



Mattawoman Watershed Society

Protecting and preserving Mattawoman Creek for the enjoyment of all.

and

AMP Creeks Council

Clean Water Action

Chapman Forest Foundation

Maryland BASS Nation

Sierra Club, Southern MD Group

Mr. Brian Clevenger
Maryland Department of the Environment via email: bclevenger@mde.state.md.us
Sediment, Stormwater and Dam Safety Program
1800 Washington Boulevard
Baltimore, MD 21230

June 27, 2013

Re: Draft MS4 Permit No. 11-DP-3314 / MD0068284 for Prince George's County, MD

Dear Mr. Clevenger:

The undersigned organizations use waterways to which Prince George's County discharges stormwater. We employ these waterways for education, research, and member recruitment, and have members and supporters who use these waters for recreation, aesthetic appreciation, and other purposes. We therefore have a direct interest in the subject Municipal Separate Storm Sewer System ("MS4") draft permit. We also have interest because the draft permit will serve as a template for other pending MS4 permits in which we also have water-related activities.

While we acknowledge and appreciate efforts by the Maryland Department of the Environment ("MDE") to strengthen the permit, we find it difficult to see how the present draft will lead to timely and enforceable reductions in regulated loads to impaired waters, or will protect and restore Water Quality Standards ("WQS"), as required by the Clean Water Act ("CWA").

Some of us have signed on to separate comments to be submitted to MDE. In the comments presented here (as well as citations, which we include by reference), we use Mattawoman Creek as a specific example because we have particular interests in this river and estuary: (i) Mattawoman Creek is a central concern of the Mattawoman Watershed Society; (ii) it is the focus of a special campaign by the Sierra Club, and falls within the purview of the its Southern Maryland Group; (iii) it is one of three waterways of special concern to AMP Creeks Council, along with the solely Prince George's waters of Accokeek and Piscataway Creeks; (iv) it has long been a concern of the Chapman Forest Foundation, as two-thirds of Chapman State Park drain to the Mattawoman, and a key tributary supporting anadromous fish spawning flows through the park; (v) it is considered one best fish nurseries in the Chesapeake Bay, a central issue of Clean Water Action; (vi) it is the launch site of competitive tournaments sponsored by Maryland Bass Nation, is the location where

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tournament-caught bass are released after weighing, is central to the Potomac River's largemouth bass fishery, and is a valuable and highly regarded bass fishery in its own right.

Mattawoman is an appropriate lens through which to view the draft permit because about 25% of the Mattawoman watershed falls within Prince George's county, and because the subject permit may serve as a template for the Charles County MS4 permit, where the remainder of the watershed resides.

Background As a permit under the National Pollution Discharge Elimination System ("NPDES"), the MS4 permit is authorized to provide a specific means for enforcing Total Maximum Daily Loads ("TMDLs") for impaired waterways, and for ensuring that WQSs are maintained or restored. The components [EPA, 2012] of Maryland WQSs pertinent to this permit include: (i) designated uses, (ii) water quality criteria, and (iii) antidegradation policy.

Prince Georges County was first issued an MS4 permit in 1993, a time when Mattawoman was considered to be "near to ideal conditions" by the Maryland Department of Natural Resources ("DNR") Fisheries Service. [DNR, 1992] Subsequently, the estuary was designated on the 303(d) list as impaired for excess nutrients in 1996, and the nontidal river for biological impairment in 2002. A Total Maximum Daily Load ("TMDL") for nitrogen and phosphorus was approved for the estuary in 2005. [MDE, 2005] By 2010, DNR concluded that the biological integrity of Mattawoman had degraded significantly, concluding that "[p]lanned levels of development...should be reconsidered in light of the extent of declines detected in the fish community." [DNR, 2010] These concerns were reiterated and amplified in 2012 by an interagency Task Force—that included MDE representation—when it concluded that Mattawoman was at a "tipping point" due to the degree of impervious cover in its watershed, and to the *response* to this urbanization in the form of a declining fish community. Clearly, an erosion of the designated use of "protection of aquatic life and wildlife" [Code of Maryland ("COMAR") 26.08.02.07] has occurred, and it is beyond dispute that stormwater has played a significant role in this loss.

