

## Enclosure

EPA Region III's Evaluation of the Petition Submitted by American Rivers, NRDC, and Blue Water Baltimore dated September 17, 2015

### **I. OVERVIEW**

On September 17, 2015, the Natural Resources Defense Council, American Rivers, and Blue Water Baltimore (hereinafter, the Petitioners) petitioned the Regional Administrator of EPA Region III pursuant to 40 CFR § 122.26(f) to make a determination, pursuant to 40 C.F.R. § 122.26(a)(9)(i)(D), that currently non-permitted stormwater discharges from commercial, industrial, and institutional (CII) sites are contributing to violations of water quality standards and therefore require National Pollutant Discharge Elimination System (NPDES) permits pursuant to section 402(p) of the Clean Water Act (CWA). The Petition cites nutrients (nitrogen and phosphorus) and sediment as the specific pollutants contributing to the impairment of the Back River in Baltimore City and Baltimore County, Maryland. Additionally, the Petition asserts that stormwater discharges from impervious surfaces on commercial, industrial, and institutional sites consistently contain elevated levels of these pollutants.

The Petition seeks designation and permitting of all currently unpermitted CII sites that discharge stormwater to Back River and its tributaries, where nutrient and/or sediment impairments caused by urban runoff are present, as described in the state's Integrated Report submitted under sections 305(b) and 303(d) of the CWA. As stated in the Petition, "non-NPDES permitted stormwater discharges" includes any discharge from a private property, or from a portion of a property, that is not subject to post-construction stormwater pollution requirements under an NPDES permit. The Petitioners recognize that stormwater discharges associated with industrial activity, as defined by 40 C.F.R. § 122.26(b)(14), are already regulated. For these categories of industrial facilities, the Petitioners request permitting of those portions of a facility not already permitted (e.g., employee parking lots and office buildings). Petitioners have requested regulation of all described discharges, regardless of whether or not those CII sites discharge to municipal separate storm sewer systems (MS4s) with existing NPDES permits.

On December 23, 2015, Region III provided an interim response to the Petitioners indicating additional review time would be necessary and that a final determination on the Petition was anticipated by the summer of 2016. EPA also convened meetings with the Petitioners on April 20, 2016 and August 16, 2016 to discuss the Petition review progress.

### **NPDES Program Overview**

EPA Region III consists of five States (Delaware, Maryland, Pennsylvania, Virginia, and West Virginia) as well as the District of Columbia (DC). EPA's Regional Office is the permitting authority, and provides oversight for, the NPDES stormwater permitting program in

DC and for federal facilities in Delaware. For the subject area of the Petition, the Maryland Department of the Environment (MDE) is authorized to administer the NPDES permitting program, with ongoing EPA oversight. Consequently, EPA coordinated with MDE extensively during the course of our analysis of the Petition.

### **2013 Petition for Designation**

On July 10, 2013, the Conservation Law Foundation, NRDC, American Rivers, together with a group of local Riverkeepers and Watershed Groups petitioned the Regional Administrator of EPA Region III to make a similar determination that CII facilities were contributing to violations of water quality standards in impaired waters throughout Region III, and therefore require NPDES permits. Region III declined to begin the designation process for stormwater discharges from CII sites throughout the Region, concluding that there was insufficient information on which to base such a broad categorical residual designation of currently unregulated stormwater discharges from such sites.<sup>1</sup> Additionally, Region III concluded that existing water quality protection programs were in place to address discharges from the majority of CII facilities in the Region.

Another factor considered in the 2013 petition response was the total maximum daily load (TMDL) established for the Chesapeake Bay watershed, a vital watershed that encompasses a large portion of Region III. In 2010, EPA established a comprehensive TMDL for the Bay to address sediment and nutrient impairments. As part of the accountability framework associated with the Bay TMDL, Region III committed to provide ongoing oversight and to reinforce our expectations through 2-year milestone reviews to ensure that progress is attained. The Chesapeake Bay TMDL has a significant milestone assessment in the year 2017, and goals are expected to be met by 2025. In light of this ongoing process and significant investments by Region III States, EPA concluded in the 2013 petition response that it was premature to make a determination that designation of additional stormwater discharges for permitting was warranted. In fact, EPA stated in the 2013 response that if, after the 2017 assessment, states have not met their TMDL-related commitments, Region III would evaluate the use of residual designation authority as a supplemental course of action for achieving the desired Bay water quality goals. EPA still supports this position.

## **II. STATUTORY AND REGULATORY BACKGROUND**

In 1987, Congress amended Section 402 of the Clean Water Act (CWA) and established a phased approach to regulating discharges “composed entirely of stormwater,” requiring some, but not all, point source discharges of stormwater to be regulated. Water Quality Act § 405, codified as CWA § 402(p). In the first phase, Congress required NPDES permits for discharges

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<sup>1</sup> Region III’s response is available at: [https://www3.epa.gov/reg3wapd/npdes/R3\\_RDA\\_Response-Enclosure.pdf](https://www3.epa.gov/reg3wapd/npdes/R3_RDA_Response-Enclosure.pdf)

from municipal separate storm sewer systems (MS4s) serving a population greater than 100,000, and stormwater discharges associated with industrial activity, which, as defined in EPA regulations includes construction sites greater than 5 acres.<sup>2</sup> CWA § 402(p)(1), (2), 33 U.S.C. § 1342(p)(1), (2). Additionally, the Act provides for NPDES permits for any stormwater discharge determined by EPA or an authorized state to contribute to a violation of water quality standards (WQS) or to be a significant contributor of pollutants to waters of the United States. CWA § 402(p)(2)(E), 33 U.S.C. § 1342(p)(2)(E).<sup>3</sup> In 1990, EPA promulgated permit application regulations for these discharges pursuant to § 402(p)(4), 33 U.S.C. § 1342(p)(4). 55 Fed. Reg. 47990 (Nov. 16, 1990) (“Phase I Rule”). The Phase I Rule included a provision allowing any person to petition EPA to require an NPDES permit for a stormwater discharge that contributes to a water quality standard violation or is a significant contributor of pollutants to waters of the United States. 40 C.F.R. § 122.26(f)(2).

