



Mattawoman Watershed Society

Protecting and preserving Mattawoman Creek for the enjoyment of all.

and

1000 Friends of Maryland

Maryland BASS Nation

AMP Creeks Council

Mason Springs Conservancy

Chapman Forest Foundation

Sierra Club, Maryland Chapter

Clean Water Action

Sierra Club, Southern MD Group

Mr. Brian Clevenger

September 25, 2014

Maryland Department of the Environment
Sediment, Stormwater and Dam Safety Program
1800 Washington Boulevard
Baltimore, MD 21230

via email: brian.clevenger@maryland.gov

Re: Draft MS4 Permit No. 11-DP-3322 / MD0068365 for Charles County, MD

Dear Mr. Clevenger:

The undersigned organizations use waterways to which Charles 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 also have members who are landowners with parcels adjacent to Mattawoman Creek and Nanjemoy Creek. We therefore have a direct interest in the subject Municipal Separate Storm Sewer System ("MS4") draft permit.

We acknowledge and appreciate efforts by the Maryland Department of the Environment ("MDE") to strengthen the permit over past permits. At the same time, because the permit is without quantitative standards and timetables, and other measures explained below, we find it difficult to see how the present draft permit 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").

In the comments presented here, 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 has been the focus of a special campaign by the Maryland chapter of the Sierra Club; (iii) it is one of three waterways of special concern to AMP Creeks Council along with 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 tournament-caught bass are

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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; (vii) it flows past land adjacent to the creek near head-of-tide owned by the Mason Spring Conservancy; (vii) its protection is a concern of 1000 Friends of Maryland, which has a history of working for the well-being of the greater county and the health of the county's aquatic resources and the Chesapeake Bay.

The Charles County draft permit is substantively identical to the MS4 permit issued to Prince George's County. The differences arise when specific water bodies are addressed (e.g. the Anacostia River) and through less extensive requirements for educational outreach and monitoring in Charles County.¹ Prince George's shares with Charles County the eight-digit watersheds of the upper tidal Potomac River, Mattawoman Creek, Zekiah Swamp, and lower Patuxent River. We augment the present comments by attaching those submitted by Earth Justice on the draft Prince Georges permit (Attachment A). We endorse the Earth Justice comments, and in particular the recommended changes to the permit language. We also include by reference all citations referenced herein.

Background As a permit under the National Pollution Discharge Elimination System ("NPDES"), the MS4 permit is authorized to provide specific means for ensuring that WQSs are maintained or restored, and for enforcing Total Maximum Daily Loads ("TMDLs") for impaired waterways through the enforcement of Waste Load Allocations ("WLAs") [40 C.F.R. §122.44(d)]. The components of Maryland WQSs pertinent to this permit include: (i) designated uses, (ii) water quality criteria, and (iii) antidegradation policy. [EPA, 2012]

The present draft permit represents Charles County's third MS4 permit, after the 1997 and 2002 permits. It is the first to include the entire county, which contains all or portions of ten of Maryland's 138 eight-digit watersheds. Of these ten, 70% are either listed as impaired on EPA's 303(d) list, or have an approved Total Maximum Daily load for any of a number of pollutants. Fully 60% have approved but unmet TMDLs. [MDE, 2014a]

While the entire county is covered in this permit, Mattawoman provides a critical lens through which to gage the effectiveness of the permit because previous permits applied to the so-called "development district," the area of which is predominantly in the Mattawoman watershed. Furthermore, Mattawoman necessarily must remain a focus of permit because:

- it absorbs most of the urban/suburban stormwater generated in Charles County;
- it is widely recognized for outstanding qualities that are currently experiencing degradation, including specific regulated WQSs;
- its tidal-freshwater estuary has an approved TMDL;
- its nontidal river is registered on the 303(d) list for biological impairment;
- its watershed contains most of the county's impervious surface lacking adequate stormwater controls.

¹ For example, the Prince Georges permit includes conditions relating to the trash TMDL for the Anacostia River; the Charles Permit requires fewer certification classes, fewer outfalls to be screened annually, and fewer storm events to be monitored per year.

In greater detail, urban stormwater has been known to be of concern for Mattawoman since the 1990 Charles County Comprehensive Plan designated most of its watershed a “development district”:

-The water body’s outstanding qualities were emphasized in a 1992 report where fisheries scientists summarized a comparative study of Chesapeake Bay estuaries by characterizing Mattawoman as having “near to ideal conditions,” and recommended it be “protected from overdevelopment.” [DNR, 1992]

-Subsequently, in 1996 the estuary was designated on the 303(d) list as impaired for excess nutrients and sediment. [MDE, 2005]

-In 1998, the Clean Water Action plan placed Mattawoman among only 17 of Maryland’s 138 eight-digit watersheds—and the only southern Maryland watershed—that “deserve special attention” for being both a “Selected Category 3” watershed of unusually high quality and “Category 1 Priority” watershed needing restoration. [CWAP, 1998]

-In 2002, the nontidal river was registered on the 303(d) list for biological impairment. [MDE, 2005] Two stressors are now identified, low pH and chlorides, which are attributable to stormwater. [MDE, 2014a]

-In the 2003 Mattawoman Creek Watershed Management Plan, the Army Corps characterized Mattawoman as a “significant natural resource” with “a high diversity of fish and wildlife,” but warned of “dramatic increases” in pollution loads based on calibrated calculations of stormwater, which would have “severe” biological repressions. [ACOE, 2003]

-In 2005, a Total Maximum Daily Load (“TMDL”) for nitrogen and phosphorus was approved for the estuary. [MDE, 2005]

-Also in 2005, a briefing by Maryland Fisheries Service concluded Mattawoman was “the best, most productive tributary to the Bay,” but, based on impervious surface projections, expressed concern for “development and deterioration of water quality.” [DNR, 2005]

-In 2010, the Maryland Fisheries Service reported that the biological integrity of the Mattawoman estuary had degraded significantly beginning around 2005, with alarming declines in fish abundance and the number of fish species. Surveys also found that usage of the nontidal river by anadromous fish had also dropped precipitously. The degradation was linked to impervious surface (i.e., stormwater). The report concluded 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 the Task Force 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. [Task Force, 2012]

As the above history establishes, during the duration of the first two MS4 permits (1997 to present), WQSs for Mattawoman have been increasingly violated despite the fact that the first two permits applied specifically to Charles County’s “development district” that covers most of the Mattawoman watershed. *The present draft is the first MS4 permit to be written after Mattawoman’s TMDL was approved 2005.* The TMDL contains an average-annual-flow wasteload allocation (WLA) that calls for reducing nitrogen loads from stormwater by 54% and stormwater loads of phosphorus by 47%. [MDE, 2005; p. 24] Hence it is past time

to set enforceable standards, to halt Mattawoman's decline, and to begin restoring what was until recently considered by fisheries scientist to be "the best, most productive tributary to the Chesapeake Bay."

The importance of strengthening the MS4 permit to protect waters of the state may also be understood through the lens of Charles County's reliance on state and federal authorities for environmental protection. For example, its Phase II Watershed Implementation Plan states:

"... [t]he best compliance approach appears to be pursuing compliance with all NPDES permit requirements, including load limits and MS4 permit language requiring coordination with the Bay TMDL, TMDL restoration plans and restoration of impervious surface..." [WIP, 2013; p.3]

It must also be emphasized that Charles County routinely defers environmental protection to the state or other agencies in its own permitting and land-use decisions. Recent examples include an approval by the Planning Commission for "Shad Crossing," a subdivision with impacts to streams, floodplain, wetlands, and Chesapeake Bay Critical Area buffer without any regard for environmental effects. Similarly, recent approval of Waldorf Station and its associated Western Parkway, a county highway, proceeded without concern for the extensive impacts to the county's Resource Protection Zone, 100 year floodplain, streams, and wetlands; county staff simply advised the Planning Commission of environmental review by state and federal permitting authorities. In addition, Charles County codifies reduced aquatic protection in its vast "development district," an area larger than Washington D.C. and the specific area covered by previous MS4 permits, where the county has intentionally established *reduced* wetland buffers by ordinance:

A. The [stream] buffer shall be expanded beyond the minimum buffer to account for nontidal wetlands adjacent to the stream as follows:

- (1) Within the development district, to include all lands 25 feet from the outer edge of nontidal wetlands adjacent to the stream channel.
- (2) Outside the development district, to include all lands measured from the edge of nontidal wetlands adjacent to the stream channel measuring 50 feet for intermittent streams or perennial streams of stream order one and two or 100 feet for perennial streams of stream order three and four. [Charles County Zoning Regulations, 272-172.A; emphasis added]

Water Quality Standards: the permit must address WQSs with specified pollution limits

Section 303 of the CWA makes water quality standards the starting point for addressing the quality of the nation's waters. As noted above, WQSs comprise, in part, (i) designated uses, (ii) water quality criteria, and (iii) antidegradation policy. In particular, NPDES permits are intended to attain or preserve WQSs:

a "NPDES permit shall include conditions" ... "necessary to... [a]chieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality." [40 C.F.R. § 122.44(d)(1)]

Regulations specifically mandate that:

“[w]hen the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.” [40 C.F.R. §122.44(d)(1)(iii)]

Limitations to pollutants are also required for narrative water quality standard criteria:

“Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of the following options:

“(A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use.” [40 C.F.R. §122.44(d)(1)(vi)]

Finally, MDE is directed by regulation to set effluent limits to protect WQSs more broadly:

“When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that:

“(A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards,” [40 C.F.R. §122.44(d)(1)(vii)(A)]

including effluents contained in approved TMDLs:

(B) “Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7”² [40 C.F.R. §122.44(d)(1)(vii)(B)]

Without concrete timelines and enforceable load reductions, the draft MS4 permit does not meet legal requirements to maintain WQSs or to redress unmet WQSs.