Mattawoman Creek serves as a useful test case for examining the potential effectiveness of the draft permit because urban stormwater loads of nutrients are to be reduced by 54% according to the TMDL approved in 2005. The impaired nontidal river is also subject to antidegradation regulations as they pertain to Tier II stream segments, one of which forms part of the border between Charles and Prince George's Counties. Finally, as noted above and discussed below, WQSs for Mattawoman are demonstrably in decline, and this decline is attributable to stormwater.

In spite of the approved TMDL, to date MDE has been unsuccessful in incorporating TMDL considerations into wetland permits or Section 401 Water Quality Certifications. For example, TMDLs were not considered when MDE issued a wetland permit and Water Quality Certification ("WQC") for the Maryland Airport, despite strong warnings from federal agencies that, for example, this project:

"would cause significant long- term adverse effects to Mattawoman Creek"
[NPS, 2001]

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and:

“[w]e are also concerned about cumulative impacts this proposal will have on wetlands and instream habitat throughout the local region” [NMFS, 2001]

More recently, MDE issued a wetland permit and WQC for Waldorf Crossing with no apparent regard for the possibility that new discharges—using a stormwater treatments recognized as obsolete by the Stormwater Management Act of 2007—would increase nutrient loads.

The reluctance of MDE to address TMDLs in wetland permits or Water Quality Certifications heightens the importance of this MS4 permit. Furthermore, the Prince George’s permit will serve as a template for other jurisdictions. Hence it should be crafted with great specificity to avoid the propensity of some jurisdictions to avoid complying with the spirit of laws and regulations. For example, Frederick County proposes to charge one penny per household to meet the letter of the law requiring a stormwater utility fee under Maryland’s Watershed Restoration and Protection Act of 2013. This fee provides the key source of revenue that is required to meet the state’s obligations to reduce pollution to the Chesapeake Bay under its Watershed Implementation Plan. Another example is Charles County’s use of the state’s Sustainable Growth and Agricultural Preservation Act of 2012 (the “septics bill”) to achieve the exact opposite of the Act’s goals by (i) designating a large fraction of the county as Tier 3, contrary to the intent of the law to preserve areas that are primarily forested or agricultural; (ii) increasing the number of units qualifying as a minor subdivision, thus simultaneously increasing the intensity of sprawl development by 40% while avoiding adequate public facilities requirements for the increased demands on public infrastructure; (iii) resetting the date at which a property is considered to have been subdivided, thereby allowing previously subdivided parcels to be subdivided again.

Given this background, it is clear that meeting requirements under the CWA to attain TMDLs and to ensure WQSs requires that the language and certain specifications in the permit be made much more concrete, with specific numerical and enforceable targets for load reductions, and a specific time-frame for meeting these targets.

TMDL compliance For reasons noted above, the public expects the MS4 permit to redress past inattention to TMDLs. More importantly, a reduction in loads to impaired waterways that are conveyed by regulated stormwater facilities is *required* for NPDES permits under the CWA. According to Mattawoman’s TMDL, urban stormwater loads, computed on the basis of average annual flow, and included in the regulated Waste Load Allocation, are to be reduced by 54% from the baseline loads.

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It is difficult to see how the draft MS4 permit could bring about such substantial reductions in any timely fashion. Quantitative regard for the TMDL is apparently addressed through Watershed Assessments (Section 4.E.1) and Restoration Plans (Section 4.E.2). In Section 4.E.1.b, the county is given *five years* to produce a Watershed Assessment which shall

“Specify pollutant load reduction benchmarks and deadlines that demonstrate progress toward meeting all applicable stormwater WLAs.”

This appears to be inconsistent with the stronger requirements in Section 4.E.2.b.i, which effectively requires that the same planning goals be achieved within one year, not five. In particular, when describing an aspect of the Restoration Plan, Section 4.E.2.b.i states that within *one year* of issuing the permit, the county shall:

“Include the final date for meeting applicable WLAs and a detailed schedule for implementing all structural and nonstructural water quality improvement projects, enhanced stormwater management programs, and alternative stormwater control initiatives necessary for meeting applicable WLAs.”

In the 1st example, the Restoration Plan merely requires “progress.” In the 2nd example, a final date for actually meeting WLA is required. The conflicted language between the Assessment and the Plan makes it unclear if a WLA needs to be met, or if instead an undefined and unspecified amount of “progress” is sufficient. The permit should resolve this ambiguity in favor of the Restoration Plan.