In the second phase, Congress required EPA, after conducting studies and reporting on the results to Congress, to issue regulations designating additional stormwater discharges to be regulated “to protect water quality.” CWA § 402(p)(5), (6), 33 U.S.C. § 1342(p)(5), (6). Stormwater discharges designated for regulation under § 402(p)(6) were not necessarily required to be regulated through NPDES permits. Rather, Congress required that EPA “establish a comprehensive program to regulate such designated sources.” *Id.* In 1995, EPA completed studies and submitted a report to Congress describing additional stormwater discharges under consideration for regulation. Based on this report, EPA promulgated regulations in 1999 (“Phase II Rule”) designating two additional categories of stormwater discharges for regulation: certain small MS4s<sup>4</sup> and small construction sites (1-5 acres); and required NPDES permit coverage for these discharges. 64 Fed. Reg. 68722 (Dec. 8, 1999).

The Phase II rule also added a process to the regulations for designating additional stormwater discharges for NPDES permit coverage (“residual designation authority” or “RDA”) to allow designation of a category of discharges within a geographic area if the EPA Regional Administrator or the Director of an authorized state NPDES program determines that the discharge or category of discharges contribute to a violation of a water quality standard or significantly contribute pollutants to waters of the United States. 64 Fed. Reg. at 68781; 40

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<sup>2</sup> 40 C.F.R. § 122.26(b)(14)(x).

<sup>3</sup> This case-by-case authority to designate stormwater discharges for NPDES permits was codified at 40 C.F.R. § 122.26(a)(1)(v) in 1989. 54 Fed. Reg. 255 (Jan. 4, 1989). *See also* 55 Fed. Reg. 47990, 47993 (Nov. 16, 1990).

<sup>4</sup> Regulated small MS4s are primarily separate storm sewer systems serving municipal populations within “urbanized areas” as defined by the Census Bureau based on the latest census. 40 C.F.R. §122.32(a). This term also includes other publicly owned separate storm sewer systems similar to MS4s (e.g., military bases, large hospital or prison complexes, highways) and small MS4s outside urbanized areas based on criteria developed by the State; at minimum, municipal entities outside urbanized areas with a population greater than 10,000 must be considered for permitting. 40 C.F.R. §§ 122.26(b)(16); 40 C.F.R. § 123.35(b).

C.F.R. § 122.26(a)(9)(i)(D).<sup>5</sup> These residual designation provisions are based on the authority of both §§ 402(p)(2)(E) and 402(p)(6), recognizing the permitting authority's potential need to regulate individual unregulated stormwater discharges on a case-by-case basis, as well as the potential need to regulate stormwater discharges on a categorical basis locally or regionally to address local concerns or to make progress in complying with water quality standards. *See* 64 Fed. Reg. at 68781. Any discharge or category of discharges designated under the RDA regulation is subject to NPDES permitting. 40 C.F.R. § 122.26(a)(9)(ii),(iii).

### **III. SUMMARY OF PETITION AND REGION III DETERMINATION**

In the Petition, the Petitioners assert the following: (1) portions of the Back River are impaired by nitrogen, phosphorus and/or sediment; (2) stormwater runoff from impervious surfaces at CII sites convey those pollutants of concern and contribute to violations of water quality standards; and (3) ongoing programs are not adequately addressing the contributions from CII site discharges to impairments in the identified watersheds. In support, the Petitioners cite guidance and reports in which data has shown that stormwater discharges are significant sources of pollutants. Petitioners also cite to the National Stormwater Quality Database (NSQD), the National Resource Council, and EPA publications, along with various other studies pointing to a connection between increases in the amount of imperviousness and decreases in water quality. The Petition also cites Total Maximum Daily Loads (TMDLs) established by EPA and the States to illustrate the specific sources of pollutants leading to the impairments in the Back River.

After reviewing the information provided by Petitioners, as well as other sources of information, Region III declines to grant the petition to designate stormwater discharges from CII sites in the Back River watershed. In addition, our analysis in response to this Petition indicates that water quality protection programs that cover the majority of CII stormwater discharges in the identified watersheds are in place to address these discharges. This response explains how Region III has been addressing urban stormwater pollution via the NPDES program and describes how the Region is using an array of tools and our ongoing oversight to continuously control stormwater pollution. EPA affirms that the use of RDA, while a valuable tool that we will continue to consider for the future, is not warranted at this time.

### **IV. PETITION REVIEW CRITERIA**

As discussed in the 2013 petition response, EPA has identified a number of factors to consider in exercising its case-by-case and categorical designation authority. For a case-by-case determination under section 402(p)(2)(E), EPA described as relevant factors the available water quality and sampling data as well as "the location of the discharge with respect to waters of the

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<sup>5</sup> The Phase II rule also allows for designating stormwater discharges for NPDES permit coverage if stormwater controls are needed for such discharges based on wasteload allocations in a TMDL. 40 C.F.R. § 122.26(a)(9)(i)(C). This basis for designating stormwater discharges was not raised in the petition.