The importance of establishing timelines with concrete, enforceable limits is brought into focus by examining the violations in WQSs applicable to Mattawoman Creek during the duration of Charles County’s two previous MS4 permits starting in 1997 (and Prince George’s County’s in 1993), including new violations that occurred during this time. These include the 2002 acknowledgement of biological impairment on the 303(d) list, now ascribed to excess chlorides and low pH. [MDE, 2014a] Chlorides in this case reflect winter road treatments, which are washed into streams through stormwater. Urban stormwater is also

² 40 CFR 130.7 *Total maximum daily loads (TMDL) and individual water quality-based effluent limitations.*

recognized as a source of acidic stream pH through increasing runoff rates and runoff volumes from acid rain. [EPA, 1999]

In addition, as detailed in Attachment B, violations of numerical criteria for pH and dissolved oxygen in the estuary are occurring. Low dissolved oxygen is a signature of eutrophic conditions brought about by excess nutrients (nitrogen and phosphorus) that are supposed to be reduced according to the Mattawoman TMDL.

Designated uses: The CWA says state water quality standards “shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses.” [33 U.S.C. § 1313(c)(2)(A)]

As documented in Attachment B, and described here, designated uses have eroded dramatically in the estuary beginning about 2005 for “Open-Water Fish and Shellfish” and for “Aquatic Life and Wildlife,” as both the number of fish species and the fish abundance have declined. [DNR 2010-2013; Task Force, 2012]. The nontidal river has also experienced a dramatic decline for the designated uses of aquatic life and fishable waters as the number of anadromous fish using the river have plummeted. The seriousness is illustrated by a site 2.5 miles above head of tide where River Herring egg densities declined by factors approaching 100 in 2008 and later years [DNR 2010-2013], where just a decade earlier they had been abundant and anglers using the site routine [MWS, 2000], and where historically River Herring had been abundant [O’Dell, 1975; DNR, 2013]. Compared to a site near head of tide, the declines upstream are far greater. These upstream sites are closer to the county MS4.

There is additional evidence of a degrading trend in Mattawoman Creek from additional metrics that are deleteriously affected by stormwater. Attachment B also documents violations in turbidity in the nontidal river. This is consistent with a high relative contribution to sediment (30%) from streambank erosion associated with erosive flows. [USGS, 2008] An increasing trend in ammonia is discernable in the estuary. [DNR, 2013; p. 60] Increases in sediment loading and correlated increases in P loading after 2003 have also been reported. [DNR, 2013; p. 69]

Antidegradation: Maryland’s antidegradation regulations under Section 303 designate a number of stream reaches in Charles 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 county’s MS4 discharges to the catchment of this Tier II segment. Additional MS4 discharges to this segment can be anticipated on the general grounds that development is proceeding and that restoration may add point discharges, and on the particular ground that MDE issued a permit for Waldorf Crossing, now called Waldorf Station, a major 144-acre development project which falls entirely in the catchment. 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.

TMDL compliance: effluent limits and compliance schedules

The inability of MDE to address TMDLs to date heightens the importance of this MS4 permit. As noted above, a reduction in loads is required for a NPDES permit such as the

MS4 permit by setting effluent limits that “are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.”[40 C.F.R. §122.44(d)(1)(vii)(B)]

A wasteload allocation for total nitrogen (“N”) and total phosphorus (“P”) is available for urban stormwater through the TMDL for the Mattawoman Creek estuary. For average annual flow conditions, the TMDL calls specifically for reducing N in point-source urban stormwater by 54% and P by 47%. [MDE, 2005; p. 24] The reductions are from a baseline computed using data from 2000 and 2001. [MDE, 2005; p. 4] The Mattawoman TMDL reports that the great majority of N and P entering the estuary under average annual flow comes from the nontidal river [MDE, 2004]. These loads originate in Prince Georges and Charles Counties, with the great majority of these loads expected to come from Charles because it occupies most of the watershed. It is this urban stormwater that is addressed in the present draft MS4 permit. The “assurance implementation” of the TMDL assumes that “nutrient controls will be executed through the use of NPDES permits,” including “municipal separate stormwater permits.” [MDE, 2005; p. 28] However, it is likely that loads today are even greater than the baseline loads in the TMDL, given: (i) over a decade of growth during which no permitting controls on nutrient loads were achieved; (ii) the high rate of MS4-outfall failures [MDE, 2011; p. 5]; and (iii) the inability of the county in twelve years to retrofit but a fraction the 10% of impervious cover that the 2002 permit set as a five-year goal.

The present draft MS4 permit sets the stage for a continued lack of substantive, quantitative reduction in nutrient loads. Quantitative regard for the TMDL is apparently addressed through (i) watershed assessments that apply to all eight- or twelve-digit watersheds regardless of whether TMDL exists or not (Part IV.E.1 of the draft permit) and (ii) restoration plans that apply only to the watersheds with an approved TMDL (Part IV.E.2). In Part IV.E.1.b, the county is given *five years* to produce watershed assessments, which shall

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

For the restoration plans that apply to those watersheds having a TMDL, Part IV.E.2.b 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.”

Taken together, the restoration plans and the watershed assessments, like the permit at large, fail to establish an effective framework for enforcement of effluent limits. The restoration plans applicable county-wide will not provide “reduction benchmarks” for fully five years, and will not provide an enforceable requirement to actually meet these benchmarks in this permit cycle, if ever. Defining “progress” in Part IV.E.1 as merely writing down benchmarks and deadlines fails to meet any NPDES standards cited above.

For those watersheds with a TMDL, a final date for achieving wasteload allocations (WLA) will appear within one year, but no schedule for benchmark reductions in pollution loads. For these watersheds, the pertinent schedule in the restoration plan applies only to administrative or future structural steps to improve water quality. There is no assurance that required loads will actually be reduced by the amounts dictated in the applicable TMDL. This is contrary not only to regulations cited above (in 40 C.F.R. §122.44(d) and subsections), but to EPA guidance developed *specifically for MS4 permits in the Chesapeake Bay watershed*. This guidance was written in response to the National Research Council finding that “...achievement of water quality improvement as a result of the permit requirements has remained an elusive goal.” [NRC, 2009] The EPA guidance states under the heading “*Issuing Permits with Clear and Measurable Provisions*” [EPA, 2010a; p. 5]:

“Permits should incorporate clear performance standards, include measurable goals or quantifiable targets for implementation and include specific deadlines for compliance. Doing so will clarify expectations for permittees and also allow permitting authorities to more easily assess compliance. These are not elements to be delegated to permittees as part of their stormwater management program planning or updating processes. Practicability determinations are the obligation of the permitting authority not the permittee.”

The EPA guidance above is also clearly ignored in the draft permit when the permitting authority (MDE) delegates to the permittee the responsibility of deciding load limits and reduction schedules.

Not only does the draft MS4 permit not comply with guidance or regulation to include numerical limits on stormwater effluents needed to achieve applicable WLAs in TMDLs, the draft MS4 also does not require such standards in permittee-developed restoration plans. The permittee-written restoration plan supposedly provides the mechanism to finally meet WLAs. However, the restoration plan requires only administrative and mechanical attempts to reduce pollutant loads, not an actual reduction in pollution loads:

“As part of the restoration plans, Charles County shall: (i) Include the final date for meeting applicable WLAs and a detailed schedule for implementing all structural and nonstructural water quality projects, enhanced stormwater management programs, and alternative stormwater control initiatives necessary for meeting applicable WLAs.” [Part E.2.b.i]

An adaptive management approach is to be incorporated in the restoration plans, whereby vague elements such as “structural and nonstructural restoration projects, program enhancements, new and additional programs, and alternate BMPs” are to be implemented “where EPA approved TMDL stormwater WLAs are not being met according to the benchmarks and deadlines established as part of the County’s watershed assessments.” [Part E.2.b.iv] Since watershed assessments are not required until the end of the five-year permit cycle, this clause codifies a minimum five-year delay for meeting *any* benchmark toward meeting a WLA, which have already been lying dormant for many years (e.g., 15 years for the Port Tobacco River and nearly 10 years for the Mattawoman).

The approach of delegating responsibly for determining load limits to the permittee not only ignores EPA guidance and circumvents the establishment of numerical pollutant loads

in the permit, it also circumvents the public's right to challenge whatever benchmarks are finally negotiated between MDE and the permittee by outsourcing the public process to the permittee as well. Once a watershed assessment or restoration plan is approved by MDE, it represents a major modification to the permit, and should be treated as such. Quoting the Earth Justice comments attached on the subject of public participation:

“CWA regulations require that new or revised effluent limitations must be incorporated through a formal (*i.e.* major) permit modification that fully complies with public participation requirements:

‘If a permit modification satisfies the criteria in § 122.63 for “minor modifications” the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in part 124 (or procedures of an approved State program) followed.’ [40 C.F.R. § 122.62. (Emphasis added).

