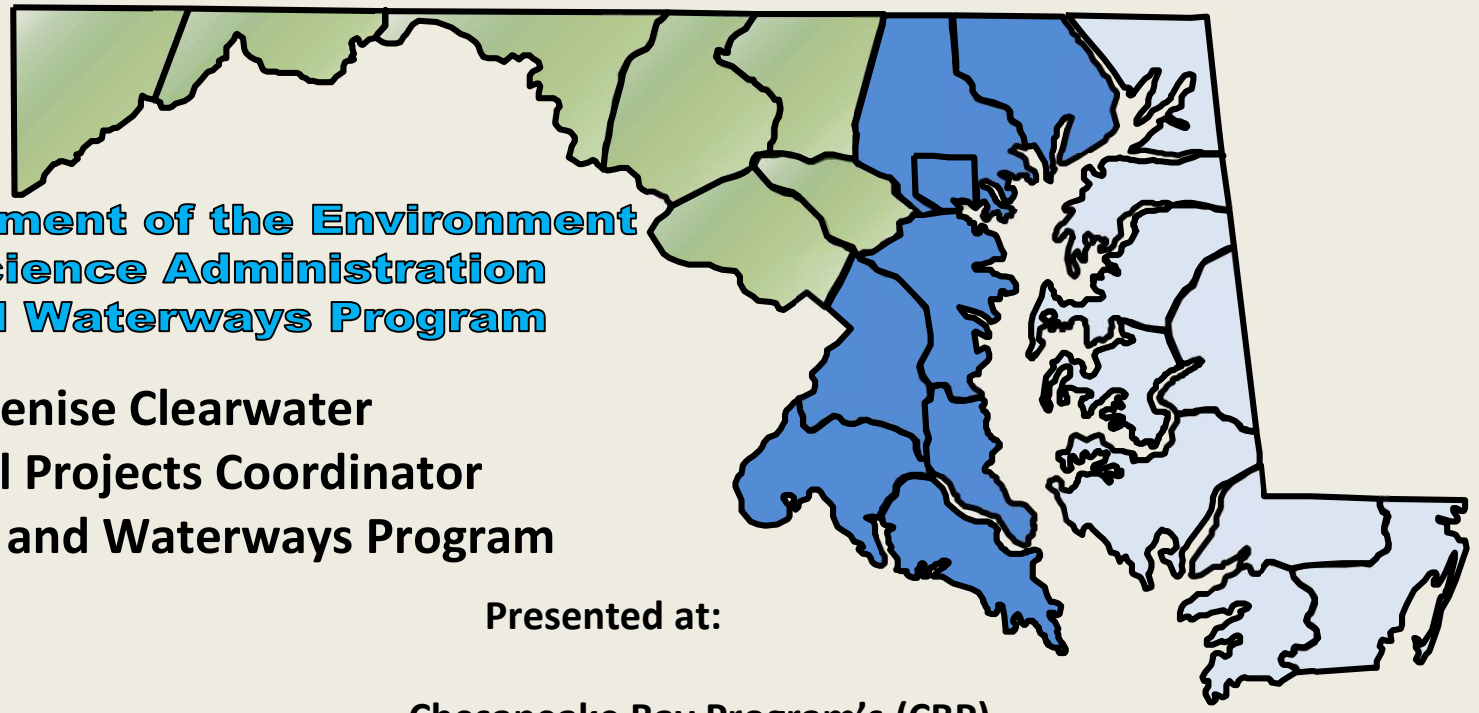
Maryland
Department of
the Environment

Regulatory Permitting and Policy for Stream Restoration in Maryland



Maryland Department of the Environment
Water and Science Administration
Wetlands and Waterways Program

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Presented at:

Chesapeake Bay Program's (CBP)
Scientific and Technical Advisory Committee (STAC) Workshop

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

March 21-23, 2022

MDE is State Agency Implementing:

- **Waterways and Floodplain (1933)**
- **Tidal Wetlands (1970)**
- **Nontidal Wetlands (1989)**

Clean Water Act for Waters of the United States (Section 401 Water Quality Certification for Discharges from Federal permits/licenses)

Coastal Zone Management Act – Federal actions in Coastal Zone (Consistency with State Coastal Zone Management Program)

WATERWAY CONSTRUCTION STATUTE OF 1933

- Recognizes that man-made changes to a waterway modifies its course, current or cross-section
- Requires authorization for activities in a nontidal waterway or its 100-year floodplain
- Prevents flooding on upstream/downstream properties
- Maintains fish habitat and migration, and protects waterway from erosion

Waterway Construction Act
- Multiple Goals

Best Interests of State

- Harm to State Scenic and Wild River
- Blockage to fish passage
- Whether failure of new impoundment would likely result in loss of life or high value property
- Aquatic or terrestrial habitat and related flora and fauna
- Increase risk of flooding to other property owners

NONTIDAL WETLANDS PROTECTION ACT OF 1989

- Regulates any alteration of a nontidal wetland including discharge of material, excavation, manipulation of water levels or vegetation, or conversion

- Regulates a 25-foot nontidal wetland buffer which is expanded to a 100-feet for designated Nontidal Wetlands of Special State Concern

- Declares a goal of “no net loss” of wetland acreage and function and to strive for a gain over time

- Review process requires project need, alternatives analysis, avoidance and minimization of impacts, and mitigation for necessary and unavoidable impacts

Why are Streams Being Restored?