United States; the size of the discharge, the quantity and nature of the pollutants reaching waters of the United States; and any other relevant factors.” 55 Fed. Reg. at 47993. As noted in early guidance with respect to designations under CWA § 402(p)(3)(E), State reports generated under CWA section 305(b) are critical sources of information for making designation determinations.<sup>6</sup>

In the development of the Phase II rule, EPA considered designation of additional categories of stormwater sources for regulation under the NPDES permit program, based on three factors. 64 Fed. Reg. 68722, 68780 (December 8, 1999). EPA considered 1) the likelihood for exposure of pollutants to precipitation at sources included in that category, 2) whether sufficient data are available on which to make a determination of potential adverse water quality impacts for the category of sources, and 3) whether such sources were adequately addressed by other environmental programs. *Id.* The likelihood of exposure of pollutants to precipitation at industrial sources was also a factor in defining the scope of “stormwater discharges associated with industrial activity” in the Phase I rule. *See* 55 Fed. Reg. at 48008.<sup>7</sup> These basic factors are also relevant in evaluating the Petition.<sup>8</sup>

In a letter from the EPA Assistant Administrator for Water to the Vermont Agency of Natural Resources,<sup>9</sup> EPA elaborated on these factors. EPA noted that “[n]either the CWA nor implementing regulations impose a non-discretionary duty to designate sources” and that a decision to “exercise its discretion to designate sources (or not) should be based on available information and relevant considerations.” (Mehan letter at 1). Noting that sufficient information to determine causes of impairment or to identify stormwater sources of the impairment may not be available in some circumstances, EPA further stated that while it has not defined a threshold level of pollutant contribution that would trigger a finding that a source is contributing to a violation of a water quality standard (WQS) or is a significant contributor of pollutants to waters of the U.S., “it would be reasonable to require permits for discharges that contribute more than *de minimis* amounts of pollutants identified as the cause of impairment to a water body.” (Mehan letter at 2). However, EPA also noted that “other water quality protections that are already in place” are relevant to consider with respect to whether to designate a source or when to make such designation or permit application requirement effective. For example, in the final

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<sup>6</sup> *Designation of Stormwater Discharges for Immediate Permitting*, August 8, 1990, available at <http://www.epa.gov/npdes/pubs/owm0220.pdf> at 12.

<sup>7</sup> The Phase I rule, which excluded from the definition, certain industrial stormwater discharges based on the assumption that there is little or no exposure of materials or activities to precipitation was remanded. *NRDC v. EPA*, 966 F.2d 1292, 1305 (9th Cir. 1992). However, the underlying rationale that exposure of industrial pollutants to precipitation is a relevant factor was not questioned. Rather, EPA’s exclusion was remanded for lack of record support for this assumption. To cure this defect, in the Phase II rule EPA promulgated a conditional exclusion for owners/operators of industrial activities to certify that the facility meets the “no exposure” requirements of the rule. 64 Fed. Reg. at 68782-87; 40 C.F.R. § 122.26(g).

<sup>8</sup> EPA’s use of these factors in deciding not to designate additional stormwater sources in the Phase II rule was upheld. *See Environmental Defense Center v. EPA*, 344 F.3d 832, 861 (9th Cir., 2003).

<sup>9</sup> Letter from G. Tracy Mehan, III to Elizabeth McLain, with attachment “Answers to Questions Raised,” dated Sept. 16, 2003. (“Mehan letter”)

designation for discharges to Bartlett, Centennial, Englesby, Morehouse and Potash Brooks, the Vermont Department of Environmental Conservation determined that, “a designated discharge is defined as a storm water discharge from an impervious surface to either Bartlett, Centennial, Englesby, Morehouse or Potash Brook if such discharge is not covered under the NPDES municipal separate storm sewer system (MS4) permit or another NPDES permit...” Additionally, the designation specified that non-municipal discharges into the MS4 system or discharges that commingle with the MS4 system would not be subject to designation.

Region III has evaluated the Petition in light of the factors discussed above. The Region has also taken into consideration administrative and policy factors. Further, the Region consulted MDE, since they are the agency authorized to administer the NPDES program in Maryland and would be responsible for issuing and overseeing permits for any designated stormwater discharges. The state’s concerns included factors such as resources, workload, and their preferred means of addressing stormwater-related pollution using programs currently in place.

In sum, the factors considered by the Region in evaluating the petition are:

- A. Likelihood of exposure of pollutants to precipitation at sites in the categories identified in the petition.
- B. Sufficiency of available data to evaluate the contribution of stormwater discharges to water quality impairment from the targeted categories.
  - a) Data to determine locations of unregulated CII sites
  - b) Data with respect to stream assessments and water quality
  - c) Data available from establishment of Total Maximum Daily Loads
- C. Whether other federal, state, or local programs adequately address the known stormwater discharge.

## V. ANALYSIS

### A. Likelihood of Exposure of Pollutant Sources at CII Sites

The Back River Watershed encompasses just over 84 square miles. The watershed includes 73 miles of streams located in urban and suburban portions of southeastern Baltimore County and includes the northeastern quadrant of Baltimore City. Approximately two-thirds of the watershed is located within Baltimore County. The Back River Watershed is located in the western shore region of Maryland, northeast of the Baltimore Harbor and drains into the Chesapeake Bay. Land use in the Back River watershed is primarily urban but also consists of some forested areas, rural areas and farms, suburban areas, and industrial areas. Commercial,

industrial, and institutional land uses account for approximately 20% of the watershed, or roughly seventeen square miles. Nearly 40% of the CII land use is considered impervious cover, totaling seven square miles.

