Maryland Department of the Environment
Special Projects and Activities Update

Presentation to:

Mid-Atlantic Wetland Workgroup

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Grant Activities

In 2023, completed work under EPA grant for

Phase III of Shoreline Mapper Tool-Statewide Coverage

Restoration Guidance for Streams with Adjacent Wetlands

Piedmont and Blackwater Streams

Shoreline Mapper Tool

In MD “Living shorelines” are preferred shoreline stabilization method under statute, unless shown on maps as being unsuitable or a waiver is granted

Waiver requires individual review and assessment of site conditions

Intended to improve process by reducing work needed to review a waiver request

Adapted from Gloucester VA Living Shoreline Suitability Model (LSSM) tool by VIMS for Use in MD. Uses datasets for land use, bank cover, shoreline structures, tidal marshes, beaches, bathymetry, fetch, roads, permanent structures, and tributary designations.

Shoreline Mapper Tool cont.

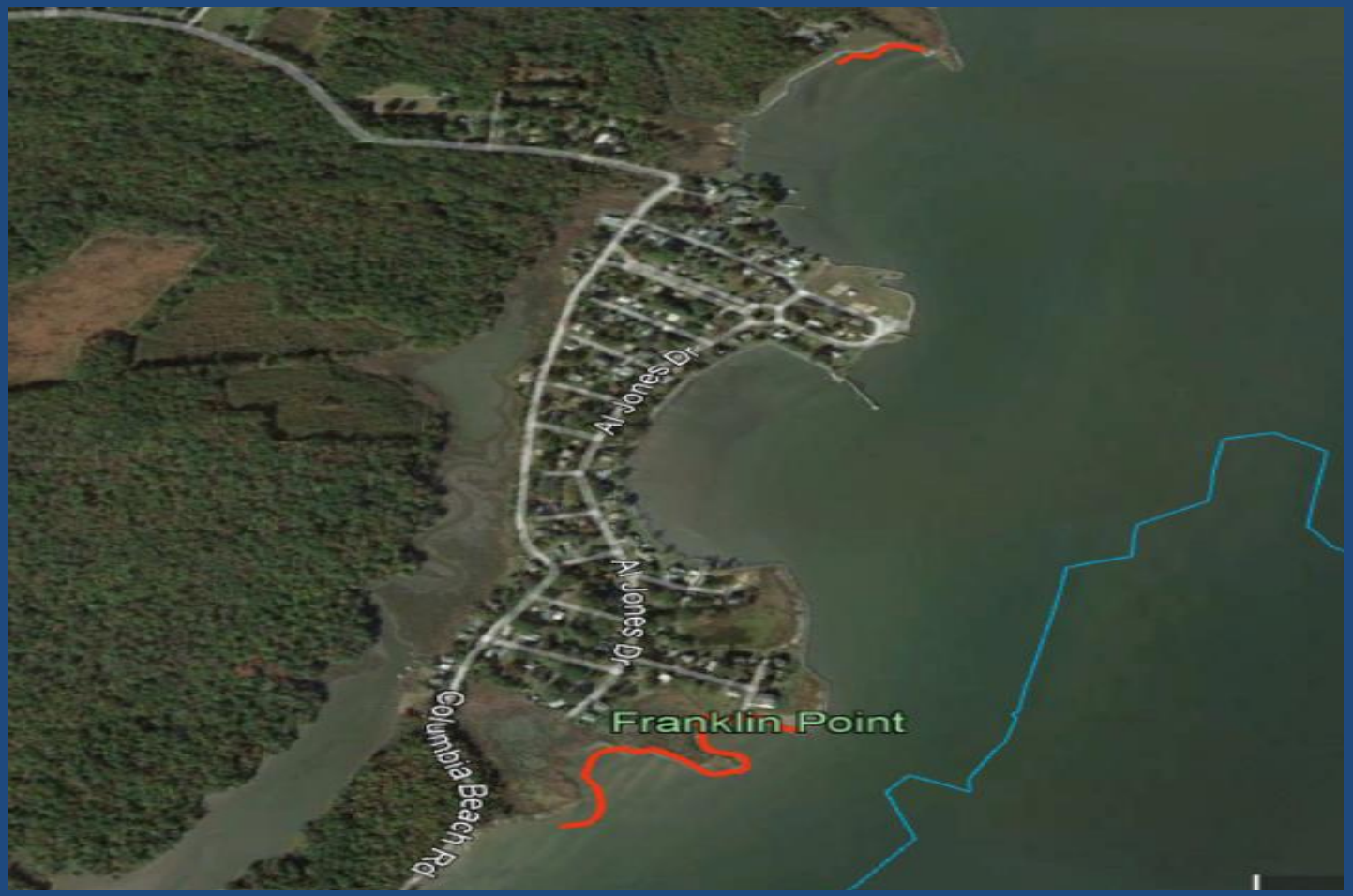
Due to legal status of maps, there are categories of Structural, Undetermined, and Living Shoreline.