- Streams are restored for multiple reasons, such as: habitat, water quality, prevention of erosion, recreation; compensation for authorized losses
- States in the Chesapeake Bay watershed must take measures to reduce nutrients and sediments into Chesapeake Bay; otherwise known as Total Maximum Daily Load (TMDL)
- Stream restoration can receive credits for reducing nutrient and sediment contributions to Chesapeake Bay
- MS-4 Credit has led to increase in numbers of stream restoration projects

Agency Response Request for Timely Review

No difference in Regulation for Restoration vs. Other Projects

Impacts Have Generally Been Considered Temporary

Attempt to Issue in 90 Days

Dedicated staff

Acknowledgment of WIP information

Limited Follow Up by MDE

Stream Restoration Types

- Natural channel design, Regenerative Stormwater Conveyances (RSCs), Beaver dam analogs, legacy sediment removal all have been used in Maryland
- Most common types are natural channel design, with channel realignment and base flow channel, followed by RSC
- Type may vary by jurisdiction
- Some excavations of floodplain are extensive, removing 2-3 feet of material

Beaver Dam Analog

Photo by MDE

Legacy Sediment Removal

Photo by MDE

Regenerative Stormwater Conveyance

Photo by MDE

Natural Channel Design

Photo by MDE

Issues with Stream Restoration

Stream restoration can be controversial, with complaints such as:

- **Regulatory process take too long**
- **Too many trees are lost**
- **Other resource tradeoffs**
- **Issues of increased flooding**
- **Potential new water quality problems**
- **Undesirable alterations of existing wetlands**
- **Increase in invasive species**

Project Outcomes

Studies show mixed results

Depending on the design and site location, any project type has the risk of resource tradeoff considerations and unintended consequences

Recommended Post-Restoration Communities

- With exceptions, MDE generally does not favor restoration to pre-colonial conditions as the sole justification for a restoration project
- Not sustainable in MD's highly altered landscapes, depending upon planned community type and design
- Have designated Key Wildlife Habitat Types under MD Wildlife Action Plans which are most valued NOW
- Most nontidal floodplains/wetlands recommended to be forested. Multi-thread channels are not excluded, but dominant community should remain forested
- In urban areas, riparian forest may be majority of remaining forest

Exceptions if the site is cropland or trees already dying

Examples of Required Information

- Projects goals and objectives
- Project narrative and justification
- Alternatives analysis
- Hydrologic and hydraulic analysis
- Notification/permission of adjacent property owners
- Water quality data

Examples of Required Information cont.

- Wetland determination/delineation
- Soil properties
- Sensitive species inventory
- Resource condition assessment
- Archeological/historic site inventory

Project Delays

- **Incomplete application**

The amount of detailed information required is usually based on:

- **Purpose, goals and objectives of project**
- **Extent of the proposed impact**
- **Permission to access through another property**
- **Condition and function of the resource**
- **Method of design and construction**
- **Other mandated considerations**
- **Delay in response to State's request for additional information**

Examples of Required Information cont.

- Approved erosion and sediment control plans
- Maintenance plan for operation of water control structure
- Post-construction monitoring and remediation plan

Measures to Address Issues and Reduce Conflicts

New Guidance and BMPs, focusing on Key Wildlife Habitats

New Checklist for Reducing Forest Loss

More follow up of Built Projects

Chesapeake Bay Program effort evaluating Ecosystem Crediting

Chesapeake Bay Program Effort for Maintaining Forests in Stream Restoration Projects

New Legislation for Study on Ecological Restoration Permitting

New Guidance

New guidance funded by EPA grant for stream wetland complexes – end of 2021

Applicable to Upper Coastal Plain. Similar Project underway for Piedmont and Lower Coastal Plain to be completed September 2023.

Work includes assessment based on Key Wildlife Habitat types

New guidance with recommended BMPs for construction and standards

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

New Guidance cont.

Ecological Integrity Assessment for Restoration Guidance

KWH – based on plant communities-includes strata, % 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

Updated checklist since 2021 for Riparian Areas

Requires additional information for forest stand delineation and identification of larger trees

Identification of trees to be removed

Additional consideration of sensitive areas

Limits on road widths

Description of minimization of impacts and functional uplift

Monitoring requirement

Aquatic life movement

https://mde.maryland.gov/programs/water/WetlandsandWaterways/PermitsandApplications/Pages/nontidal_permits.aspx

New 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

Other Efforts

Additional repeated sampling by MDE at selected sites

Additional review of monitoring reports and follow up

QUESTIONS?

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