## ***B. Analysis of Available Data***

For purposes of this Petition, EPA accepts that CII sites in the Back River watershed have impervious surfaces, which are subjected to a variety of pollutants that may be discharged to surface waters upon exposure to precipitation. Moreover, EPA has recognized that “the level of imperviousness in an area strongly correlates with the quality of the nearby receiving water.” 64 FR 68722, 68725 (December 8, 1999). However, this correlation alone is not sufficient for making a determination that as a category CII sites are contributing to water quality standard violations in the Back River watershed.

### **1. GIS Analysis to Determine the Location of Unregulated CII Sites**

In order to assess the potential contribution of CII discharges to the water quality impairments listed in the petition, EPA assessed the location of the CII sites relative to the Back River. Therefore, Region III reached out to the local NPDES permitted jurisdictions to gather GIS mapping data in an effort to analyze the potential impact of impervious surface associated with CII sites and their location relative to the impaired waters.

Region III obtained GIS data from Baltimore County and Baltimore City. Both of these jurisdictions, in addition to being regulated as Phase I MS4s, are located within the Chesapeake Bay watershed and addressed in the Chesapeake Bay TMDL. The data obtained from the jurisdictions show areas of CII land uses, as well as impervious surface, NPDES industrial stormwater permitted areas, and locations of stormwater controls. In the state of Maryland, Phase I MS4 permits apply jurisdiction-wide, therefore, all stormwater discharges from the Back River watershed within the boundaries of Baltimore County and Baltimore City drain into MS4s regulated under NPDES permits.

The GIS analysis indicates that identified CII areas are, in the vast majority of instances, located within and discharge stormwater to regulated MS4s, the Chesapeake Bay, and/or are being addressed through the implementation of local TMDLs. Therefore, they are controlled by other CWA programs and do not require designation at this time since it is unlikely that any additional water quality benefit would be realized by requiring permits for CII stormwater discharges.

### **2. Analysis of Water Quality Data**

The Back River watershed is comprised of two sub-watersheds: The Upper Back River and the Tidal Back River. A Watershed Management Plan (WMP) study was conducted at the

request of the Baltimore County Department of Environmental Protection and Resource Management to provide recommendations for watershed protection measures in the Back River Watershed. In Baltimore County, the Watershed Management Program develops watershed plans and strategies in collaboration with community partners, especially local watershed associations, to meet pollution reduction requirements to protect the County's water resources. The executive summary for the Back River WMP includes a discussion of the water quality problems and sources of pollution in the watershed. According to the WMP, "Stormwater pollution loadings in Back River watershed can be managed by requiring structural best management practices (BMPs) for all new development and by pursuing a program to convert stormwater ponds to provide control for pollution facilities and to retrofit existing development with BMPs." These concepts from the WMP have been incorporated into both Maryland's state regulation for new development and redevelopment and the most recent MS4 permits for Baltimore City and Baltimore County. As explained in further detail below, the Maryland Stormwater Management Act requires the use of "ESD to the MEP" (Environmental Site Design to the Maximum Extent Practicable) while MS4 permits contain requirements for the restoration (or retrofit) of untreated impervious surface.

In compliance with federal regulations, MS4 permits require the major counties in Maryland to reduce pollution that drains to local streams from stormwater systems. Previous iterations of the permits required Counties to develop monitoring programs and prepare watershed plans to identify projects and programs that could reduce pollution from non-point sources. Although progress was made as projects were implemented, additional reductions were needed to have clean water that meets water quality standards.

To achieve additional pollutant reductions, Baltimore County developed two Small Watershed Action Plans (SWAPs) for the Upper Back River and Tidal Back River watersheds to focus the communities on identifying environmental goals and to identify specific solutions that are tailored to local areas. They are used by Baltimore County in conjunction with citizen groups to implement actions that create and maintain healthy watersheds.

A SWAP contains both an assessment of current conditions, and a strategy that outlines how local streams and rivers will be restored to health in order to bring a small watershed into compliance with water quality criteria. The strategies are developed with input from a steering committee and a stakeholder group comprised of local citizens. Strategies include, but go beyond, traditional government capital projects to also include actions in partnership with local watershed associations, citizen awareness campaigns and volunteer activities.

The vision statement adopted in the SWAP for the Upper Back River is a healthy watershed with streams achieving water quality standards by 2028. To realize this goal, the SWAP outlines a restoration strategy containing activities for both the local government (retrofit

of existing stormwater management BMPs, stream restoration, street sweeping and inlet clean out, IDDE/Hotspot remediation) and citizens (downspout disconnection, fertilizer application, pet waste awareness, street tree planting and reforestation) to undertake. The implementation schedule in the SWAP proposes annual milestones and development of an annual progress report as part of its adaptive management approach for accomplishing the objectives outlined in the report.

The SWAP for the Tidal Back River envisions a healthy and vibrant stream system leading to the tidal portions of the river, with good water quality and diverse aquatic life. The SWAP for the Tidal Back River outlines government and citizen activities identical to those listed above in the Upper Back River SWAP to be undertaken to achieve the restoration of the watershed. The tidal portion of the river has an implementation schedule with a 2020 endpoint.

According to Maryland’s 319 Nonpoint Source Program 2015 Annual Report, the pollutant load reduction progress for projects implemented in the Back River watershed (reported by Baltimore County only) for the two portions (Tidal and Upper) of the watershed are shown in the table below.