“Part 124 referenced in this section requires that nonminor permit modifications be subject to the same procedural requirements as new or re-issued permits. *See* 40 C.F.R. §§ 124.5 - 124.15.”

Once MDE is satisfied with the permittee's watershed assessments and restoration plans, incorporating these as enforceable elements of the MS4 permit requires that the permit be reopened to public scrutiny and comment, and reissued.

TMDL also applies to designated uses. As noted above, WQSs include designated uses [33 U.S.C. § 1313(c)(2)(A)]. Furthermore, TMDLs must protect these designated uses [Anacostia Riverkeeper v. EPA (D. D.C. 2011)]. Hence, an overall purpose of a TMDL is to ensure attainment of designated uses, which as documented above and in Attachment B are not being met to an increasing degree in the Mattawoman estuary. The estuary has a TMDL with WLAs for N and P [MDE, 2000], which are dominated by loads from the nontidal river [MDE, 2004] that itself receives discharges from the county's MS4.

Because “No permit may be issued: ... (d) When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States;” [CFR 122.4(d)], the MS4 permit must include limits to N and P to ensure compliance with the applicable designated uses (e.g. Seasonal Migratory Fish Spawning and Nursery, Open-Water Fish and Shellfish, and Aquatic Life and Wildlife).

Monitoring requirements are inadequate to ensure compliance with load limitations or to determine the effectiveness of measures that purport to reduce pollution loads.

By regulation, NPDES permits require “characterization data” [40 C.F.R. §122.26(d)(2)(iii)] that afford a *representative* understanding of the MS4 efficacy by including a:

“proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or

the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.” [40 C.F.R. § 122.26(d)(2)(iii)(D)]

The National Research Council concluded that:

“Stormwater management would benefit most substantially from a well-balanced monitoring program that encompasses chemical, biological, and physical parameters from outfalls to receiving waters.” [NRC, 2009; p. 7, emphasis added]

EPA guidance emphasizes the need for statistically significant monitoring and comprehensive monitoring:

“Pursuant to 40 C.F.R. §122.44(i), Phase I permits must include relevant, interpretable and statistically significant evaluation and monitoring provisions.” [EPA, 2010a; p. 5]

“Each monitoring program is unique and should be customized to the specific waterbodies, impairments, and pollutant sources of the MS4 ... Establishing a comprehensive monitoring and assessment program will enable the permittee to track progress in complying with permit provisions and implementing a program to protect water quality. [EPA, 2010b, p. 95]

Extensive monitoring data is critical to ensure that conclusions are representative of the various conditions encountered in a large MS4. Furthermore, the draft MS4 permit adopts as a key plank the use of adaptive management, as emphasized in the fact sheet accompanying the draft [MDE, 2014b], and the permit itself :

“...these programs shall be integrated with other permit requirements to promote a comprehensive adaptive approach toward solving water quality problems. The County shall modify these programs according to needed program improvements identified as a result of periodic evaluations by MDE.” [Part D]

Lacking widespread data to characterize the performance of the MS4 in various subwatersheds, and over larger watersheds that integrate cumulative effects toward achieving WLAs, the adaptive-management system is essentially operating blind, or, in the words of EPA:

“Without assessing the effectiveness of the stormwater management program the permittee will not know which parts of the program need to be modified to protect and/or improve water quality and instead will essentially be operating blindly.” [EPA, 2010b; p. 95]

Hence a major failing of the permit is the wholly inadequate set of monitoring requirements that cannot possibly provide the feedback necessary for determining if progress is being made, or guide adaptive adjustments if benchmarks fail to be met.

Symptomatic of this inadequacy is the confusion and apparently misleading statements concerning Mattawoman Creek in particular. Part F.1 states “[the] County shall continue monitoring in the Mattawoman watershed, or select a new watershed” (emphasis added). We note that allowing a watershed different than Mattawoman contrasts the fact sheet’s

assurance of Mattawoman’s monitoring: “To support this initiative, Charles County's permit will require intensive monitoring to occur in the Mattawoman Creek watershed where the cumulative effects of watershed restoration activities can be assessed.” [MDE, 2014b; p. 9] The draft permit appears to be further misleading because, in fact, the currently active MS4 requires monitoring only in the *Zekiah* watershed. The county added a monitoring site in the Mattawoman in 2005, but the draft permit in fact makes no requirement that Mattawoman be monitored.

For reasons cited in the Background above, the permit should require monitoring in the Mattawoman watershed. In addition, the responses of the Zekiah and Mattawoman to stormwater can be expected to differ because of the significantly different mix of land uses. Also, Zekiah is falls within a Rural Legacy area where Mattawoman does not. The development pressure on Mattawoman far exceeds that of Zekiah, and Mattawoman has a TMDL while Zekiah does not. Hence monitoring in the Zekiah can by no means be regarded as providing “representative” information on the county’s MS4.

Furthermore, in a county with a land area exceeding 450 square miles, and with at least 230 outfalls,³ of which 161 are “major” [MDE, 2014b; p. 4], and which are certain to grow in number, the permit requires that only *one* outfall and associated stream be intensively monitored. This falls far short of other jurisdictions like Washington D.C., and is wholly inadequate to supply “statistically significant evaluation and monitoring provisions” [EPA, 2010a; p. 5], for example to determine that measures such as stormwater retrofits are working in different subwatersheds of varying size and different physiographic characteristics, and differing land-uses.

More extensive monitoring is also necessary to calibrate models, which the permit liberally authorizes as a means to gage progress in place of actual measurements. For example, the draft permit states (emphases added):

“Evaluate and track the implementation of restoration plans through monitoring or modeling to document progress toward meeting established benchmarks, deadlines, and stormwater WLAs” [Part E.2.b.iii]

“The County shall use chemical, biological, and physical monitoring to assess watershed restoration efforts, document BMP effectiveness, or calibrate water quality models for showing progress toward meeting any applicable WLAs developed under EPA approved TMDLs identified above.” [Part F.1]

“Data collected shall be used to estimate annual and seasonal pollutant loads and reductions, and for the calibration of watershed assessment models.” [Part F.1.a.iv]

“A hydrologic and/or hydraulic model shall be used (e.g., TR-20, HEC-2, HEC-RAS, HSPF, SWMM, etc.) in the fourth year of the permit to analyze the effects of rainfall; discharge rates; stage; and, if necessary, continuous flow on channel geometry.” [Part F.1.c.iii]

³ Based on outfall labels on an aerial map, *NPDES Outfalls*, 2013, prepared by the Charles County Department of Planning and Growth Management.

It is not reasonable to imagine that watershed-assessment models, restoration-plan modelling, and modeled WLA estimates could be calibrated through monitoring of a *single site*, when the models necessarily must be applied to different watersheds that are subject to different BMPs and different impervious-fraction retrofits or restoration measures. One is reminded of the 2004 discovery that Chesapeake Bay models were overestimating progress in reducing pollution loads to the Bay as a consequence of too little monitoring. In the words of D. Boesch, "... monitoring—not modeling—should be used to assess present conditions." [Post, 2004] More recently, in conjunction with Charles County's Comprehensive Plan update, the "Water Resources Element" used uncalibrated modeling and projected much smaller nutrient increases [ERM, 2011] than modeling conducted by the Army Corps of Engineers, which projected ~50% increases in nutrients [ACOE, 2003] based on *calibrated* data acquired through *numerous* continuous monitoring stations. [SERC, 2000] Note that both models predict load increases, whereas the MS4 permit is required to decrease loads through applicable WLAs.

In addition, monitoring should be required to ensure that overall loads are being reduced to the Mattawoman estuary, where wasteload allocations apply in Mattawoman's TMDL. The TMDL determines that average annual loads to the estuary are dominated by the fluvial river, [MDE, 2004]⁴ so that monitoring to address these loads is necessary to determine the overall effectiveness of the MS4 permit in achieving stormwater load reductions of 54% for N and 47% for P. [MDE, 2005; p. 24]

Hence, to monitor the overall effectiveness of the MS4 program, and provide information of a comprehensive scale, the permit should require intensive monitoring of the main stem of the non-tidal Mattawoman. This could include re-starting the continuous monitoring at the USGS gaging station on the nontidal river, which Charles County abandoned when it cut funding in 2011. The gage monitored pH and conductivity which relate directly to the 303(d) impairments of pH and chlorides for the nontidal river. Additional sites to monitor include at the Bumpy Oak Road bridge, where the county employed continuous monitoring in the past [SERC, 2000], as well as further downstream at the Mattawoman Wastewater Treatment Plant, which provides county-owned access to the nontidal Mattawoman.

As part of the requirement that the MS4 preserve WQSs, including antidegradation, the permit should also require that Tier II waters be monitored in a manner to detect improvements or degradations in pollutant loads. Several MS4 outfalls discharge to a Tier II segment of the nontidal Mattawoman, and new discharges can be anticipated as development projects proceed. Intensive monitoring of outfalls discharging to the Tier II segment should be required in the permit.