Undetermined category includes many areas, and was influenced by factors including the presence of sensitive species, fetch, and water depth. Property owners and applicants are advised to contact MDE for guidance.

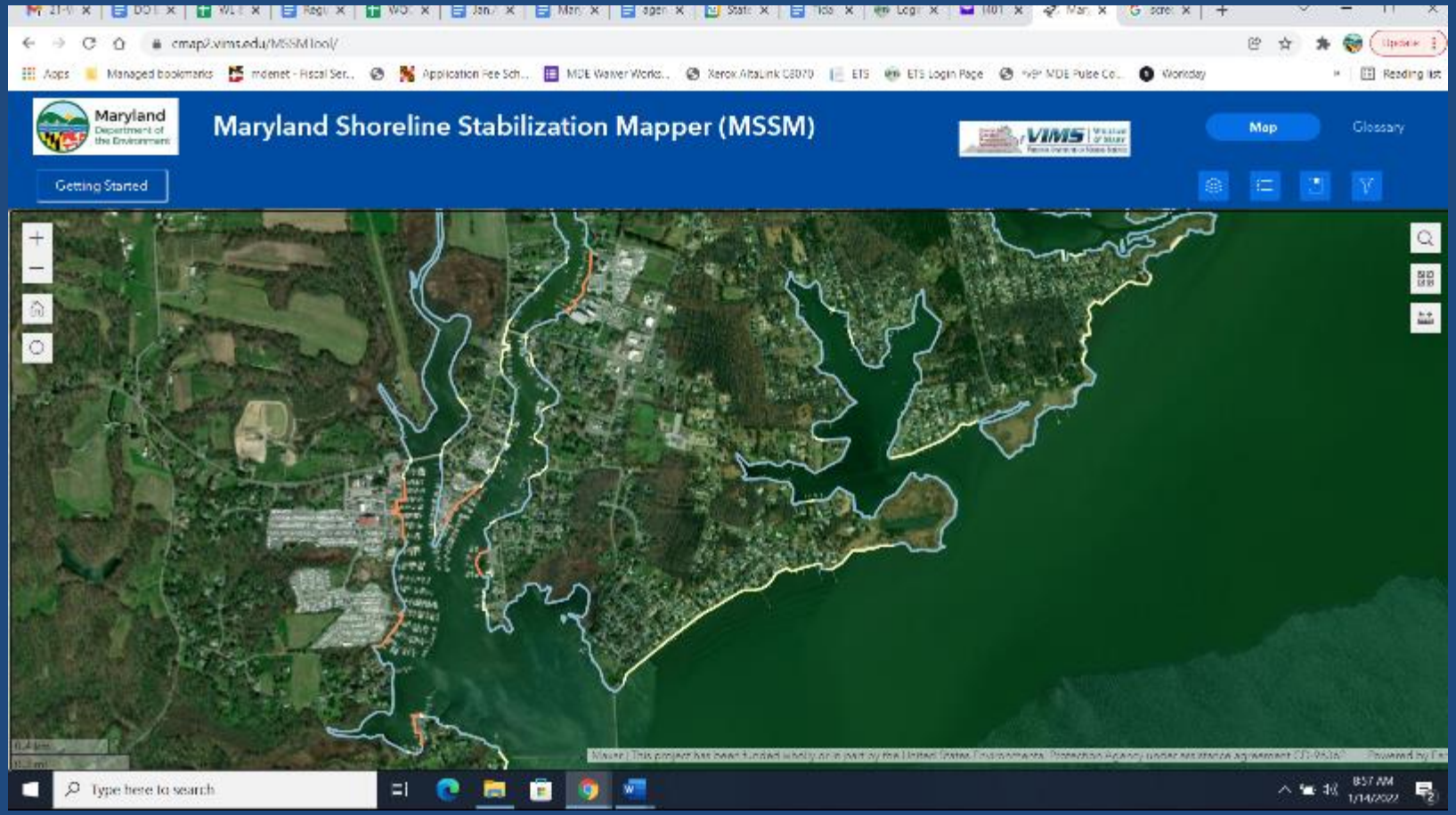
7 major events, including 3 boat shows, annual local government meetings, plus marine contractors training and NAWM webinar

1,110 “hits” to the MSSM tool with 766 visits to the site, and 762 unique page views and 344 “spider” (or web crawler) visits to compile information about a webpage. This information is then used in search engines like Google.