**Estimated Pollution Load Reduction Progress for the Back River Watershed (2010-2015)**

Portion	Nitrogen lbs/yr	Phosphorus lbs/yr	Sediment tons/yr
Tidal	890.3	511.2	831.8
Upper	373.4	164.6	48.2

**3. Assessment of Total Maximum Daily Loads (TMDLs)**

CWA section 303(d) requires that states identify waters not complying with WQS, even with technology-based effluent limits in place. States must develop TMDLs for all such waters in accordance with a prioritized schedule developed by the state. In developing a TMDL, a quantitative assessment is made of the relative pollutant contributions from point sources, nonpoint sources, natural background, and the degree to which reductions in pollutant discharges are needed to attain compliance with WQS. TMDLs are the sum of wasteload allocations for point sources, load allocations for non-point sources and natural background along with a margin of safety sufficient to ensure compliance with WQS. Once a TMDL is approved or established by EPA, any NPDES permit covering sources discharging to the waterbody must include requirements consistent with the wasteload allocations in a TMDL. 40 C.F.R. § 122.44(d)(1)(vii)(B).

The water quality of Back River is impaired by excess nutrients. Maryland established and EPA approved a TMDL for nutrients, and the source assessments that accompany the TMDL provide useful insights into determining whether stormwater from CII sites, or alternatively, urban runoff, is contributing to the impairment. EPA reviewed the Back River TMDL and has determined that the TMDL source assessment does not provide sufficient evidence for EPA to exercise RDA for the stormwater discharges from CII sites to the waters addressed by the TMDL.

EPA approved the Back River TMDL for nutrients in June 2005. The tidal stream segment of the Back River was first identified on the 1996 303(d) list as impaired by nutrients based on signs of eutrophication. Eutrophication is the over-enrichment of aquatic systems by excessive inputs of nutrients (nitrogen and/or phosphorus). The TMDL analysis states that the Back River Wastewater Treatment Plant (WWTP) is the source of more than 90% of the nitrogen load and more than 70% of the phosphorus load. The Back River WWTP treats 180 million gallons of sewage each day for 1.3 million residents of Baltimore City and Baltimore County. The Petition states that EPA's TMDL approval decision rationale assumed necessary reductions from the WWTP would be addressed due to efforts begun after the monitoring period in 1997, which is when the plant implemented a Biological Nutrient Reduction (BNR) program. However, because subsequent assessments demonstrated that the nutrient impairment persisted, the plant is currently undergoing a further upgrade to an Enhanced Nutrient Removal (ENR) treatment process. This effective nutrient removal upgrade is expected to significantly improve the River's water quality. The TMDL assigns only a 15% reduction to both Baltimore City and Baltimore County for the MS4 portion of the wasteload allocation.

According to the TMDL Implementation Plans prepared by Baltimore County and Baltimore City, measures undertaken to implement the Chesapeake Bay TMDL, which requires greater nutrient reductions than the local TMDL, will likely also serve to implement the Back River nutrient TMDL. The Plans also contain tables of the practices and projects that have been completed through fiscal year 2013 along with the estimated pollutant removal rate in pounds per year of nutrients and sediment. These project lists are updated and submitted to MDE each year with the MS4 Annual Reports.

The Petition further mentions that Maryland's 2014 Integrated Report identifies the Back River segment as impaired. While the Report identifies a segment of the Back River as impaired for nutrients, that segment is placed on the Category 4a list for waterbodies that already have a TMDL developed that establishes pollutant loading limits, which are designed to bring the water body back in to compliance. Additionally, the sediment impaired portion of the Back River, originally listed in 2012, is listed in Category 5 as needing a TMDL; however the priority is low on the state's list for TMDL development. These categorizations provide further evidence that existing CWA programs are in place and/or are required to be developed to address the

impairments and that RDA is not warranted at this time for CII sites in the Back River watershed.

The Petition states that “it is indisputable that stormwater discharges from CII sites are contributing to the impairments” in the Back River. (See Petition at page 22). While EPA has conceded that areas of impervious surface, of which CII sites are a subset, can carry pollutants via stormwater runoff, that alone is not an adequate basis for exercising residual designation authority. In fact, the TMDL explains that urban runoff, which includes stormwater runoff from CII sites, is a minor contributor to the nutrients in the Back River, and identifies other, more significant sources of nutrients to the Back River. Similarly, the Executive Summary of the Back River WMP states, “Although urban nonpoint pollution represents a water quality concern within the watershed, the Back River wastewater treatment plant (WWTP) discharges significantly greater nutrient loads to Back River estuary and Chesapeake Bay...due to the much higher nutrient concentrations in typical municipal point source discharges.”

### **C. Stormwater from CII Sites Addressed by other Programs**

As noted above, one of the three principal factors EPA is using to evaluate whether to designate unregulated stormwater discharges for NPDES permitting is whether other federal, state, or local programs adequately address the discharges. Region III evaluated regulatory programs that are currently in place in the Back River watershed to determine how they address CII sites and whether those programs are adequate.

Region III agrees with the Petitioners that generally many CII sites have significant amounts of impervious surface, which are exposed to a variety of pollutants that can be discharged in stormwater from the sites. With respect to the Back River watershed, the data analysis performed by the Region in response to the Petition shows that while a portion of the identified watersheds are defined as urban land use, stormwater discharges from that land is currently regulated by NPDES stormwater permits, as well as under state regulation as described below.

#### **1. NPDES Municipal Separate Storm Sewer (MS4) Permits**

Over the past three years, Region III has been working with its authorized state agencies to issue a new generation of MS4 permits that increase the focus on addressing water quality issues. For the first time these renewed permits have specific local TMDL (such as the Back River TMDL) and Chesapeake Bay TMDL restoration commitments, and these permits are a significant improvement over previous permits.