Conclusion The draft MS4 permit requires significant strengthening if the waterways of Charles County are to be better protected from the effects of stormwater. In particular,

⁴ In Appendix A of the approved Mattawoman TMDL, loadings to Segment 27, the most upstream segment in the Mattawoman Creek Eutrophication Model, are shown to greatly dominate all other segments. These loads originate in part in the area regulated since the 1st MS4 permit.

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. Presently, permit compliance can be satisfied mainly by administrative filings, without any real assurance that regulated pollution loads will be reduced, which falls far short of fulfilling the legal requirements of a NPDES permit to establish enforceable pollution load limits and schedules when these loads contribute to failing Water Quality Standards. The approach of incorporating permittee-determined load-limit benchmarks and schedules into the permit at a later date without reopening the permit to public review effectively circumvents the public's right to challenge. The required monitoring program fails to ensure monitoring of the waterway receiving most of the county's stormwater, and is much too limited to assess the success or failure of this permit. We urge MDE to address these issues.

Respectfully submitted,

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Attachment A

Comments by Earth Justice on the Prince Georges draft MS4 permit



EARTHJUSTICE

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

June 27, 2013 [corrected June 28, 2013]

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**Comments on Draft MS4 Permit No. 11-DP-3314 / MD0068284
for Prince George's County, Maryland**

These comments are submitted on behalf of Anacostia Riverkeeper, Anacostia Watershed Society, Baltimore Harbor Waterkeeper / Blue Water Baltimore, DC Environmental Network, Mattawoman Watershed Society, Natural Resources Defense Council, Patuxent Riverkeeper, and Potomac Riverkeeper. Members of these groups use and enjoy waterways in Prince George's County and downstream in the District of Columbia that are degraded due, in part, to discharges from the County's municipal separate storm sewer system ("MS4").¹

The proposed permit includes several areas of improvement over the existing permit, and we strongly support this trend. However, several aspects of the permit must be further strengthened to meet legal requirements. The Maryland Department of the Environment ("MDE") must address the following legal requirements, at a minimum:

1. The final permit must expressly and clearly prohibit discharges that cause or contribute to violations of water quality standards ("WQS"). It must also include an enforceable mechanism to ensure that the necessary pollution reductions occur, on schedule.
2. Implementation plans for total maximum daily loads ("TMDLs") are an appropriate mechanism for assessing progress and enforcing compliance with TMDL wasteload allocations ("WLAs"). The minimum requirements for TMDL implementation plans must therefore be set forth clearly in the permit.
3. Plans and schedules that are required under the permit meet the legal definition of "effluent limitations," even when developed in the first instance by the County and submitted to MDE for approval. As such, they must be incorporated as enforceable permit terms through a major permit modification process.

¹ Baltimore Harbor Waterkeeper is a program of Blue Water Baltimore and is concerned about the Prince George's County permit due to the impact that it will have to the Chesapeake Bay and to the extent that it is used as a template for the MS4 permits in Baltimore's watersheds.

4. The final permit must require a program of representative monitoring that is sufficient to assess progress, determine compliance or non-compliance with TMDL wasteload allocations, and inform valid adaptive management responses. We propose that the permit require the County to develop a monitoring program, to be approved by MDE and incorporated into the permit through a major permit modification process.

There can be no serious doubt about the fact that the Prince George's MS4 contributes to violations of Maryland's water quality standards, particularly given the fact that MDE has developed and EPA has approved wasteload allocations for the MS4 in TMDLs for impaired waters. *See* Proposed Permit Att. B. In addition, we submit the attached statement of Mr. Gabriel Horchler, which demonstrates that stormwater from the Prince George's County MS4 has direct adverse impacts upon County residents who use and enjoy the Anacostia River and other waters impacted by the MS4. We have also reviewed and agree with the comments prepared by the Mattawoman Watershed Society, and those prepared by the Natural Resources Defense Fund, and hereby incorporate those comments by reference.

I. WATER QUALITY STANDARDS

A. Legal Standard for Stormwater Discharges

The fundamental goal of the Clean Water Act ("CWA") is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). To that end, all discharge permits issued under the Act must achieve limitations "necessary to meet water quality standards," as required by CWA section 301(b)(1)(c), 33 U.S.C. § 1311 (b)(1)(C). Consistent with this, CWA regulations prohibit the issuance of a National Pollutant Discharge Elimination System ("NPDES") permit "when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States." 40 C.F.R. 122.4(d) (emphasis added).² Accordingly, all point source permits must contain limitations "necessary to... [a]chieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality. 40 C.F.R. § 122.44(d)(1).³ The CWA regulations further detail this mandatory condition for NPDES permits: "When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant." 40 C.F.R. § 122.44(d)(1)(iii).

² This provision and all other federal CWA regulations cited in these comments are applicable to Maryland's NPDES program under 40 C.F.R. § 123.25.

³ *See Gov't of the Dist. of Columbia, MS4 System*, 10 E.A.D. 323, 335 and 342-43 (2002) ("remanding the Permit to the Region to provide and/or develop support for its conclusion that the permit will 'ensure' compliance with the District's water quality standards") (emphasis in the original); *see also Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1166 (9th Cir. 1999) (confirming that permitting authorities have authority to require strict compliance with water quality standards in NPDES permits for municipal separate stormwater systems).

Consistent with these federal laws, Maryland regulations allow MDE to issue or re-issue a NPDES permit only “upon a determination that... [t]he discharge or proposed discharge specified in the application is or will be in compliance with all applicable requirements of... [e]ffluent limitations [and] [s]urface and ground water quality standards....” Md. Code Regs. § 26.08.04.02.A(1) (emphasis added). Discharge permits issued by MDE “must comply with effluent limitations, receiving water quality standards, ground water quality standards established by the state, and federal and state law.” *Nw. Land Corp. v. Maryland Dept. of Env’t*, 104 Md. App. 471, 479, 656 A.2d 804, 808 (1995), citing Md. Code Regs. § 26.08.04.02.A(1)(a)-(d).

CWA section 402(p)(3)(B)(iii) requires MS4 permits to also include “controls to reduce the discharge of pollutants to the maximum extent practicable...,” commonly called the “MEP” standard. 33 U.S.C. § 1342(p)(3)(B)(iii). The fundamental requirement to meet water quality standards under CWA section 301 was not altered by the amendments that added section 402(p) to the CWA. The legislative history in the 1987 Conference Report for those amendments confirmed that “all municipal separate storm sewers are subject to the requirements of sections 301 and 402 of the Act.”⁴ In its 1999 stormwater rulemaking implementing section 402(p), EPA again confirmed that under its existing regulations, “[40 C.F.R.] Sec. 122.44(d) is a general requirement that each NPDES permit shall include conditions to meet water quality standards.” See EPA, “National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges,” 64 Fed. Reg. at 68722, at 68770 (Dec. 8, 1999).

Thus, even where the permit requires implementation of best management practices (“BMPs”) as part of stormwater management programs and implementation plans, the BMPs encompassed in those programs and plans must be demonstrated to ensure compliance with water quality standards. The EPA Environmental Appeals Board confirmed this principle, holding that even if permit limitations are in the form of required BMPs, the permitting authority must “show that the selected BMPs will be adequate to ensure compliance with water quality standards.” See *In re: Gov’t of the Dist. of Columbia, Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, at 323-324, 335 and 342-43 (2002). See also *Bldg. Indus. Ass’n of San Diego Cnty. v. State Water Res. Control Bd.*, 124 Cal. App. 4th 866, at 880 (Cal. Ct. App. 2004) (rejecting arguments that “under federal law the ‘maximum extent practicable’ standard is the ‘exclusive’ measure that may be applied to municipal storm sewer discharges and [that] a regulatory agency may not require a Municipality to comply with a state water quality standard if the required controls exceed a ‘maximum extent practicable’ standard”).

B. Legal Standard for Non-Stormwater – Illicit Discharges

⁴ H.R. Rep. No. 99-1004 (1987) (Conf. re.) reprinted in 1978 U.S.C.C.A.N. 5, 38, stating:

With respect to municipal separate stormwater discharges, the conference substitute temporarily prohibits the Environmental Protection Agency and States from requiring permits for certain municipal separate storm sewers for discharges composed entirely of stormwater, in order to provide a sufficient period of time to develop and implement methods for managing and controlling discharges from municipal storm sewers. The relief afforded by this provision extends to October 1, 1992. After that date, all municipal separate storm sewers are subject to the requirements of sections 301 and 402. (Emphasis added).

Unpermitted non-stormwater discharges must be prohibited from discharging into the MS4. The CWA requires that each MS4 permit “shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers.” 33 U.S.C. § 1342(p)(3)(B)(iii). Federal CWA regulations define an illicit discharge as “any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.” 40 C.F.R. § 122.26 (b)(2).

C. Discussion and Requested Permit Language

1. Stormwater discharges subject to water quality standards

The proposed permit requires the County to: “Effectively prohibit pollutants in stormwater discharges or other unauthorized discharges into the MS4 as necessary to comply with Maryland’s receiving water quality standards.” Proposed Permit section III.1. This language is confusing and unclear, in large part because it appears to be conflating two separate but equally important requirements – the requirement to ensure that stormwater discharges from the MS4 are in compliance with WQS under CWA section 301, and the requirement to prohibit non-stormwater discharges into the MS4 under CWA section 402(p).⁵ Instead, the permit should clearly prohibit non-stormwater discharges.