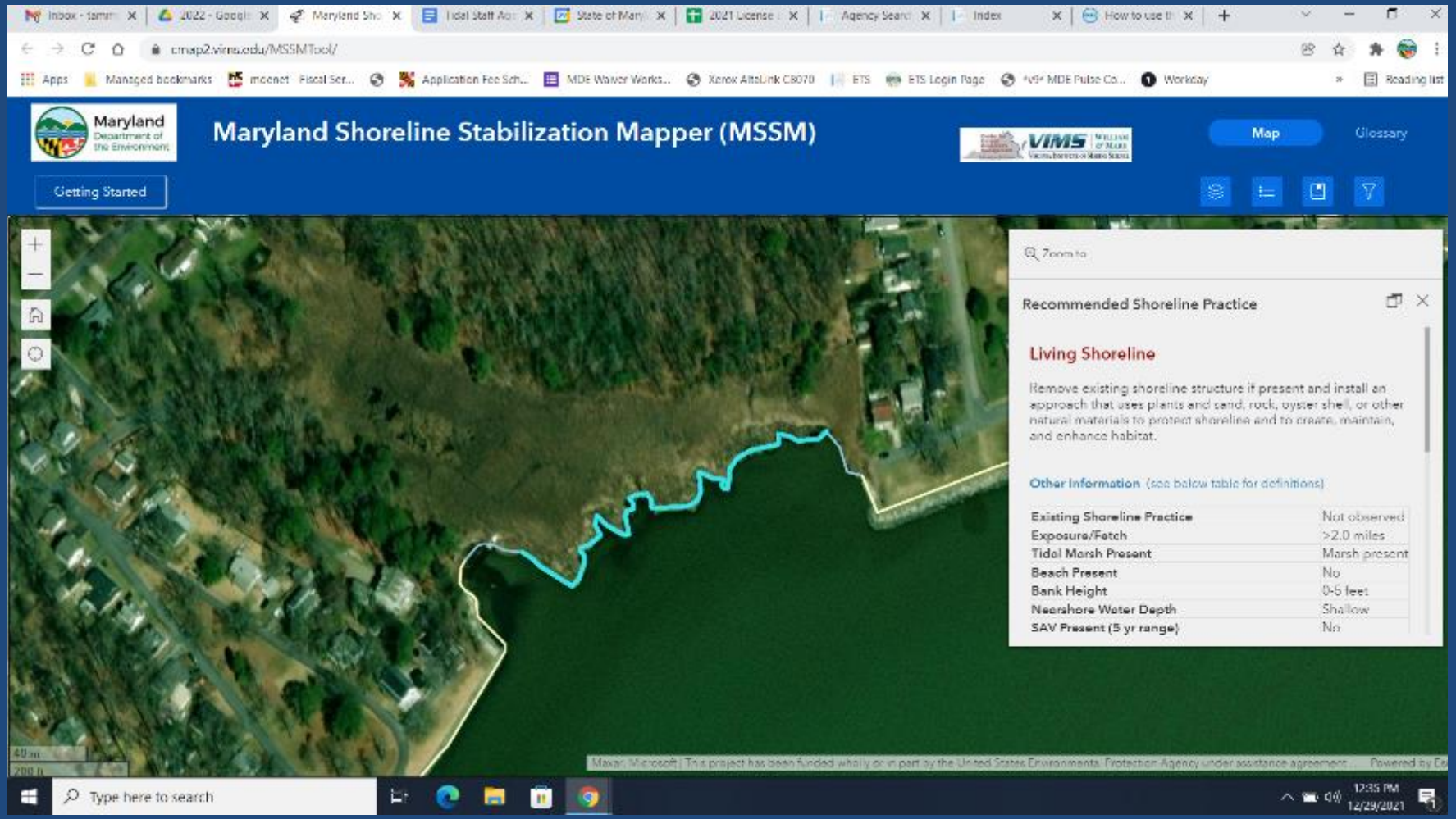
Previous maps – fetch based



Map showing Multiple Shore Recommendations



Suitable for living shoreline



Restoration Guidance for Streams with Adjacent Wetlands

New guidance funded by EPA grant for stream with adjacent wetlands – end of 2021 in Upper Coastal Plain, updated by end of 2023

Second phase for Piedmont and Lower Coastal Plain (Blackwater streams) to be completed by end of 2023.