Each of the jurisdictions where the Back River watershed is located (Baltimore City, MD; and Baltimore County, MD) are operating under active Phase I MS4 permits. During the issuance of each of these permits, Region III used its review opportunity to ensure that MDE

used their NPDES authority to include conditions in the MS4 permits to meet TMDL allocations and address impaired waters, in addition to restoring impervious surface to reduce runoff from existing sources. In fact, Region III filed multiple objections to each of the identified MS4 permits prior to their reissuance to ensure that applicable water quality requirements were addressed in the permits. Moreover, MDE has included retrofit requirements in renewed permits, as explained in more detail below. Maryland also committed to include conditions in MS4 permits as a provision of their Chesapeake Bay Watershed Implementation Plan (WIP). These requirements provide opportunities for additional water quality improvements from CII discharges in those areas.

a. TMDL/Retrofit Provisions

Through the NPDES permitting process, Phase I MS4 permits in Maryland include retrofit/restoration requirements. The MS4 permit conditions described below include retrofit requirements to restore and/or mitigate the effects of impervious cover. This restoration can be achieved by performing a number of different activities and calculating the equivalent credit for an amount of impervious acres treated-or restored. Due to the highly impervious nature of CII sites, and the applicability of the Phase I MS4 jurisdiction-wide, these retrofits have the potential to be implemented on CII sites. However, even if retrofits are not implemented specifically on CII sites, the reductions in runoff from other sources should have a similar effect on water quality.

In conjunction with the terms of Maryland's Chesapeake Bay Watershed Implementation Plan (WIP), the four large Phase I MS4 permits that were reissued by MDE (which includes Baltimore City and Baltimore County) require "restoration" of an additional 20% of impervious surface, *i.e.*, in addition to the restoration efforts that were initiated during previous permit cycles. MDE's permits require restoration of impervious surface that has little or no stormwater management. To assist NPDES permittees in establishing a baseline and calculating restoration achieved by implementing best management practices, MDE developed a guidance document "*Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated.*" To begin the restoration process, the MS4 permits specify that the jurisdictions prepare an impervious surface area assessment of the entire jurisdiction to serve as the baseline for their restoration efforts. Both Baltimore County and Baltimore City have prepared assessments, which were approved by MDE. The permits then further require the permittees in Part IV.E.2.a to "by the end of the permit term, commence and complete the implementation of restoration efforts for 20% of the impervious surface area consistent with MDE's methodology..."

Regarding local TMDLs, such as the Back River nutrient TMDL, the permits require in Part IV.E.2.b

"Within one year of permit issuance, Baltimore City 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 City shall submit restoration plans for subsequent TMDL WLAs within one year of EPA approval. Upon approval by MDE, these restoration plans will be enforceable under this permit.”

Both Baltimore County and Baltimore City submitted timely plans to MDE in accordance with the permit condition. MDE has reviewed these plans and made technical modeling comments that must be resolved prior to approving them formally. Because these comprehensive plans contain many of the restoration actions that are necessary for meeting local and Bay TMDLs, MDE has requested that the County and City begin implementing these plans immediately. EPA finds that it is premature to consider RDA until the jurisdictions are given the opportunity to evaluate the outcome of the implementation of the restoration plans.

b. Industrial/Commercial Stormwater Provisions

Federal regulations at 40 CFR § 122.26 (d)(2)(i)(A) and (iv)(C) require Phase I MS4 permittees to control stormwater discharges from industrial sites. Section 122.26(d)(2)(i)(A) requires adequate legal authority to control industrial stormwater discharges to the MS4 and §122.26(d)(2)(iv)(C) requires a stormwater management program to include a program to monitor and control pollutants from industrial facilities that the permittee determines are contributing a substantial pollutant loading to the MS4 system. The regulation further requires the permittee to identify priorities and procedures for inspections as well as a monitoring program. The Phase I MS4 permits in Maryland include the requirement to identify and inspect high risk facilities in industrial and commercial areas. Both the Baltimore City and Baltimore County MS4 permits require, in Part IV.C.2 that the permittees identify industrial and commercial land uses and sites that the permittees have determined have the potential to contribute significant pollutants to the MS4. Therefore, a number of sites identified in the petition and located within the regulated Phase I MS4 are subject to some level of oversight under this permit.

Furthermore, at Part IV.D.3.b of the Baltimore City MS4 permit, the City is required to do the following as part of its Illicit Discharge Detection and Elimination program:

“Conduct annual visual surveys of commercial and industrial areas as identified in PART IV.C.2 above for discovering, documenting, and eliminating pollutant sources.”

In both instances Baltimore City is required to include the results of the identification and surveying in its annual report. These same requirements are included in Baltimore County’s MS4 permit.

c. Illicit Discharge Detection and Elimination (IDDE) Programs

One essential component of the MS4 program is the Illicit Discharge Detection and Elimination (IDDE) element.

In Baltimore County, commercial and industrial pollution surveys have been conducted for years as part of the SWAP process, referred to as Hotspot Site Investigations (HSIs). A ramped up hotspot program was initiated in the 2015 fiscal year. In years prior, commercial and industrial sites (private and public) were selected for HSIs by pursuing sites that seemed likely to be actual stormwater pollution hotspots. During the 2015 fiscal year, 65 complaints were received. Of those received, 18 are ongoing and the remainder were resolved. There were also 97 complaints investigated in 2014. Of those received, 20 remain ongoing and the remainder were resolved.

