



Web Forum: Strategies for Addressing Impaired Waters and Achieving Project Delivery, Regulatory Compliance, and Watershed Management Goals

Questions and Answers

May 10, 2019

MassDOT Impaired Waters Program

Presented by Henry Barbaro, Stormwater Program Supervisor, Highway Division, Massachusetts Department of Transportation (MassDOT)

Question: Can you please provide the reference for the "10% impervious cover does not contribute to water body impairment"?

Answer:

- U.S. EPA, 2006. Storm Water TMDL Implementation Support Manual. U.S. EPA Region 1 ENSR, (pp.1-6, 1-7) Corporation. March 2006. Link is [here](#).
- A lot of the information related to the 10% IC threshold is based on research performed by the Center for Watershed Protection which is [here](#).
- CWP, Center for Watershed Protection. 2003. Impacts of Impervious Cover on Aquatic Systems. Watershed Protection Research Monograph No. 1. Ellicott, Md. Link is [here](#).

Question: Did they make the required reductions in the Indian Lake Impaired Waters Project in 2018?

Answer: We came in shy of what the TMDL required, a maximum extent practicable (MEP) measure. As a programmed, larger-scale project, as opposed to a retrofit, we can implement additional BMPs. We just did the best we could, given the limited right of way and the scale of the project. This was a resurfacing project of an interstate, and we added drainage components. That is the problem with retrofit projects—they are not as holistic as a full-depth reconstruction or something with a larger scope.

Question: Do swales with check dams cause safety issues? It seems like they would be a safety issue and not be approved by the Federal Highway Administration (FHWA).

Answer: Yes. We ran into this with our districts and operations people. Some of the retrofitted BMPs we were designing were made of rock and tall and in the "clear zone", a flat, safe area for errant vehicles to recover. We had some pushback on that. We are finalizing a clear zone directive for BMPs. For example, the BMPs should be earthen instead of rock, and a 12:1 slope instead of a 3:1 slope, so it is less likely to be an obstruction or ramp, as well as a certain dewatering time. FHWA has not pushed back and did not object to designs; only the districts. Where there is no guardrail, you have to be more careful.

Question: For Henry: if a given watershed's goal is to reduce impervious surfaces down to below 10 percent, and stormwater BMPs are employed to address the impairment, how do you equate a BMP's benefit to impervious cover reduction?

Answer: Our goal is to infiltrate, disconnect, and simulate pre-development conditions. So, instead of having this impervious surface that conveys and carries contaminants/velocities/volumes, that it be infiltrated instead. Another component would be the assumptions and modeling involved. If you infiltrate a certain year of return storm, then you can get a certain phosphorus removal credit or presumption. It really is a modeled credit relative to the amount of pervious cover that has been reduced. It is parallel to phosphorus reduced.

Question: MassDOT has advertised retrofit construction projects for more than 250 structural treatment measures spending roughly \$27.5 million in construction and \$11.5 million in assessment and design. What is the corresponding annual reduction of phosphorus loading (percentage reduction evident) that has resulted from this \$39 million expenditure?

Answer: \$27.5 million (rounded to \$28 million) was for construction and \$11.5 million (rounded to \$12 million) was for assessment and design. Based on MassDOT's most recent NPDES Annual Report (just submitted May 1, 2019), the overall program has achieved the following pollutant removals:

- 688 acres of effective IC reduction
- 705 pounds per year of total phosphorus

This is an annual return on the \$39 million investment.

VDOT's Chesapeake Bay TMDL Action Plan Implementation

Presented by Tracey Harmon, VDOT TMDL Program Manager, Virginia Department of Transportation

Question: Does VDOT have a written agreement with U.S. EPA to allow off-right of way practices, such as shoreline stabilization, to qualify for VDOT NPDES permit compliance? Or is an allowance for off-right of way treatment practices written directly into the permit?

Answer: We operate under two different permits. The shoreline work is for the TMDL condition of the permit. The NPDES for construction activities does not allow that type of activity to offset water quality treatment for construction projects.

Question: Have the TMDL projects generated new interest for these types of BMPs within VDOT or outside of VDOT?

Answer: Yes, to both, and we have been trying to market our program that way to help generate more opportunities for TMDL projects. We have been approached often by our maintenance engineers for opportunities to reduce their mowing operations, so we are looking for compatible areas where we can plant trees or to allow natural succession to take place and cut back on mowing. We have also been approached by several localities and nonprofits to partner with them for opportunities. Overall, we are getting favorable and positive comments and reviews on our program. It is a different look for a transportation agency, and we are trying to run with that.

TMDLS and Cooperative Implementation Agreements

Presented by Con Kontaxis, Watershed Manager, California Department of Transportation (Caltrans)

Question: How has this program been received by your local partners and stakeholders?

Answer: It has been received quite well. The Los Angeles Region took the ball and ran with it back in 2015. One project is complete, and three other projects will be complete in the next couple of months. It has been really successful for improving water quality in the region being the high void underground infiltration basins. It has also been very good for the community, meeting Regional Water Board requirements and regional permits. Caltrans is getting their compliance units on a statewide basis. It has been a win-win scenario for everyone involved.

Question: When this program is being used, does it seem to be a more effective means for meeting their TMDL requirements?

Answer: Yes and no. This program has only been in place for five years. Our permit is up for renewal right now, so we are now analyzing how well it is working. There have been a few hiccups when it comes to the compliance units. With the CIA program, it has been very beneficial. It seems that this method would create more of a multi-benefit type of project. One project treats multiple TMDLs and it is just a minimal effect because most of these projects are underneath parks or under ball fields, so, once it is complete, you do not even know it is there, and yet it is treating 100 percent of the design flow.

General Questions

Answered by Henry Con Kontaxis (Caltrans), Tracey Harmon (VDOT), and Henry Barbaro (MassDOT)

Question: Do any of the DOTs have MEP provisions in their TMDL compliance requirements? If so, can you elaborate on those MEP provisions.

Answer by Con: Our first permit had MEP, but the new permit dropped it. MEP is not a standard with TMDLs. With regular projects, the State Water Board has agreed that if we cannot treat 100 percent and we can justify it, then we [UNCLEAR].

Answer by Tracey: Likewise, our current permit does not reference MEP because of the remand rule and the directive that the conditions be specific, measurable, and quantifiable.

Question: For the states giving presentations, how many have a state agency delegated by the U.S. EPA to administer their NPDES program?

Answer by Henry: Massachusetts is not yet a delegated state yet; there is movement afoot to have it delegated.

Answer by Tracey: Virginia is a delegated state; our agency is the Department of Environmental Quality.