In drafting a clear prohibition against discharges that cause or contribute to excursions from WQS, MDE should look to similar language that has been adopted in other jurisdictions. *See* Ventura County MS4 Permit, 28-29 (May 7, 2009) (“Discharges from the MS4 that cause or contribute to a violation of water quality standards are prohibited.”); Washington State Phase I Municipal Stormwater Permits for 2012-13 and 2013-18 (2012) (“...the discharge of toxicants to waters of the State of Washington which would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria is prohibited,” and “[t]his permit does not authorize a discharge which would be a violation of Washington State Surface Water Quality Standards....”); Los Angeles County MS4 Permit, 24-25 (April 14, 2011) (“Discharges from the MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives are prohibited.”).

To address the foregoing requirements, we request that MDE revise the relevant permit language as follows:

Section III. Water Quality

The permittee must manage, implement, and enforce ~~a stormwater management program (SWMP)~~ the programs, plans, and practices required in this permit in accordance with the Clean Water Act (CWA) and corresponding stormwater National Pollutant Discharge Elimination System (NPDES) regulations, 40 CFR Part 122, to meet the following requirements:

⁵ Non-stormwater discharges are also addressed in section II of these comments.

1. ~~Effectively prohibit pollutants in stormwater discharges or~~ Eliminate non-stormwater discharges and other unauthorized discharges into the MS4;
2. Eliminate pollutants in stormwater discharges from the MS4 as necessary to comply with Maryland's receiving water quality standards;
23. Attain applicable wasteload allocations (WLAs) for each established or approved Total Maximum Daily Load (TMDL) for each receiving water body, consistent with Title 33 of the U.S. Code (USC) §1342(p)(3)(B)(iii); 40 CFR §122.44(k)(2) and (3); and
34. Comply with all other provisions and requirements contained in this permit, and in plans and schedules developed in fulfillment of this permit.

Compliance with all the conditions contained in PARTs IV through VII of this permit, including milestones and final dates for attainment of applicable WLAs, 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.

2. **Prohibited non-stormwater discharges**

To be effective and enforceable, the final permit's illicit discharge requirements must ensure that non-stormwater pollutants are actually prohibited from being discharged into the system, as required by CWA § 402(p)(3)(B)(iii). It is not sufficient to require that the County implement a "program." Instead, the permit must require that all illicit non-stormwater discharges be eliminated or permitted by MDE. MDE should therefore revise the permit section III.D.3. as follows:

Prince George's County shall continue to implement an illicit discharge inspection and enforcement program. This program shall~~to ensure that all discharges to and from~~ into the MS4 that are not composed entirely of stormwater are either permitted by MDE or eliminated. Activities shall include, but not be limited to:

- a. Field screening at least 150 outfalls annually. Each outfall having a discharge shall be sampled using a chemical test kit. Within one year of permit issuance, an alternative program may be submitted for MDE approval that methodically identifies, investigates, and eliminates illegal connections to the County's storm drain system;
- b. Conducting annual visual surveys of commercial and industrial areas as identified in PART IV.C.2 above for discovering, documenting, and eliminating pollutant sources. Areas surveyed shall be reported annually;

c. ~~Maintaining a program to address and, if necessary, respond to~~ Eliminating illegal sewer connections, sewer leaks, illegal discharges, dumping, and spills;

d. ~~Using appropriate enforcement procedures for~~ Investigating and eliminating illicit discharges, illegal dumping, and spills. Significant discharges shall be reported to MDE for enforcement and/or permitting; and

e. Reporting illicit discharge detection and elimination activities as specified in PART V of this permit.

II. TOTAL MAXIMUM DAILY LOADS

A. Legal Standard for Implementing TMDLs

While it is appropriate for the permit to explicitly prohibit discharges that cause or contribute to violations of water quality standards, that alone is not sufficient to “ensure compliance” with applicable water quality standards. The permit must also include a mechanism for measuring and verifying progress and, ultimately, enforcing compliance with standards. For impaired waters, that mechanism is embodied in TMDL implementation plans (called “restoration plans” in the proposed permit).

CWA regulations require that effluent limits in NPDES permits “are consistent with the assumptions and requirements of any available wasteload allocation....” 40 C.F.R. § 122.44(d)(1)(vii)(B). TMDLs are founded on the assumption and requirement that point source WLAs will be enforced through NPDES permits. For example, the Chesapeake Bay TMDL at p. 7-1 states that “the existence of the National Pollutant Discharge Elimination System (NPDES) regulatory program and the issuance of an NPDES permit provide the reasonable assurance that the WLAs in the TMDL will be achieved” by point sources. *See* EPA, Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment, 7-1 (Dec. 29, 2010) (hereafter “Bay TMDL”). (Emphasis added.) Thus, the permit must ensure attainment of applicable WLAs.

As shown in Appendix B of the proposed permit, the County’s MS4 is subject to final EPA-approved TMDL WLAs that cover numerous stream reaches and the Chesapeake Bay. Compliance with these WLAs are needed to address discharges of excess bacteria, nutrients, sediment, mercury, polychlorinated biphenyls (PCBs), and trash that contribute to violations of applicable water quality standards.

B. Watershed Implementation Plans for the Chesapeake Bay TMDLs

The Prince George's County MS4 permit is a critical part of part of the “Accountability Framework” for implementing the Chesapeake Bay TMDLs. *See* Bay TMDL, 7-1 (Dec. 29, 2010). MDE acknowledges that “Maryland’s NPDES stormwater permits issued to Prince George’s County and other municipalities will require coordination with MDE’s Watershed Implementation Plan and be used as the regulatory backbone for controlling urban pollutants toward meeting the Chesapeake Bay TMDL by 2025.” Proposed Permit at 16, Part VI. A. This is the primary difference between the Bay TMDL and prior voluntary Bay agreements, which

lacked enforcement and accountability measures and ultimately failed to achieve their goals while wasting taxpayer dollars.

In particular, the Prince George's Watershed Implementation Plan ("WIP") for the Bay TMDL states that the County must achieve reductions in its MS4 loading by 13.53% for total nitrogen, and by 23.15% for total phosphorus by 2017—*i.e.*, these reductions must occur within the proposed permit term. *Prince George's County, Maryland, Phase II Watershed Implementation Plan*, at 23, Table 10 (July 2, 2012). In fact, the WIP depends heavily upon robust implementation of the MS4 permit for achieving pollution reductions and tracking progress. *Id.* at 3 (summary of the implementation approach for the urban sector is to "[a]chieve conditions specified in the anticipated new municipal separate storm sewer system (MS4) permits.")

Prince George's County is poised to adopt a stormwater utility fee to help fund MS4 implementation, as required by the Watershed Protection and Restoration Program, H.B. 987 (2012). It is therefore imperative that MDE use its NPDES permitting authority to help maintain the public's confidence, by ensuring that fees paid by property owners are used strategically and effectively. The Final Permit must therefore include a clear and enforceable provision for implementing the wasteload allocations included in the Bay TMDL for nutrients and sediments in stormwater discharges to the Anacostia River, Patuxent River, Potomac River, Mattawoman Creek, and other tributaries to the Bay.

C. Legal Requirements for Compliance Schedules

The final permit must require that TMDL implementation plans include interim and final deadlines for attainment of TMDL WLAs. It is crucial that the interim and final deadlines include dates not only for implementing plans and programs, but also for achieving quantifiable reductions in polluted stormwater discharge. Only by including deadlines based on pollutant load reductions can MDE "ensure" compliance with water quality standards in impaired waterways with TMDLs, as required by CWA § 301.

TMDL compliance schedules must also comply with Maryland's regulations, which require that, "[w]hen a compliance schedule is imposed, the Department shall... [r]equire the permittee to achieve compliance within... the shortest reasonable time consistent with the requirements of the Federal Act and State law or regulation." Md. Code Regs., § 26.08.04.02.C.(2)(a)(iii). It further requires that compliance schedules that extend longer than 9 months must include "interim dates of 9 months or less for... [c]ompliance with interim requirements, or submission of reports of progress toward completion of the interim requirements." Md. Code Regs., § 26.08.04.02.C.(2)(b).

D. Regulatory Guidance for Compliance Schedules and Measureable Goals

Congress adopted a national permitting program in order to bridge the gap between the states' adoption of WQS and the continuing lack of tangible improvements in water quality. MDE should draw from existing guidance and studies discussed below, which identify the critical elements of writing successful stormwater permits that ensure measurable progress and compliance with WQS.

In its guidance specifically designed to address stormwater permits in the Chesapeake Bay and Mid-Atlantic region, EPA recommended the following:

Issuing Permits with Clear and Measurable Provisions: It is critical that all permit provisions be clear, objective, specific, measurable, and enforceable. Permits should incorporate clear performance standards, include measurable goals or quantifiable targets for implementation and include specific deadlines for compliance. Doing so will clarify expectations for permittees and also allow permitting authorities to more easily assess compliance. These are not elements to be delegated to permittees as part of their stormwater management program planning or updating processes. Practicability determinations are the obligation of the permitting authority not the permittee. Vague phrases such as "as feasible" and 'as possible' and 'practicable' are to be avoided in a permit because such caveats allow subjective interpretation, result in inconsistent implementation by permittees, and create difficulties in permit authority oversight and enforcement. The permit writer's role is to determine what is necessary to achieve in effluent controls and to develop clear, enforceable language that conforms to these determinations.