However, even the Restoration Plan, and permit at large, fail to establish an effective framework for enforcement. Consider the Restoration Plan: it is the county that determines the date to meet the WLA, and it is the county that produces the schedule. Furthermore, no minimum criteria are established, nor is any mechanism included for determining if county-set milestones, load reductions, and timelines are adequate, nor is there a mechanism established for MDE to set these parameters if they are inadequate. What recourse does MDE, or the public, have if the date or schedule is found unsatisfactory?

In particular, Part III of the draft permit states that:

“Compliance with all the conditions contained in PARTs IV through VII of this permit shall constitute compliance with §402(p)(3)(B)(iii) of the CWA and adequate progress toward compliance with Maryland's receiving water quality standards and any EPA approved stormwater WLAs for this permit term.”

Yet Parts IV through VII of the draft permit require only that administrative measures (such as assessments, plans, reports, analyses, evaluations, monitoring, and other administrative measures) be filed in a timely manner. Nowhere are specific load reductions required.

Given the latitude MDE has allowed Charles County in the past for failing to meet its MS4 goal of retrofitting 10% of its untreated impervious surface per five-year permit cycle, what

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assurance does the public have that MDE can, or will, enforce compliance by Prince George's County, or any county following this template?

Furthermore, after producing within one year "a detailed schedule" that will produce the means for eventually "meeting applicable WLAs," what is expected for the remaining four-year period of the permit cycle? It is reasonable to expect some measures to be undertaken before the permit is renewed, but no process is discussed in this permit for ensuring this will be the case.

Water Quality Standards

Section 303(a) of the CWA makes water quality standards the "starting point" for CWA water quality requirements. In particular NDPEs permits are intended to attain or preserve WQSs. *Without concrete timelines and enforceable load reductions, the draft MS4 permit does meet legal requirements to maintain or to redress declining WQSs.* The correctness of this assertion is brought into stark focus by considering that, in the case of Mattawoman Creek, WQSs have actually *declined* since Prince George's County was first issued an MS4 permit in 1993, and Charles County in 1997.

As noted above, WQSs comprise, in part, (i) designated uses, (ii) water quality criteria, and (iii) antidegradation policy.

Designated uses

All surface waters in Maryland have a designated use "for water contact recreation, fishing, and protection of aquatic life and wildlife" [Code of Maryland ("COMAR") 26.08.02.07]. In addition, the estuary includes Use II designated uses for "Seasonal Migratory Fish Spawning and Nursery;" "Open-Water Fish and Shellfish;" "Aquatic Life and Wildlife;" and "Seasonal Shallow-Water Submerged Aquatic Vegetation."

During the 1st decade of the 21st century, the abundance and species-richness of the estuarine fish community in Mattawoman began to decline alarmingly. [DNR, 2010; DNR, 2011; Task Force; 2012]. These dramatic losses represent a decline in WQSs through loss or degradation of the designated uses for Open-Water Fish and Shellfish and for Aquatic Life and Wildlife.

Designated uses in the nontidal Mattawoman river are also declining, as exemplified by a dramatic drop in usage by anadromous fish, a particularly valued form of aquatic life. Monitoring of the spawning runs in the nontidal river in 1971, 1991, 1997-1999, and 2008-2012 tell that reaches of river above head of tide have experienced a marked decline in upstream usage by spawning River Herring between 1999 and 2008. [O'Dell, 1971; DNR, 2010b; MWS, 2000; DNR, 2011; Task Force, 2012] Egg densities for sampling sites several miles above head of tide have fallen by factors approaching 100, far exceeding the decline at head of tide. Clearly, the designated use of aquatic life and fishable waters is not being maintained in this Use I water.