According to their latest MS4 Annual report, Baltimore County plans to refine the HSI program to make more efficient use of field time in the near future. The plan involves analyzing current data for patterns that would allow problem sites to be more easily identified. By identifying the categories of commercial and industrial sites that tend to have issues, more effective time management and elimination of pollution problems can be realized. The plan will include a method for prioritizing hotspots for future re-checks and development of a Standard Operating Procedure for hotspot assessments.

Baltimore City relies on ammonia screening and stream impact sampling (SIS) to initiate pollution source tracking (PST) investigations. The City has utilized this alternative method of IDDE since 1998, which requires a routine (weekly) field analysis of 45 outfalls in the City as part of the program. In 2015, 43 supplemental locations were added, which are sampled monthly.

The City recently added a new customer service request for polluted waterways. Complaints are reported via phone, internet, or mobile phone application and tracked through the 3-1-1 system. During the 2015 fiscal year, a total of 57 service requests were received, of which 27 resulted in a PST investigation.

During 2015, the City also developed an application for iPad™ tablets to improve the PST investigation process. The application is an update to an existing, outdated system which relied on outdated GIS utility data, and required daily downloading to an unsupported version of MS Access databases. The new application is directly connected with current utility GIS data, historic house reports, and provides routine reports plus real-time access to the system by multiple users. This application, coupled with a new Sanitary Sewer Overflow (SSO) reporting application, has improved the transparency and efficiency of identifying and abating illicit discharges into the storm sewer system.

#### d. Institutional Facilities

Based upon data obtained from Baltimore City and Baltimore County, the institutional land use in the Back River watershed comprises approximately 2.3 square miles. This number represents 3% of the watershed's land cover.

In Maryland, public school buildings are considered as part of the regulated MS4 since the County/City regulates all discharges from jurisdiction property to their storm sewer system. One example of a BMP being implemented on institutional property in the Back River watershed is the stream restoration project along the Bread and Cheese Creek on the property of the Berkshire Elementary School. Other institutional land uses, such as public universities, are required to obtain their own NPDES coverage under the Phase II MS4 General Permit for State and Federal Facilities.

### **2. New and Redevelopment Regulations**

In addition to the TMDL and MS4 programs described above, Maryland has well established state-wide regulations, which further address stormwater pollution from new development and redevelopment related to CII (and other) sources. These regulations apply throughout the entire state, not only within regulated MS4 boundaries.

The Maryland Stormwater Management Act requires the use of Environmental Site Design in all new development and redevelopment projects. The primary goal of Maryland's stormwater management program is to maintain post development, as nearly as possible, to the predevelopment runoff characteristics of a site. To achieve this objective, MDE developed a policy for a comprehensive design strategy that maintains predevelopment runoff characteristics and protects natural resources. This strategy, known as Environmental Site Design or "ESD", relies on integrating site design, natural hydrology, and smaller on-site controls to capture and treat runoff. All development projects that are larger than 5,000 square feet in size are required to meet the ESD standard. This standard has been in place since 2007. The redevelopment standard applies when construction, alteration or improvement occurs on specified land uses where the existing site impervious area exceeds 40 percent of the total site. Regulations encourage redevelopment by requiring that developers reduce existing impervious area and implement ESD to the maximum extent practicable to provide water quality treatment for at least 50 percent of the existing impervious surface. In particular, these regulations were developed to reduce the amount of newly-created impervious surfaces generated and ensure the treatment of runoff from all categories of sites, including CII sites, which will only serve to aid in reducing the pollutants identified in the Petition.

### **3. Industrial Permit Program**

Maryland's general permitting program includes examples of conditions in addition to traditional requirements. Maryland's Industrial General Permit includes restoration language similar to the MS4 requirement to help achieve Chesapeake Bay TMDL reductions. The permit requires in Part III.A.1.a that a permittee "must select, design, install and implement restoration of 20% of the untreated impervious surface area at your facility or equivalent control measures for the reduction of nutrients." Moreover, Maryland maintains separate specific general permits to address discharges to surface waters and/or groundwater for a number of additional industrial-type discharges; these include runoff from boatyards (i.e., not only from marina vehicle/vessel maintenance and equipment cleaning operations per federal regulation), groundwater seepage from coal and mineral mining, and discharges to surface waters, from overflow, drawdown and cleaning water associated with swimming pools and spas.

#### **D. EPA Oversight of the Effectiveness of Existing State Stormwater Programs**

##### **1. Permitting**

Region III has made an ongoing substantial investment to address urban sector/stormwater issues in an effort to strengthen the performance of the core NPDES program. As noted above, Maryland MS4 permittees are regulated jurisdiction wide, meaning that all CII sites within the boundaries of Baltimore City and Baltimore County are subject to local controls implementing the NPDES permit.

EPA recognizes that state and federal resources are limited, and the best use of resources is another factor for consideration. After consultation with our State partners, Region III has concluded that available resources would be best focused on enhancing the effectiveness of the core MS4 permitting tools. These tools have a much wider coverage and impact on the existing built environment as opposed to capturing a small percentage of unregulated entities through the use of RDA.

Region III has focused on ensuring that the next generation of MS4 permits improve upon previous iterations. EPA also reviews all relevant NPDES permits to ensure that they are consistent with the commitments made by the states in their Chesapeake Bay WIPs to achieve the nutrient and sediment reductions allocated in the Bay TMDL. In July 2010, a document was issued that described our expectations for MS4 permits throughout the Region titled *Urban Stormwater Approach for the Mid-Atlantic Region and the Chesapeake Bay Watershed*. Subsequently, Region III issued a number of permit objections to MS4 permits, with water quality issues being the basis for the majority of those actions. As a result of EPA's activities, as described above, MS4 permits in Maryland have improved in that they include provisions for addressing impaired waters through TMDL plan development and implementation. Moreover, MDE includes restoration requirements for implementing BMPs to treat existing impervious

surface in their MS4 permits. It is anticipated that the next permits to be issued in 2018 will continue to advance the MS4 program and improve water quality.