EPA, "Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Bay Watershed," at 5 (July 2010) (emphasis added).

Similarly, drawing from an in-depth study of stormwater programs, EPA Region 9 and its consultants at Tetra Tech, Inc. concluded:

A clear, well-written permit and plan are critical for successful implementation of a storm water management program. This requires the permitting authority to describe the required actions clearly in a permit and the permittee to clearly articulate how it will meet these requirements in a storm water plan. The Phase I MS4 evaluations conducted by Tetra Tech have found that the more advanced storm water programs generally have more detailed, well-written permits and plans.

Kosco, et al., "Lessons Learned From In-Field Evaluations of Phase I Municipal Storm Water Programs," at 193 (2002). As a result of this study, EPA recognized that "[w]ithout specific, measurable elements, almost any activity an MS4 takes could be deemed to be in compliance with the permit." Laura Gentile and John Tinger, "U.S. E.P.A. Region IX, Storm Water Phase I MS4 Permitting: Writing More Effective, Measurable Permits," at 135 (February 2003).

More recently, EPA has provided updated guidance on "providing numeric water quality-based effluent limitations in NPDES permits for stormwater discharges." The memo states:

EPA now recognizes that where the NPDES authority determines that MS4 discharges and/or small construction stormwater discharges have the reasonable potential to cause or contribute to water quality standards excursions, permits for

MS4s and/or small construction stormwater discharges should contain numeric effluent limitations where feasible to do so. EPA recommends that NPDES permitting authorities use numeric effluent limitations where feasible as these types of effluent limitations create objective and accountable means for controlling stormwater discharges.

Hanlon and Keehner, “Revisions to the November 22, 2002 Memorandum ‘Establishing Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for Storm Water Sources and NPDES Permits Based on Those WLAs,” at 3 (Nov. 12, 2010) (emphasis added).

E. Discussion and Requested Permit Language

The proposed permit requires the County to complete “Restoration Plans” for implementing TMDLs. We request the following revisions to the proposed permit language to incorporate clear requirements and compliance schedules with interim deadlines (“benchmarks” and “milestones”) for attaining WQS, eliminating non-stormwater (illicit) discharges, performing maintenance on installed controls, and undertaking adaptive management:

Section IV.E.2.b (within “Restoration Plans and Total Maximum Daily Load” permit section):

b. Within one year of permit issuance, Prince George’s County shall submit to MDE for approval a restoration plan for each stormwater WLA approved by EPA prior to the effective date of the permit. The County shall submit restoration plans for subsequent TMDL WLAs within one year of EPA approval. Upon approval by MDE, these restoration plans will be incorporated into the permit as enforceable under this permit provisions via a major modification,⁶ including milestones, benchmarks, and final dates for attainment of applicable WLAs. The County shall fully implement the plan upon MDE approval.

If the County cannot demonstrate that its selected projects, programs, and controls will achieve WLAs, MDE will revise this permit to include additional controls and/or additional numeric effluent limitations sufficient to ensure that all applicable WLAs will be met. The County shall post the most current version of the plan on the County’s website.

As part of the restoration plans, Prince George’s County shall:

i. Include a compliance schedule containing the final date for meeting applicable WLAs and interim milestones and numeric benchmarks. Final attainment dates shall be set as the soonest possible date by which each WLA can be attained and shall be consistent with the deadlines associated with the Chesapeake Bay TMDL and associated Watershed Implementation Plans.

⁶ This recommended language also ensures the public’s right to participate in the development and approval of effluent limits in the permit, as discussed in section VI of these comments.

a. Numeric benchmarks will specify annual pollutant load reductions and will be used to assess progress toward attainment of milestones and ultimate WLA attainment;

b. Interim milestones will be expressed as a pollutant load reduction, with associated deadlines for attainment, will be enforceable upon incorporation into the permit, and will be included where final attainment of applicable WLAs requires more than five (5) years. Milestone intervals will be as frequent as possible but will in no case be less frequent than every five(5) years;

ii. Include a detailed schedule for implementing all structural and nonstructural water quality projects, enhanced stormwater management programs, ~~illicit~~ discharge detection and elimination program, erosion and sediment control program, and alternative stormwater control initiatives necessary for meeting applicable WLAs, along with provision of the basis for the chosen approach, through demonstration with modeling of how each applicable WLA (and associated benchmarks and milestones) will be attained using the chosen projects, programs, and controls, by the date for ultimate attainment;

iii. Establish a quantitative assessment of the County's current pollutant loadings using the information collected during the source identification process required by Part IV.C of this Permit. This assessment of current loadings shall serve as the baseline from which the pollutant load reductions called for in the County's compliance schedule shall be calculated;

~~ii-~~iv. Provide detailed cost estimates for individual projects, programs, controls, and plan implementation and maintenance;

~~iii-~~v. Evaluate and track the implementation of restoration plans through monitoring ~~or~~ and modeling to document the progress toward meeting established benchmarks, deadlines, and stormwater WLAs; and

~~iv-~~vi. Develop an ongoing, iterative process that continuously implements structural and nonstructural restoration projects, program enhancements, new and additional programs, and alternative BMPs where EPA approved TMDL stormwater WLAs are not being met according to the benchmarks and deadlines established as part of the City's watershed assessments. If data indicate failure to meet any applicable WLA, including failure to attain any interim milestone or benchmark, the City shall make appropriate adjustments to its programs and controls within six (6) months to address these failures.

The foregoing permit language establishes a clear roadmap for achieving water quality standards in waters that are currently impaired and covered by TMDLs. Inclusion of this

language in the final permit would serve the interests of MDE, the County, and the public, by adding clarity and certainty that is currently lacking in the proposed permit.

III. REDUCING POLLUTANTS TO THE MAXIMUM EXTENT PRACTICABLE

A. The “Maximum Extent Practicable” Legal Standard

Section 402(p)(3)(B) of the CWA contains the following requirement, commonly known as the “maximum extent practicable” or “MEP” standard:

Permits for discharges from municipal storm sewers... (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

33 U.S.C. § 1342(p)(3)(B). It is MDE’s responsibility to determine what constitutes reduction of pollutants to the MEP, and to establish clear permit terms that implement this requirement. *See* EPA, “Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Bay Watershed” at 5 (July 2010) (“Practicability determinations are the obligation of the permitting authority not the permittee.... The permit writer’s role is to determine what is necessary to achieve in effluent controls and to develop clear, enforceable language that conforms to these determinations.”).

Maryland has already recognized that, in most instances, Environmental Site Design or “ESD” is the most effective technology for curbing problems caused by polluted stormwater runoff. Accordingly, the General Assembly enacted the Stormwater Management Act of 2007 which directs MDE to adopt regulations that require developers to demonstrate that “[e]nvironmental site design [is] implemented to the maximum extent practicable,” and “[s]tandard best management practices [are] used only where absolutely necessary.” Md. Code. Ann., Envir. § 4-203(b)(5)(ii)(3) (2012). Under the Act, “[e]nvironmental site design” means using small-scale stormwater management practices, nonstructural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources.” *See* H.B. 786, Fiscal and Policy Note (rev’d April 2, 2007).

B. Discussion and Requested Permit Language

Water quality in Prince George’s County has been seriously degraded by the proliferation of impervious surface areas, which has resulted from unregulated or poorly regulated construction and development.⁷ We therefore strongly support requirements in the permit to reverse the adverse impacts of impervious surfaces. However, the permit language needs significant improvement to ensure that the activities undertaken to fulfill this permit requirement are effective.

⁷ The problems associated with uncontrolled urbanization are discussed in depth in the National Research Council’s report, *Urban Stormwater Management in the United States* (2009).

The proposed permit contains no definition of “restoration,” and does not otherwise establish an objective standard that MDE can use to base its review and approval of the County’s plan for restoring impervious surfaces. Instead, the permit states that the County “shall commence and complete the implementation of restoration efforts for twenty percent of the County’s impervious surface area consistent with the methodology described in” the MDE document “Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits” (MDE, June 2011 or subsequent versions).

The lack of a clear definition of “restoration” is a disservice to the County, which is under pressure to spend significant sums of taxpayer funds to install stormwater controls that are both effective and that meet the requirements of the permit. Further, the Draft 2011 Guidance does not provide adequate guidance in identifying and prioritizing effective and efficient restoration methods. A host of technical flaws within the 2011 Guidance have been identified and raised with MDE by watershed conservation groups. See Letter from Hammer *et al.* to Dr. Robert Summers (April 30, 2012), attached hereto. Among other problems, the Draft 2011 Guidance:

- Gives restoration credit for practices based solely on their removal of nitrogen, phosphorus, and/or sediment, while neglecting other pollutants in stormwater such as bacteria, PCBs, mercury, and trash;
- Does not address practices needed to fix biological and habitat impairments associated with stormwater;
- Overestimates the effectiveness of extended-detention stormwater ponds; and
- Includes vague, undefined terms such as “treatment,” raising the likelihood that impervious area restoration credit will be given for practices that reduce or address only a fraction of the spectrum of problems associated with stormwater.

