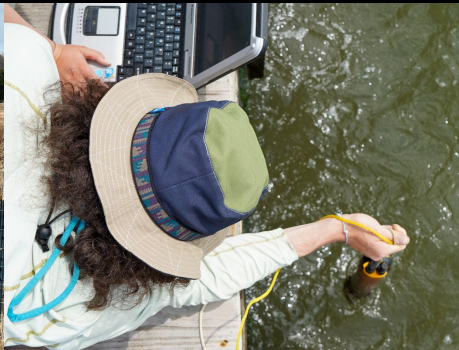


# State of the Bays 2026

(2021-2026)



# Parts of the Report



## Working Estuary

Land Use, Aquaculture

Call for Action:

Aquaculture has arrived. Now how does it become sustainable.



## Coastal Resilience

Marshes, Sea level

Call for Action:

Marsh restoration in practice: Case Study Millsboro BU, Whites Creek BU



## Living Resources

Horseshoe Crabs, Fish

Call for Action:

Do suitable areas exist for expansion of desired habitats?

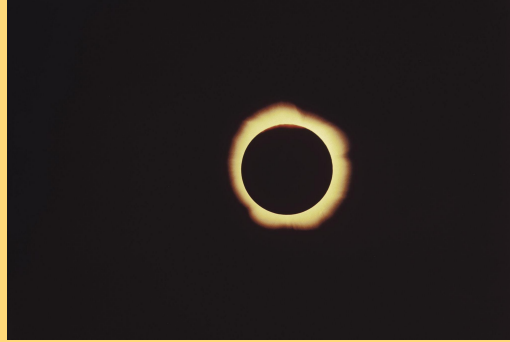
# Parts of the Report



## Public Facing

Short Video

Impact Statement



## Subject in Brief

4 pages

Stand alone

Image-based



## Technical Report

Data Reports

References

# Public Facing – Engaging, Easy to Understand

Short Videos

Publication

- Icon / Graphic heavy - one or two sentences per indicator
- Short Communications for a public audience

# Technical Report – Data, Details and Follow-up

Template based

Follows the similar format to PDE

Online only

# **Subject in Brief** – The Challenge, The Approach, The Impact & Key Benefits

Data Source(s)

Brief Results

Recent Publications (last 5 years)

Answered for each topic:

Why is this metric someone should care about?

How does this topic relate to humans - is there a different response in different groups?

Does this topic affect just part of the watershed - this could be a consistent icon, based on a picture of the watershed and indicate one of 6 patterns in the watershed, coast, bay coast, east, middle, west, north or south

Is this metric trending - use trend icons from 2021 report.

**Salt Marsh Elevation**– Relative elevation as compared with sea level, long-term monitoring, protect function of salt marshes & habitat

Data Source(s): CIB LTSMM Network;

Brief Results: Most plots are not keeping up with sea-level rise resulting in loss of marsh acreage and conversion of salt grass meadow to open ponds.

### Recent Publications (last 5 years):

Campbell, A.D., Fatoyinbo, L., Goldberg, L. and Lagomasino, D., 2022. Global hotspots of salt marsh change and carbon emissions. *Nature*, 612(7941), pp.701-706.

Lang, M.W., Stedman, S., J. C. Ingebritsen, and R. K. Griffin. 2024. Status and Trends of Wetlands in the Coastal Watersheds of the Conterminous United States 2009 to 2019. U.S. Department of the Interior, Fish and Wildlife Service and National Oceanic and Atmospheric Administration, National Marine Fisheries Service. 58 p.

# Salt Marsh Elevation–

Relative elevation as compared with sea level, long-term monitoring, protect function of salt marshes & habitat

Why is this metric someone should care about? - Reduced salt marsh elevation leads to lower function; failure to buffer land during storms; failure to absorb pollutants from overland flow

How does this topic relate to humans - is there a different response in different groups? - Salt marshes, traditionally used as hay meadows, today provide habitat value, especially for birds which can affect the tourism economy. For near shore residents; salt marshes buffer wave action, moderate shoreline erosion and storm energy.

Does this topic affect just part of the watershed? bay coast



Is this metric trending? Worse trend from 2021 report.





# Working Land, Working Estuary

Natural Habitat Protection Acres (Data shared on the Delaware Open Data Portal.)

