IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA

AMERICAN FARM BUREAU FEDERATION, *et al.,*	:	**CIVIL NO. 1:11-CV-0067**
Plaintiffs	:	
v.	:	
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.,*	:	**Judge Sylvia H. Rambo**
Defendants	:	

M E M O R A N D U M

Presently before the court are several motions for summary judgment related to an administrative review of the issuance of the Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus, and Sediment ("TMDL", "Bay TMDL", or "Final TMDL"). Plaintiffs filed a joint motion for summary judgment (Doc. 95) and Defendant United States Environmental Protection Agency ("EPA") filed a cross-motion for summary judgment (Doc. 99). Some Defendant-Intervenors filed briefs in support of EPA's cross-motion (Docs. 102 & 108), and other Defendant-Intervenors filed a separate cross-motion for summary judgment and brief in support (Docs. 103 & 104) that largely supplemented EPA's motion. For the reasons that follow, Plaintiffs' motion will be denied, and EPA's and Defendant-Intervenors' cross-motions will be granted.

I. Background

Plaintiffs are seeking a declaratory judgment and injunctive relief against EPA, asking the court to vacate the Final TMDL for the Chesapeake Bay.

Plaintiffs allege that EPA lacked authority under the Clean Water Act ("CWA"), 33 U.S.C. § 1251, *et seq.*, to issue the TMDL; the TMDL is *ultra vires*; the TMDL is arbitrary and capricious; and EPA failed to provide adequate public notice and comment, in violation of the Administrative Procedures Act ("APA"), 5 U.S.C. § 500, *et seq.* (*See* Doc. 16, Am. Compl.)

Understanding the legal, procedural, historical, and scientific complexities of this case requires a detailed recitation of the extensive relevant background information, including information regarding the parties to this suit, the complex legal framework established under the CWA, the historical efforts to improve water quality in the Chesapeake Bay, and the scientific modeling and calculations utilized by EPA in promulgating the final TMDL. The court will address each topic *ad seriatum* before turning to Plaintiffs' substantive arguments.

A. <u>The Parties</u>

EPA is the federal agency charged with the administration and enforcement of the CWA, in accordance with the delegations of authority from Congress contained in that statute. (Doc. 16 ¶ 18.) On December 29, 2010, EPA promulgated the Final TMDL for the Chesapeake Bay, which is the subject of this suit. (*Id.* ¶ 70.)

The original complaint (Doc. 1) was filed by Plaintiffs American Farm Bureau Federation and the Pennsylvania Farm Bureau. The American Farm Bureau Federation is a voluntary general farm organization formed in 1919 to protect, promote, and represent the business, economic, social, and educational interests of American farms. (Doc. 16 ¶ 7.) The American Farm Bureau Federation represents more than 6.2 million member families through member organizations, some of

which are located in the 64,000-square mile Chesapeake Bay watershed. (*Id.* ¶¶ 7, 8.) The Pennsylvania Farm Bureau is a general farm organization that has provided legislative support, information, and services to Pennsylvania's farmers and rural families since 1950. (*Id.* ¶ 11.) Some of the Pennsylvania Farm Bureau members have farms located within the Chesapeake Bay watershed. (*Id.*)

On April 4, 2011, an amended complaint was filed, which also named as Plaintiffs The Fertilizer Institute, a group that represents the nation's fertilizer industry, as well as several non-profit trade associations, *to wit*: the National Pork Producers Council, the National Corn Growers Association, the National Chicken Council, the U.S. Poultry and Egg Association, and the National Turkey Federation. (*Id.* ¶¶ 12-17.)