## **2. Enforcement**

In accordance with EPA's National Enforcement Initiative, Region III committed to perform audits on all Phase I MS4s within the Region by 2016. As stated above, there are two Phase I MS4 jurisdictions located within the Back River watershed. EPA performed assessments of each of the regulated jurisdiction's compliance with the requirements of their MS4 permit. Baltimore County's MS4 program was inspected March 8-9, 2011. Baltimore City's MS4 program was inspected April 6-7, 2009. As explained in more detail below, EPA audits of these Phase I MS4s revealed that industrial and commercial prioritization and inspections were deficient.

During the inspection of the Baltimore County MS4 program, EPA personnel discovered that the County failed to adequately address illicit discharges and did not develop and/or implement stormwater pollution prevention plans (SWPPP) for its own industrial facilities, including exposed salt piles. As a result, the County agreed to obtain NPDES industrial stormwater permit coverage for its facilities and prepare proper SWPPPs and paid a penalty of \$47,000.

During the 2009 inspection of the Baltimore City MS4 program, a number of deficiencies related to industrial facilities were observed. Particular examples of documented issues included: failure to maintain BMPs, perform good housekeeping practices, and/or properly develop and implement SWPPPs. As a result, the City was ordered to come into compliance with the terms of its MS4 permit, obtain appropriate NPDES permits for sites and paid a penalty of \$60,000.

In addition to the monetary penalties assessed, the MS4 inspections performed by Region III have resulted in improved industrial inspection procedures and increased awareness throughout the Region of the MS4 program as a whole.

## **3. State Program Assessments**

Between 2011 and 2013, Region III performed state-wide assessments of the entire stormwater program for each of the five states that are authorized to administer the NPDES program. Some common recommendations from those assessments related to CII sites include: (1) development of a process to identify non-filers and sites where permit coverage is required but not yet obtained; (2) increasing the number of inspections and enforcement to promote compliance; and (3) obtaining industrial permits for municipal facilities. Beginning in 2016, EPA is scheduling follow-up assessments with each of our states to determine the adequacy of the actions that the states have taken to address deficiencies identified during our initial review.

To date, follow-up reviews have been conducted in Virginia and Pennsylvania. It is anticipated that Maryland's follow-up review will take place in the near future, pending availability of EPA resources and funding. Similar to the initial assessments, written reports will be prepared to convey the results of the secondary evaluations, so that Maryland can focus resources on continuing to improve its stormwater program.

#### **4. Chesapeake Bay WIP Oversight**

In accordance with the Chesapeake Bay TMDL, states were required to map out strategies in their state WIPs to achieve nutrient and sediment reductions allocated to them. As part of this process, states are required to develop two year milestones and submit on the ground BMP statistics to show how nutrient and sediment reductions are being achieved. EPA is required to evaluate these milestones and state's progress toward meeting allocation goals through model runs of the input data. EPA has committed to taking federal actions against States where milestones are not met and/or progress toward meeting pollutant reductions is not realized.

As part of the Maryland milestone process, MDE has committed to program enhancements, including the reissuance of the expired Phase II MS4 general permits for municipalities and state and federal facilities. These permits will contain language similar to the requirement in the Phase I MS4 permits for Baltimore City and Baltimore County that require the restoration of 20% of the jurisdiction's untreated impervious area. The area to be restored does not only apply to municipally owned land, but applies to all land within the jurisdiction, including CII lands. Additionally, MDE has committed to keep the *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* document updated. This manual acts as the official guidance for MS4s in order to comply with the 20% restoration requirement.

## **VI. CONCLUSION**

Region III recognizes that there exists an observable link between urban water impairments and impervious surfaces and supports the need for constantly improving stormwater controls and stormwater pollution prevention. However, after reviewing the information provided by the Petitioners, as well as other sources of information, and considering the factors described above, Region III has concluded that it will not issue a categorical designation of all currently unregulated stormwater discharges from commercial, industrial and institutional sites in the Back River watershed. CII sites comprise only a minor portion of the overall stormwater source identified in the TMDL, and existing CWA programs are being implemented to improve conditions. Under these circumstances, exercise of residual designation authority to require stormwater permits for unregulated CII stormwater discharges is not warranted and would be an inefficient use of already limited resources.

In sum, MDE has issued much-improved MS4 permits from previous iterations that contain requirements to deal with impaired waters, adopted state specific standards for new development and redevelopment, and issued industrial general permits that include elements beyond traditional requirements. The implementation of these programs will require a

significant resource commitment by the state, the Region, and the regulated community for many years to come. Region III is committed to providing proper oversight and working with Maryland to ensure that these programs and activities are implemented and meet their water quality objectives. If it becomes apparent that these programs are not meeting their objectives, then the Region will need to consider alternative tools, including RDA.

Region III agrees with the Petitioners that RDA is a viable tool, in appropriate circumstances, to address the concerns identified in the Petition. While Region III is not at this time proposing to perform wholesale designation of entire categories of land use as requested in the Petition, the Region is prepared to evaluate the use of RDA to address impaired waters in a targeted manner where there is solid evidence and documentation of an entity's causing and contributing explicitly to water quality impairments and that designating additional sources will lead to significant reductions in pollutant loadings and water quality improvement.