Further, the Guidance exempts all developments installed after 2002 from the permit’s requirement to conduct a surface area assessment to determine potential stormwater control needs. This exemption is based on MDE’s apparent assumption that “BMPs from this stormwater program era are deemed state-of-the-art and need to be maintained, but will provide limited opportunity for water quality improvement.” 2011 Guidance at 4. However, there simply is no legal or technical basis for this exemption. Practices installed since 2002 are likely to consist of detention and filtering practices that are termed “standard” practices in the Stormwater Management Act of 2007. Allowing the County to install “standard” practices undermines the goal of the Stormwater Management Act of 2007 to ensure that non-ESD practices are used only when “absolutely necessary.” Md. Code. Ann., Envir. § 4-203 (2012).

We recommend that the final permit encourage the use of ESD where possible to meet the County’s impervious surface restoration requirement. Where ESD is not possible, the final permit should encourage the use of effective techniques for removing pollutant loads that originate from impervious surfaces to prevent their discharge from the MS4, including: inlet

capture systems for catching gross solids, oils, hydrocarbons prior to discharge from the MS4; vortex stormwater solids separator systems; sub-surface sand filters and other filter systems; trash nets and trash boxes; and sub-surface stormwater detention vaults.

To address these concerns, we request that MDE revise the following language in section IV.D.:

The following management programs shall be implemented in areas served by Prince George's County's MS4. These management programs ~~are~~ shall be designed to control stormwater discharges to the maximum extent practicable (MEP) and shall be maintained for the term of this permit. Additionally, these programs shall be integrated with other permit requirements to promote a comprehensive adaptive approach toward solving water quality problems. The County shall modify these programs according to needed program improvements identified as a result of periodic evaluations by MDE to ensure that the County is in fact reducing its discharge of pollutants to the MEP.

We request that MDE also revise the proposed permit language in Section IV.E.2.a. as follows:

By the end of this permit term, Prince George's County shall commence and complete the implementation of restoration efforts for twenty percent of the County's impervious surface area ~~consistent with the methodology described in the MDE document cited in Part IV.E.2.a.~~ that has not already been restored to the MEP, in addition to any impervious surface area which the County is under a previous obligation to restore. Such restoration efforts shall be designed to retain on-site at least 1 inch of stormwater from a 24-hour storm through evapotranspiration, infiltration, and/or reuse using Environmental Site Design retrofit techniques, unless the County demonstrates that:

- (i) sole use of such techniques to meet the requirements of this section is impracticable and the County has exhausted all reasonable opportunities to use ESD to meet this requirement; and
- (ii) that other types of restoration techniques will, in combination with ESD techniques, be adequate to achieve all applicable benchmarks, milestones, and final deadlines for attainment of WLAs and protect or restore the physical and biological integrity of the County's streams and rivers.

It is also important that the County remove any impediments to the use of ESD in its local code. To that end, we request that MDE revise the proposed permit requirements as follows, in section IV.D.1.a.:

- a. Implementing the stormwater management design policies, principles, methods, and practices found in the latest version of the *2000 Maryland Stormwater Design Manual*. This includes:

- i. Complying with the Stormwater Management Act of 2007 (Act) by implementing environmental site design (ESD) to the MEP for new and redevelopment projects;
- ii. Tracking the progress toward satisfying the requirements of the Act and identifying and reporting annually the problems and modifications necessary to implement ESD to the MEP; ~~and~~
- iii. Within one year of permit issuance, reviewing existing planning and zoning and public works ordinances and other codes to identify impediments to, and opportunities for promoting, the implementation of ESD to the MEP;
- iv. Within two years of permit issuance, modifying ordinances and codes identified above to eliminate impediments to and opportunities for promoting the implementation of ESD to the MEP; and
- ~~iii.~~ v. Reporting annually the modifications that have been made or need to be made to all ordinances, regulations, and new development plan review and approval processes to accommodate the requirements of the Act.

We request that MDE also add the following clarifying language in the section of the permit requiring “Management Programs”:

Permit section IV.D.1.a.i.:

Complying with the Stormwater Management Act of 2007 (Act) by implementing environmental site design (ESD) to the MEP, as defined by the Act and implementing regulations, for new and redevelopment projects

Permit section IV.D.1.b.iii.:

Number of stormwater exemptions issued, including the justification for the exemption and associated pollutant load;

Permit section IV.D.1.b.iv.:

Number and type of waivers received and issued, including those for quantity control, quality control, or both. Multiple requests for waivers may be received for a single project and each should be counted separately, whether part of the same project or plan. The total number of waivers requested and granted for qualitative and quantitative control shall be documented, along with the justification for the waivers and associated pollutant load.

Finally, we request the following revision to the proposed permit language pertaining to trash and litter:

Section IV.D.4.a. (within the section on “Trash and Litter”):

- a. Within one year of permit issuance, the County shall inventory and evaluate all current trash and recyclable pick-up operations, litter control programs, and public outreach efforts and issue a report of the findings as required in Part V. The ~~analysis-report~~ shall identify opportunities for improving overall efficiency, especially in the Anacostia River watershed, which the County shall implement.

We believe that, collectively, the foregoing permit language will ensure that the County is, in fact, reducing the discharge of pollutants in stormwater to the maximum extent practicable.

IV. MONITORING

A. Legal Standard for Monitoring Requirements

“State-issued NPDES permits must mandate, [among other things], compliance with the inspection, reporting, and monitoring requirements of the Act as outlined in 33 U.S.C. § 1318. *See* 33 U.S.C. § 1342(b)(2).” *Menzel v. County Utilities Corp.*, 712 F.2d 91, 94 (4th Cir. 1983). CWA regulations require MS4 permittees to submit a “proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.” 40 C.F.R. § 122.26(d)(2)(iii)(D). Those regulations further require MS4 permittees to sample and assess discharges into the MS4 from landfills, industrial facilities and hazardous waste sites. 40 C.F.R. § 122.26(d)(2)(iv)(C).

B. Discussion and Requested Permit Language

The proposed permit requires physical monitoring in one location in Black Branch for the purpose of assessing the County’s implementation of the *2000 Maryland Stormwater Design Manual*. In addition, it requires chemical, physical, and biological monitoring in only one outfall and one associated in-stream location in Bear Branch. There is no explanation for MDE’s choice of these extremely limited monitoring requirements, and no demonstration in the administrative record that this monitoring program is “representative” of the entire MS4 system, as required by 40 C.F.R. § 122.26(d)(2)(iii)(D). A monitoring program designed to generate data from only two locations (one of which is limited to physical monitoring) falls far short of the applicable legal requirements.

Instead, we recommend that the permit require the County to develop a monitoring program that meets specific minimum requirements that are set out in the permit. And, because these monitoring requirements constitute a major permit requirement, they must be approved by MDE and incorporated into the permit through a major permit modification. To effectuate this requirement we request that MDE adopt the following permit language in Section IV.F of the permit:

F. Assessment of Controls

Assessment of controls is critical for determining the effectiveness of the NPDES stormwater management program and progress toward improving water quality. The County shall use chemical, biological, and physical monitoring to assess watershed restoration efforts, document BMP effectiveness, ~~or and calibrate water quality models for showing~~ track progress toward meeting benchmarks, milestones and final deadlines for attainment of any applicable WLAs developed under EPA approved TMDLs identified above. Additionally, the County shall continue physical stream monitoring in the Black Branch watershed to assess the implementation of the latest version of the 2000 Maryland Stormwater Design Manual. Specific monitoring requirements are described below.

Within 2 years of the effective date of this permit, the County shall develop, public notice, and submit to MDE for review and approval a monitoring program sufficient to demonstrate compliance with all provisions of this permit, including TMDL restoration plans, wasteload allocations, milestones, and benchmarks. The program shall include water quality monitoring and may be supplemented by modeling. The program will be incorporated into the permit as enforceable provisions via a major modification. The County shall fully implement the program upon MDE approval.

For water quality monitoring, the number of samples, sampling frequencies, and number and locations of sampling sources must be adequate to ensure data are statistically significant and interpretable for all County water bodies. This monitoring must also be adequate to determine if improvement in water quality is being attained in order to make modifications to relevant management programs as necessary.

If the County chooses to use modeling (including modeling based on volume reduction achieved by impervious surface restoration) to supplement its water quality monitoring efforts, the County shall show that its chemical and physical monitoring provides accurate representations of water quality conditions sufficient to calibrate its model(s). In its annual report to MDE, the County shall describe how it has calibrated its model(s) with monitoring.

The County shall evaluate the implementation of the program in its annual report and make adjustments to its monitoring and modeling programs if their results are found at any point to be inaccurate or insufficiently representative.

This proposed language allows the County to make the determination in the first instance of what monitoring program is most appropriate to the system. Once proposed, MDE and the public will have an opportunity to review and suggest revisions to the monitoring program. Finally, MDE will approve a monitoring program only if it complies with the regulatory standard for a “monitoring program for representative data collection.” 40 C.F.R. § 122.26(d)(2)(iii)(D).