On October 13, 2011, the court granted three motions to intervene. (Doc. 87.) In those motions, two different groups of intervenors and a separate municipal association, sought leave to intervene as Defendants in this action. The first group includes various environmental and public interest groups, *to wit*: the Chesapeake Bay Foundation, Inc.; Citizens for Pennsylvania's Future; Defenders of Wildlife; Jefferson County Public Service District; Midshore Riverkeeper Conservancy; and the National Wildlife Federation (collectively, the "CBF Group"). The second group includes several municipal clean water associations, *to wit*: the National Associations of Clean Water Agencies ("NACWA"); the Maryland Association of Municipal Wastewater Agencies, Inc. ("MAMWA"); and the Virginia Association of Municipal Wastewater Agencies, Inc. ("VAMWA") (collectively, the "Municipal Associations Group"). The final movant was the Pennsylvania Municipal Authorities Association ("PMAA"). The court granted the

motions, finding that the intervenors have a legally cognizable interest in this litigation that could be adversely affected by the outcome of this litigation. (*Id.*; *Am. Farm Bureau Fed'n v. EPA*, 278 F.R.D. 98 (M.D. Pa. 2011).)

B. Statutory Framework

In addition to the alleged procedural shortcomings of the TMDL under the APA, this dispute, at its core, raises questions regarding the proper division of duties between the states and the federal government under the applicable CWA statutory framework. Thus, to properly understand the parties' respective arguments, it is necessary to provide the framework upon which these claims rest. This framework will provide context for later analysis of the legal issues surrounding the Bay TMDL.

The CWA is a comprehensive water quality statute designed "to restore and maintain the chemical, physical and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a); *PUD No. 1 of Jefferson Cty. v. Wash. Dep't of Ecology*, 511 U.S. 700, 704 (1994). "A core element of the CWA is a two-step approach to improving water quality, which delegates certain responsibilities to EPA and others to the states in furtherance of the Act's stated purpose of promoting cooperation between federal and state governments." *Anacostia Riverkeeper, Inc. v. Jackson*, 798 F. Supp. 2d 210, 214 (D.D.C. 2011) (citing 33 U.S.C. § 1251(b)). Thus, water quality restoration and maintenance efforts, as envisioned by the CWA, demand cooperative federalism and require significant levels of communication and

coordination between EPA and the state environmental agencies in the six states[1] and the District of Columbia (collectively, "Bay Jurisdictions").[2]

Generally, efforts to improve water quality first focus on the establishment of technology-based limitations on individual discharges into navigable waters from point sources. 33 U.S.C. § 1311. Point sources are "any discernable, confined and discreet conveyance . . . from which pollutants are or may be discharged," such as any pipe, ditch, channel, or tunnel. 33 U.S.C. § 1362(14). These sources represent a logical starting point for monitoring and regulating water contamination because they are easily identifiable sources of contamination. *See Anacostia Riverkeeper*, 798 F. Supp. 2d at 214. Pursuant to Section 301 of the CWA, EPA is to develop effluent limitations based upon "the best available technology economically achievable" that cap the maximum allowable discharge at each individual point source. 33 U.S.C. § 1311(b)(1). The primary method used to implement these limitations is the National Pollution Discharge Elimination System ("NPDES"). *Id.* The NPDES is a permit program through which individual entities that discharge point source pollutants receive permits setting the maximum discharge levels of a particular contaminant. *See id.*; *see also Sierra Club v. Meiburg*, 296 F.3d 1021, 1024 (11th Cir. 2002) ("The statute gives EPA the authority to issue permits for point sources, and those permits are to establish technology-based effluent limitations that incorporate increasingly stringent levels

[1] The Bay states include Virginia, Maryland, Delaware, West Virginia, Pennsylvania, and New York.

[2] For ease and the sake of clarity, "Bay Jurisdictions" and "Bay states" may be used interchangeably by the court, notwithstanding the inclusion of the District of Columbia.

of pollution control technology over time."); *Anacostia Riverkeeper*, 798 F. Supp. 2d at 214.

