland	2,926	308	-259	586	-1,709
Delaware	2,106	309	542	68	-3,827
Herkimer	-693	310	-1,307	-33	-3,150
Livingston	2,965	311	2,259	575	-2,292
Madison	2,286	312	254	4,032	-2,511
Oneida	-19,604	313	-15,320	-656	-6,189
Onondaga	-8,915	314	-10,647	8,741	-6,539
Ontario	10,060	315	4,908	8,090	1,678
Otsego	2,894	316	1,302	586	-2,785
Schoharie	4,960	317	-352	1,235	-1,724
Schuyler	949	318	526	-826	-555
Steuben	-329	319	-407	301	-3,603
Tioga	3,299	320	-454	-834	-2,846
Tompkins	10,021	321	2,390	5,105	588
Yates	1,628	322	1,781	773	-451
Total	10,765	323	-31,606	23,928	-57,629

Animal Population Trends 1985-2025



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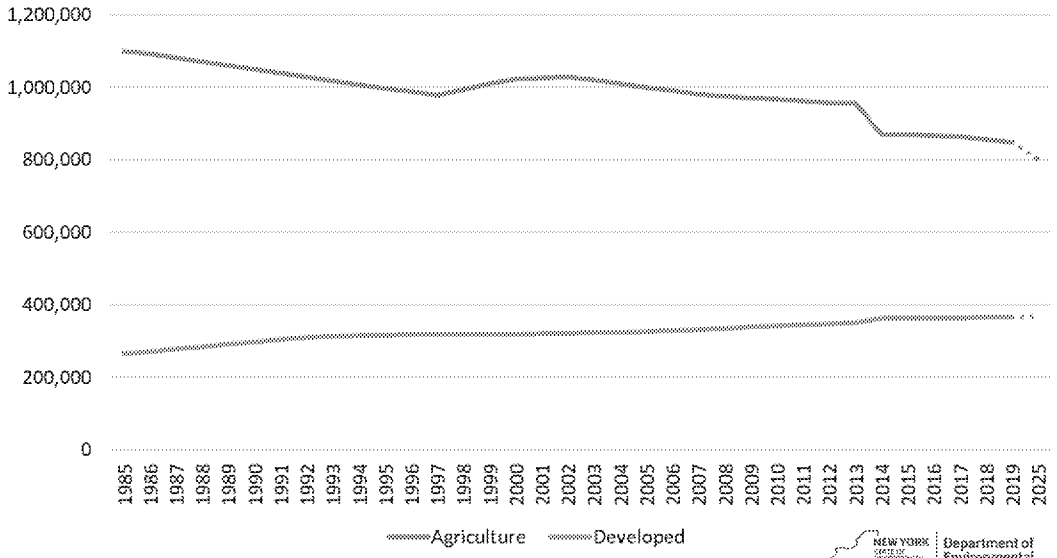
Animal pop separated by type of livestock, large decline in dairy

Land Use Acres Trends 1985-2025



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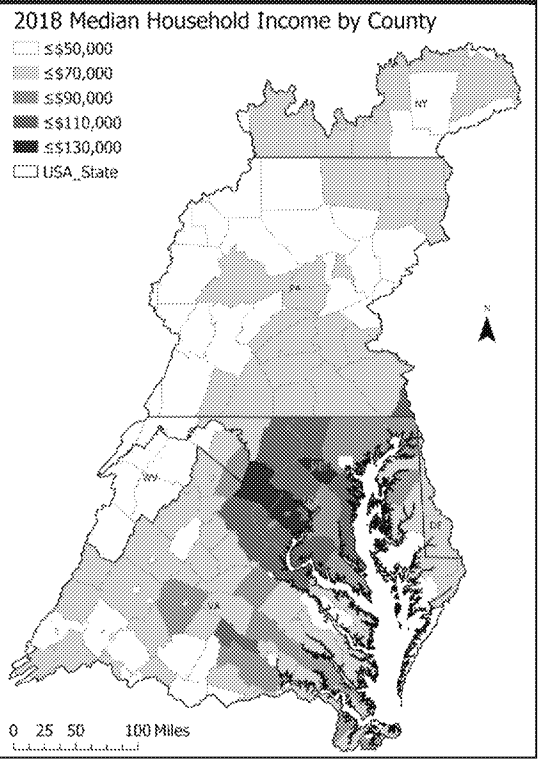
State MHI

Counties in Watershed	Average 2018 Median Household Income
DC	$77,686
MD	$72,687
VA	$62,331
DE	$59,454
NY	$52,036
PA	$52,018
WV	$43,251



Proposed WIP Changes

WIP Overview

- Since the final Phase III WIP was submitted to EPA in August 2019, New York has identified additional reductions from the wastewater sector that will largely close the nitrogen "gap."
- The remainder of the gap will be closed using nutrient exchange between excess phosphorus to nitrogen.

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Wastewater Reductions

- When developing the Phase III WIP wastewater scenario, New York took a highly conservative approach by estimating 2025 nitrogen discharges at full design flow.
- Using the 3-year average flow, it is estimated that New York will deliver 760,000 pounds of nitrogen and 51,000 pounds of phosphorus less to the Chesapeake Bay per year compared to its Phase III WIP wastewater scenario.
- This is a more accurate representation of wastewater loads from New York based on current growth projections. Population in the watershed is expected to further decrease through 2025.

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Wastewater Reductions and CAST update

Scenario	TN	TP
August 2019 Phase III WIP Evaluated under CAST-19, wastewater loads measured at full design flow	12.35	0.544
August 2019 Phase III WIP CAST-19, wastewater loads measured at average actual flow	11.59	0.493
Total Reduction in NY Loading from CAST-17 to CAST-19 update plus updated wastewater loads	**0.94**	**0.051**

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Remaining Reductions

Scenario	TN	TP
August 2019 Phase III WIP CAST-19, Plus Accurate Wastewater Loads	11.59	0.493
NY Nutrient Targets (2025)	11.53	0.587
Remaining Reductions Needed	**0.06**	**-0.094**

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Nutrient Exchange

Scenario	TN	TP
NY Nutrient Targets (2025)	11.53	0.587
Excess TP converted to TN using N:P Ratio	-0.22	0.094
Revised NY Planning Targets with Nutrient Exchange	**11.75**	**0.493**
August 2019 Phase III WIP CAST-19, Plus Accurate Wastewater Loads	11.59	0.493
Excess Total Nitrogen and Phosphorus Reductions	**0.16**	**0.000**

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Questions/ Discussion

Thank You

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http://www.dec.ny.gov/lands/33279.html

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