- Reforested

- Preserved Forest /Forest Quality Assessment (Bill McAvoy)

- [/baygrass planted - Baygrass \(Taylor, Kayla and Brittany\)](#)

- [/oyster reefs Morgan and Mark?](#)

- /living shorelines (Doug)

- /marshes created (Alison)

- /easements, preserves (Michelle)

- [Shoreline comparison 2012-2022 \(Andrew H.\)](#)

Aquaculture Industry (Zena/John) & Disease load on oysters

Other Shellfish (Zena/Andrew)

- [Prohibited Shellfish Waters \(Andrew B.\)](#)

Tourism

LUC tables

- Impervious Surface

- Buffers - Tree and Grass

- Agriculture Land

Population (census report?) Resident/Transient; Changing Demographics

Nutrient Loadings by HUC-12 Watershed (11 Watersheds in the Inland Bays)

- Nonpoint Source

- Point Source

- Septic/Sewer Conversions

- Land Application (DNREC Division of Water, Groundwater Discharges Section, Large Systems Branch)

- Wastewater (Michelle/Jen Biddle Ecoli poo study) Center Wastewater project on hold until new coordinator hired

Emerging Contaminants

- PFAS in fish - UD Grad student Jacquie? (is deer meat study in Kent relevant?)

Trash & Microplastics (Lisa)

Our estuary is  
a place people  
live, work. and  
play.

It is not other or  
away.

It is accessible  
and used, and  
therefore must  
be protected

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# Climate Resilience

Long Term Salt Marsh Monitoring (Taylor, DNREC)

DEOS

Wind (<https://globalwindatlas.info/en/area/United%20States/Delaware>)

Sea Level

Lewes/ Ocean City

Millsboro

Massey's Landing

Salt Water Intrusion - Tom? DGS or Holly? (Delmarva wide)

Department of Agriculture Ions, pesticides, groundwater? Or USGS?

NFWF

Soil Quality

Sediment Quality & Contaminants

Water Quality (<https://cema.udel.edu/applications/waterquality/>)

eColi Ed Wherat

eColi Andrew Bell

Phytoplankton

DO Taylor

Temperature (<https://www.ncei.noaa.gov/access/monitoring/monthly-report/national/202505>)

pH (Maracos contacts?)

Clarity?

Nitrogen (Bott)

Phosphorus (Bott)

Water Quality Index (??)

Any others (TP, ortho-P, ammonia N, NO<sub>2</sub>+NO<sub>3</sub>, TN, TOC, DOC, Chl a, BOD, DO, TSS, alkalinity, hardness, pH, conductivity, salinity, temperature, Secchi depth,

light attenuation, turbidity, chloride, total *Enterococcus*, Cu, Pb, Zn, As)?

Patterns of tributary water vs. open water (Bott)

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# Living Resources

Species of Conservation Concern (DNREC Wildlife Action Plan)

HSC (Nivette)

Terrapin (Nivette)

Fish (Taylor/Morgan)

Trawl

Shorezone

Recreational (NOAA Fisheries Service, Marine Recreational Information  
Program (MRIP))

Fish Kills (DNREC data)

Oyster Count (Taylor/Morgan)

Oyster Recruitment (Morgan/Jess)

Eels (Morgan)

Bird

Osprey (Nivette)

Bald Eagle (Jordan)

Mid-Winter Waterfowl (Data shared on the Delaware Open Data Portal)

Our wildlife help  
make our region  
unique.

We strive to  
understanding  
how our wildlife  
co-exist.

# Metrics not included in 2026

Nutrient loadings from atmospheric sources - No funding to monitor local

Best Management Practices Implementation

This metric is a counting the practices implemented - not a result on the Bays outcome; data is reported elsewhere.

Natural Habitat Project Implementation

This metric is a counting the practices implemented - not a result on the Bays outcome; data is reported in the fiscal year it is completed in NEPORT.

Macroalgal Cover - No monitoring as macroalgal cover has been reduced

Hydrodynamic Model - No funding/no update

Blue Crab Harvest - No metric

Human Health

Fishable/Wadeable/Swimmable Waters <<This could be moved up, there is data, and has been included

Long-term citizen monitoring = no change in metric (Ed Wherat?)

Fish Tissue - No new updates from DNREC

Bird Flu?

Indicators not in  
2026 State of the  
Bays.

These lack new  
high quality data  
sources or pose  
no significant  
change in metric.

# Target Publication Date

June 2026

