



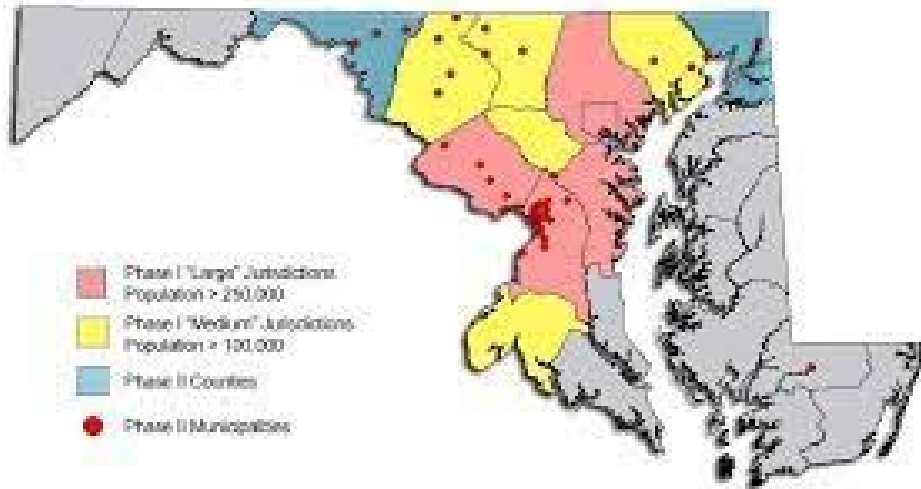
Maryland
Department of
the Environment

Stream Restoration Opportunities and Challenges

Chesapeake Bay Commission
Maryland Delegation
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Lee Currey
Director, Water and Science Administration
Maryland Department of the Environment

NPDES Phase I & II Jurisdictions



“MDE encourages and has incentivized comprehensive approaches to watershed restoration”

“Determining what, where, and how many practices are implemented should be determined through a comprehensive watershed planning effort that utilizes an adaptive management framework”

TMDL Stormwater Implementation Resources

This webpage provides a set of technical resources for Maryland jurisdictions developing Stormwater WLA Implementation Plans. The guidance documents on this page were developed by MDE's Water and Science Administration and are recommendations only.

- General Guidance
- Nutrients and Sediment TMDL Guidance
- PCBs TMDL Guidance
- Bacteria TMDL Guidance
- Mercury TMDL Guidance
- Trash TMDL Guidance
- Municipal Separate Storm Sewer System (MS4) Monitoring Guidance
- Glossary

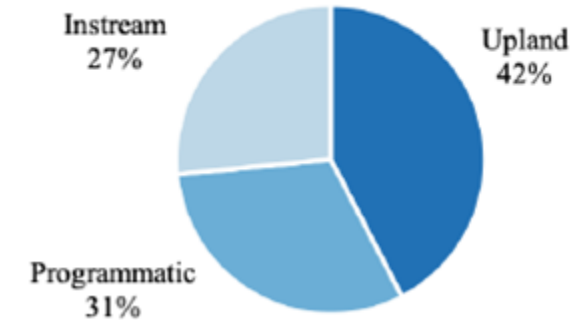


Figure 1: Completed BMP Implementation by Category during the Permit Term



Restoration Statistics

Calendar Year	Restoration Permits Issued	% issued in 90 days	Total stream length (FT)	Average stream length (FT)
2014	78	39%	63,456	765
2015	98	26%	70,826	712
2016	92	33%	64,418	619
2017	129	82%	226,347	1754
2018	113	88%	213,584	2202
2019	107	78%	278,982	3531
2020	57	80%	105,255	1986
2021	81	84%	114,348	2789
2022	78	91%	62,611	1565

MDE Exercised discretion to decrease turn around times

MDE does not allow restoration projects to be undertaken in a stream unless there is evidence of degradation



Stream Restoration Goals and objectives

The goals and objectives for any stream restoration project vary. The following list of potential goals and objectives illustrates the many possible goals for stream restoration projects.

1. Habitat improvement for fish
2. Preventing streambank erosion (and having sediment entering the water)
3. Restoring hydrology
4. Reconnecting the stream to its floodplain and adjacent wetland
5. Slowing the procession of head-cutting in a watershed to protect upland areas and to reduce sediment and nutrient delivery downstream
6. Reducing the rates of lateral migration of the stream
7. Narrowing an overly wide channel to provide a better ratio for aquatic life of depth to width
8. Improving water quality
9. Removing nonnative riparian vegetation and replacing it with more desirable species
10. Maintaining riparian forest buffers as appropriate
11. Re-establishing a sinuous channel from a channelized reach

Consider other co-benefits that matter to communities

- Reduce risk of flooding for downstream communities
- Recreational opportunities
- stewardship
- Property value. After a period of time



Stream Restoration Permitting Observations

- MS4 permits are a significant driver
- MDE took steps to accelerate restoration by reducing permitting time
- There are a lot of negative antidotal statements
- Data
 - 833 permitted project since 2014
 - Only a small number of projects have become “problems”
 - Only a small number of projects have slowed down (less than 1%)
- “Problems” – tend to be public opposition to certain projects
 - Tree removal – riparian buffers
 - Construction impacts
- Takes time to see results. Some research indicates 5 years
- Other important co-benefits that matter to communities
 - Reduce risk of flooding for downstream communities
 - Recreational opportunities
 - stewardship
 - Property value. After a period of time
- EJ not yet built into the permitting process (MS4 and waterway construction)



Closing Thoughts

Goals

- Holistic watershed approach
- Environmental Justice
- Science based practices
- Communities to be supportive
- Co-benefits

Opportunities

- TMDL implementation plans
 - Remove silos
- Much more watershed data available today to drive planning decisions
- Target funds for co-benefits
- Enhance community engagement for certain projects
- Guidance



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Questions?

Thank you for your time today!