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A link between the loss of anadromous fish in the nontidal river and stormwater is established through measurements of the electrical conductivity of stream water, which informs on urban pollution, especially road salts. Until about 1989, conductivity declined as one progressed upstream from head-of-tide, as expected. [DNR, 2010; 2011] However, by 1998-1999, the gradient had reversed direction [MWS, 1999] and appears to be increasing [DNR, 2010; 2011]. The sensitivity of anadromous fish to conductivity is indicated by behavior in 2009, a year of especially heavy snowfall that fell during spawning season. Spawning at upstream sites in the nontidal river all but ceased, correlated with large excursions in conductivity monitored at the gage on the non-tidal river maintained the U.S. Geological Survey (“USGS”). [DNR, 2010]

Water quality criteria

Dissolved oxygen: Two continuous monitoring stations have operated in Mattawoman’s tidal freshwater estuary (ConMon, 2012). These record data every 15 minutes over a season lasting from April through October, with end and start dates depending on conditions. The mid-estuary monitor has been operating since 2009 (at Indian Head), and the lower estuary since 2004 (at Smallwood State Park). The estuary has designated-use subcategories appropriate for Use II freshwater tidal waters,¹ with supporting water quality criteria for DO as given in COMAR 26.08.02.03-3. Comparing the criteria applicable to year-round DO levels with the monitoring data , we find that WQS have been violated for the three most recent years as summarized in Table 1.

Table 1 Hours not meeting DO WQS criteria that apply year round for tidal-fresh designated uses in Mattawoman Creek continuous monitoring stations.				
Station	Year	Hours < 5.5 mg/L (30 day running average)	Hours < 4 mg/L (7 day running average)	Hours <3.2 mg/L (instantaneous)
Mid-estuary	2010	384	0	21
	2011	813	0	113
	2012	501	0	55
Lower estuary	2010	880	736	742
	2011	301	120	115
	2012	0	0	4

The above table shows violations for DO at both stations in the estuary. Note that except for one entry, the *30-day average* criterion² was violated, for total times equivalent to up to 5 weeks in a given year, indicating that the problem is neither isolated nor incidental.

Acidity/alkalinity: The criterion for pH established by COMAR 26.08.02.03-3, which applies to both tidal and non-tidal waters, states that “[n]ormal pH values may not be less

¹ Tidal-Mattawoman designated uses for which DO criteria are listed in COMAR 26.08.02.03-3: Seasonal Migratory Fish Spawning and Nursery; Open-Water Fish and Shellfish; Seasonal Shallow-Water SAV.

² For each 15-minute time interval, a 30 day average was obtained by computing the mean DO over the preceding 30 days. When the average fell below the 5.5 mg/L criterion, 15 minutes were added to a sum keeping track of the total time below the criterion. Similar algorithms were applied to other criteria.

than 6.5 or greater than 8.5.” Table 2 shows numerous violations in the estuary for both these acidic and basic thresholds.

Table 2 Hours violating WQS criterion for pH in tidal estuary continuous monitoring stations			
Station	Year	Hours < 6.5 mg/L	Hours > 8.5 mg/L
Mid-estuary	2010	147	200
	2011	447	335
	2012	0	173
Lower estuary	2010	0	1489
	2011	171	669
	2012	0	166

Furthermore, in the nontidal river, the USGS gaging station that measured pH from October 2003 through June 2011 found that pH fell below the criterion of 6.5 for 30% of the days for which measurements were taken. [USGS, 2011]

Turbidity: The USGS gage also recorded that turbidity in the river exceeded the criterion for Use I water (150 NTU) for 2.7% of the days the gage was active.

Antidegradation: Maryland’s antidegradation regulations under Section 303 designate a number of stream reaches in Prince George’s county as Tier II streams, including a reach of the nontidal Mattawoman on the boundary between Prince George’s and Charles Counties. This stream reach no longer retains the assimilative capacity to absorb the pollution of stormwater discharges. The requirement to maintain Tier II waters is jeopardized if the MS4 permit does not provide enforceable means to reduce pollutants; as argued above, the present draft permit fails in this regard.

Furthermore, the permit should require that Tier II waters be monitored in such a way to detect improvements or degradations in pollutant loads.

Conclusion The draft MS4 permit requires significant strengthening if the waterways of Prince Georges County are to be better protected from the effects of stormwater. The scope is even wider, because the present draft sets a precedent for pending permits in other jurisdictions whereby permit compliance can be satisfied mainly by administrative filings, without any real assurance that regulated pollution loads will be reduced. Mattawoman Creek, which has been brought to the threshold of irreversible degradation by the effects of stormwater, serves an especially telling example of the consequences of weak permitting.

Respectfully submitted,

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