Work includes assessment based on Key Wildlife Habitat types

New guidance with recommended BMPs for construction and standards

Presentations scheduled for December 2023 JE, January IRT, and December CBP Stream Health Work Group

Restoration Guidance cont.

Tools will include:

- **Assessment form auto-populated from delineation form**
- **Self-training modules**
- **Updated web page for easier access**

Other training anticipated for next year

Stream Restoration and Wetlands

Controversial with complaints about delays and tree loss

MDE participated in the following Chesapeake Bay Program Efforts:

- **Ecosystem Crediting Approach and improved Wetland Gain Accounting - draft being written**
- **Scientific and Technical Advisory Committee Work Shop –**

"The State of the Science and Practice of Stream Restoration in the Chesapeake: Lessons Learned to Inform Better Implementation, Assessment and Outcomes"

- **Questionnaire/Survey of Stream Restoration Practices and Issues**

Stream Restoration and Wetlands cont.

Ongoing study for legislation passed in 2022

Requires MDE to produce a study on ecological restoration and permitting by June 2024

To evaluate: **Existing laws, regulation, permit process**

Opportunities for public comment

Definition of "ecological restoration"

Separate permit process for ecological restoration projects

Holistic permit review

Additional staff and resources

Stream Restoration and Wetlands cont.

Ongoing study for legislation passed in 2022

Currently focusing on:

annotated bibliography

other States

sampling data

Draft definition:

Activities undertaken with the goal of recovering, re-establishing or enhancing a degraded, damaged, or destroyed ecosystem through:

- **a) improvements to physical, chemical, or biological characteristics or processes;**
- **b) returning natural or historic functions or services; or**
- **c) protecting or improving resiliency.**

Assessments and Monitoring

Stream Sampling Project

Summer interns field project

Visited 26 sites to compare results with submitted monitoring reports

Rapid visual observations largely matched information in monitoring reports

Standardized approach recommended

Visit older sites

Visit under normal conditions

Assessments and Monitoring

Stream Sampling Project

•March –November 2023 at selected stream restoration projects. Plan on continuing effort in 2024.

In-depth statistical analysis is getting underway

8 reaches, with measurements taken upstream, in restored section, and downstream

Measured:

Temperature

Conductivity

DO Salinity

Benthics (subset of sites)

pH

Turbidity

Assessments and Monitoring

Ecological Integrity Assessment for Restoration Guidance

KWH – based on plant communities-includes strarta, % coverage; invasive species; FQAI.
Can translate to HGM.
Includes simple stream assessment e.g. degrading/aggrading; can use other formal metrics needed for channel work (BEHI)
Includes other habitat features

Part of Team working with U.S. Army Corps of Engineers

- **Regulatory Wetland assessment (MDWAM). Attempting to be consistent where appropriate with Ecological Integrity Assessment**
- **Stream Mitigation Calculator. Focus on riparian portion of assessment.**

Assessments and Monitoring cont.

Completed the following projects with a Chesapeake Conservation and Climate Corps members

- Habitat Effectiveness of Shoreline Projects – fish surveys at living shoreline and structural practices
  - Higher numbers at hardened shorelines (schooling)
  - Greater diversity at natural and living shorelines
- Upgrades to Database to track monitoring reports
- Follow up and receipt of monitoring reports for living shoreline projects
- New maps for early season SAV

In partnership with Watershed Protection, Restoration, and Planning Program

- Recommended verification for structures at stream restoration sites
- Improved record keeping; retaining plans; finding information

Other Activities

CCCC work for 2023-24

- Create a notification and tracking system for tidal wetlands mitigation projects
- Compile and create an informational outreach product(s) for property owners that identify funding and incentive programs for living shoreline projects
- Understand how having a living shoreline present in someone's property might impact their home property values. How do living shorelines compare to hardened structures in the magnitude and direction of the effect on property values?
- Evaluate living shoreline projects for providing climate resiliency to underserved communities

Other Activities

Supervisors, “Stream team,” and other staff attended National Stream Restoration Conference

Offered suggested edits to draft monitoring protocols for “dynamic alluvial valleys”

Working with Maryland Stream Restoration Association on educational material for public

Links:

Shoreline Mapping Tool

https://cmap22.vims.edu/MSSMTool/

Restoration guidance

https://mde.maryland.gov/programs/water/WetlandsandWaterways/Pages/Stream-Wetland_NewGuidance.aspx

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