V. MAINTENANCE OF STORMWATER PRACTICES AND FACILITIES

A. Legal Requirements for Maintenance of Installed Controls

The permit needs to include clear minimum requirements for maintaining installed stormwater control practices and facilities, to ensure that the County's programs and plans continue to perform as needed to meet WQS and other legal requirements. To facilitate this, CWA regulations required MDE to gather from the County "information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented." 40 C.F.R. § 122.26(d)(1)(v). MDE's own regulations are also instructive:

A. Maintenance requirements established in this regulation shall be contained in all county and municipal ordinances and shall provide for inspection and maintenance. The owner shall perform or cause to be performed preventive maintenance of all completed ESD treatment practices and structural stormwater management measures to ensure proper functioning. The responsible agency of the county or municipality shall ensure preventive maintenance through inspection of all stormwater management systems. The inspection shall occur during the first year of operation and then at least once every 3 years after that.

Md. Code Regs. § 26.17.02.11.A.

B. Discussion and Requested Permit Language

We recommend that MDE add a new permit section titled "Maintenance of Stormwater Management Practices," in place of the current language in Section IV.D.1.d.:

d. Maintenance of Stormwater Management Practices

i. County Owned and Operated Practices

Within 18 months of the effective date of this permit, the County shall develop and implement a maintenance plan for all County-owned and operated stormwater management practices. This plan shall be designed to ensure that these practices are properly maintained so that they operate as designed, are safe, and are free from trash. The plan shall provide for the inspection of all practices at least once every three years and shall identify the means by which the County will keep the practices properly maintained. The County shall submit documentation in its annual reports identifying the practices inspected, the number of maintenance inspections performed, the County's inspection schedules, the actions used to ensure compliance, and any other relevant information.

ii. Non-County Owned and Operated Practices

In conjunction with updating of relevant ordinances and policies, as required by COMAR 26.17.02, the County shall develop accountability mechanisms to ensure maintenance of stormwater control measures on non-County property. Those mechanisms may include combinations of deed restrictions, ordinances,

maintenance agreements, or other policies deemed appropriate by the permittee. The County must also include a long-term maintenance verification process, which may include County inspections, 3rd party inspections, owner/operator certification on a frequency deemed appropriate by the permittee, and/or other mechanisms.

As with our requested monitoring language, our requested language on maintenance allows the County to propose in the first instance the maintenance plans that are appropriate to the County's system. The public and MDE will then have an opportunity to review the plans and suggest changes. MDE will then approve the plan only if it meets minimum legal requirements.

VI. PUBLIC RIGHT TO COMMENT ON AND CHALLENGE PLAN APPROVAL

A. Legal Requirements for Public Participation in Setting Effluent Limits

Where the terms of pollution control plans and programs are approved by MDE and incorporated as enforceable terms of the permit, those plans and programs must be treated as major modifications to the permit. This is because “[S]ection 301 of the Act mandates that every permit contain (1) effluent limitations that reflect the pollution reduction achievable by using technologically practicable controls, *see* 33 U.S.C. § 1311(b)(1)(A), and (2) any more stringent pollutant release limitations necessary for the waterway receiving the pollutant to meet ‘water quality standards.’ 33 U.S.C. § 1311(b)(1)(C).” *American Paper Inst, Inc.. v. EPA*, 996 F.2d 346, 349 (D.C. Cir. 1993) (emphasis added). Moreover, the permit cannot allow MDE and the County to negotiate different terms outside of the formal permit issuance process.

The plans and schedules required under the proposed permit will constitute “effluent limitations” insofar as they will contain restrictions on “quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources... including schedules of compliance.” 33 U.S.C. § 1362(11) (defining “effluent limitations” under the CWA). CWA regulations require that new or revised effluent limitations must be incorporated through a formal (*i.e.* major) permit modification that fully complies with public participation requirements:

If cause exists, the Director may modify or revoke and reissue the permit accordingly, subject to the limitations of § 124.5(c), and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. See § 124.5(c)(2).... If a permit modification satisfies the criteria in § 122.63 for “minor modifications” the permit may be modified without a draft permit or public review. Otherwise, a draft permit must be prepared and other procedures in part 124 (or procedures of an approved State program) followed.

40 C.F.R. § 122.62. (Emphasis added). Part 124 referenced in this section requires that non-minor permit modifications be subject to the same procedural requirements as new or re-issued permits. *See* 40 C.F.R. §§ 124.5 - 124.15.

In the context of an analogous regulatory program, the Court of Appeals for the Second Circuit held that Concentrated Animal Feeding Operation (“CAFO”) nutrient management plans must be incorporated into a facility’s NPDES CAFO permit:

There is no doubt that under the CAFO Rule, the only restrictions actually imposed on land application discharges are those restrictions imposed by the various terms of the nutrient management plan, including the waste application *rates* developed by the Large CAFOs pursuant to their nutrient management plans. Indeed, the requirement to develop a nutrient management plan constitutes a restriction on land application discharges only to the extent that the nutrient management plan actually imposes restrictions on land application discharges. To accept the EPA's contrary argument - that *requiring* a nutrient management plan is itself a restriction on land application discharges - is to allow semantics to torture logic.

Waterkeeper Alliance Inc. v. EPA, 399 F.3d 486, 502 (2d Cir. 2005) (emphasis in original).

Like CAFO nutrient management plans, TMDL implementation plans and other stormwater programs developed under a MS4 permit contain restrictions on the discharges of stormwater pollutants from the county’s MS4. Because the terms of those plans embody effluent limitations restricting point source discharges, they must be incorporated into the Permit through a major permit modification.

B. Discussion and Requested Permit Language

The requested language above already addresses this comment. In particular, our requested language for permit section IV.E.2.b. requires that TMDL implementation plans (or “restoration plans”) be incorporated into the permit through a major modification. (“incorporated into the permit as enforceable under this permit provisions via a major modification,⁸ including milestones, benchmarks, and final dates for attainment of applicable WLAs. The County shall fully implement the plan upon MDE approval.”) We requested similar language in permit section IV.F. for the County’s monitoring program. (“Within 2 years of the effective date of this permit, the County shall develop, public notice, and submit to MDE for review and approval a monitoring program....The program will be incorporated into the permit as enforceable provisions via a major modification. The County shall fully implement the program upon MDE approval.”)

In addition to the above, we note that any modification of the permit’s requirements must be accomplished through a major permit modification, with the narrow exception of those

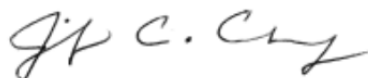
⁸ This recommended language also ensures the public’s right to participate in the development and approval of effluent limits in the permit, as discussed in section VI of these comments.

modifications that meet the definition of a “minor modification” in 40 C.F.R. § 122.63.⁹ Accordingly, changes made pursuant to the following permit terms are almost certain to require a major modification process:

- Proposed Permit Part IV.D.3.a.: “Within one year of permit issuance, an alternative program may be submitted for MDE approval that methodically identifies, investigates, and eliminates illegal connections to the County’s storm drain system”
- Proposed Permit Part IV.D.5.b.: “The maintenance program shall include these or MDE approved alternative activities,” and “Within one year of permit issuance, an alternative maintenance program may be submitted for MDE approval indicating the activities to be undertaken and associated pollutant reductions.”

Conclusion

For the reasons stated above and supported by the attached supporting documents, we urge MDE to significantly revise the proposed permit prior to final issuance. We encourage you to contact us with any questions and would welcome the opportunity to discuss these comments at MDE’s request.



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⁹ For MS4s, “minor modifications” include only changes made to “[c]orrect typographical errors; [r]equire more frequent monitoring or reporting by the permittee; [c]hange an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; [or] ... [d]elete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits.” 40 C.F.R. § 122.63.

Attachment B

Designated use WQS

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; DNR, 2013; Task Force; 2012]. These dramatic losses represent a decline in WQSs represented by Use II designated uses through loss or degradation 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 2008-2013⁵ tell that reaches of the Mattawoman above head of tide experienced a marked decline in upstream usage by spawning River Herring between 1999 and 2008. [O’Dell, 1971; DNR, 2010b; MWS, 2000; DNR, 2011; DNR, 2013; Task Force, 2012] Egg densities for sites several miles above head of tide have fallen by factors approaching 100, far exceeding the decline at head of tide. In the past, anglers routinely fished least one of these sites 2.5 miles above head of tide at the Bumpy Oak Road crossing. Clearly, the designated use of aquatic life and fishable waters is not being maintained in this Use I water.

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. This link now has regulatory recognition as Mattawoman is listed for impairment via chlorides. [MDE, 2014a] Until about 1989, conductivity declined as one progressed upstream from head-of-tide, as expected. [DNR, 2010; 2011; 2013] However, by 1998-1999, the gradient had reversed direction [MWS, 1999] and the reversed gradient appears to be worsening [DNR, 2010; 2011; 2013]. 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 WQS

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

⁵ 2014 ichthyoplankton survey data has not yet been fully analyzed.

appropriate for Use II freshwater tidal waters,⁶ 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* criterion⁷ 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 than 6.5 or greater than 8.5.”

For Mattawoman’s tidal waters, Table 2 shows numerous violations in pH for both the acidic and basic thresholds.

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

⁶ 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.

⁷ 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.

For the nontidal river, furthermore, 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] In MDE's draft Integrated Report, the nontidal river is now listed as impaired for low pH (i.e., acidic). [MDE, 2014a] While the Integrated Report gives "atmospheric deposition" as the acidity source, it should be recognized that stormwater may be a contributing cause through the more rapid funneling and increased volume of acid rain directed to streams by urban stormwater.[EPA, 2006; Chapter 4]

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.

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.