In addition to regulating point sources, non-point sources are also regulated under the CWA. The distinction between point and non-point sources of pollution is critical to understanding the primary issue in this case, as is evident from the analysis below. As stated, point sources of pollution emanate from a discrete conveyance. Non-point sources, meanwhile, are non-discrete sources such as sediment run-off from agriculture fields or from timber harvesting. *See Pronsolino v. Nastri,* 281 F.3d 1123, 1129 (9th Cir. 2002). Unlike point source pollution, EPA lacks the authority to control non-point source discharges through a permitting process. *Anacostia Riverkeeper*, 798 F. Supp. 2d at 214-15 (citing *Defenders of Wildlife v. EPA*, 415 F.3d 1121, 1124 (10th Cir. 2005)). Thus, in order to address water quality concerns from all sources of pollution, the CWA requires each state to develop water quality standards for interstate waters within its border. *See* 33 U.S.C. § 1313(c). These standards supplement the NPDES permitting process. As stated in *PUD No. 1*, "these state water quality standards provide 'a supplementary basis . . . so that numerous point sources, despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels." 511 U.S. at 704 (quoting *EPA v. Cal. ex rel. State Water Res. Control Bd.*, 426 U.S. 200, 205 n.2 (1976)). Today, "nonpoint source pollution has become the dominant water quality problem in the United States, dwarfing all other sources of volume . . . ." *Pronsolino v. Marcus* ("*Pronsolino* I"), 91 F. Supp. 2d 1337, 1338 (N.D. Cal. 2000), *aff'd sub nom. Pronsolino v. Nastri* ("*Pronsolino* II"), 291 F.3d 1123 (9th Cir. 2002).

Water quality standards are regulations comprised of: 1) a description of the designated use or uses of a water body; 2) the criteria necessary to protect the use or uses; and 3) a statement by the applicable state that the standard will maintain and protect the existing use and the water quality of the water body. 40 C.F.R. § 131.6. "Designated use" refers to "the use and value of water for public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation." 40 C.F.R. § 131.10(a). In other words, water quality standards define the water quality goals of a particular body of water by setting forth "the use or uses to be made of the water and by setting criteria necessary to protect its uses." 40 C.F.R. § 130.3. Unlike the NPDES, which focuses on mandatory effluent limitations, water quality standards focus on maintenance of the quality of the receiving water body.

The water quality criteria designed to protect the uses of the water body may be expressed as numeric criteria, articulating measurable quantities of pollutants, or as narrative statement, articulating acceptable levels of pollution in light of the designated use. 40 C.F.R. § 131.11. These state standards must be at least as protective of water quality as existing uses, 40 C.F.R. § 130.10, and are subject to EPA review, 33 U.S.C. § 1313(c).

After promulgating such standards, states are primarily responsible for monitoring progress, and identifying those waters for which the current pollution controls "are not stringent enough to implement any water quality standard applicable to such waters." 33 U.S.C. § 1313(d)(1)(A). This list, known as a state's "impaired waters list" or "303(d) list," identifies waters where the water quality

goals have not been attained, deeming those areas "water quality limited segments," or "WQLS."

Finally, we arrive at the TMDL. The inclusion of a water body on a state's 303(d) list triggers the statutory requirement to establish a total maximum daily load, or TMDL, for that water body. 33 U.S.C. § 1313(d)(1)(c); 40 C.F.R. § 130.7(c)(1). As set forth by EPA in its regulations, a TMDL defines the maximum amount of a pollutant that a body of water can receive from point sources, or waste load allocations ("WLAs"), and non-point sources, or load allocations ("LAs"). 40 C.F.R. § 130.2. Thus, a total TMDL is the "sum of the individual WLAs for point sources and LAs for any nonpoint sources and natural background." *Id.* § 130.2(I).

Before EPA establishes a TMDL, or approves a state-drafted TMDL, it determines whether the state has provided a "reasonable assurance" that non-point LAs will achieve water quality standards.[3] (Administrative Record ("AR") 0000063.) EPA purports to require reasonable assurances "to be sure that WLAs and LAs established in the TMDL are not based on overly generous assumptions regarding the amount of non-point source pollution reduction that will occur." (AR0000250.)

TMDLs are not self-implementing, but rather are informational tools utilized by EPA and the states to coordinate necessary responses to excessive pollution in order to meet applicable water quality standards. *See Anacostia Riverkeeper*, 798 F. Supp. 2d at 216 (citing *Pronsolino* II, 291 F.3d at 1129). TMDLs provide crucial information for federal, state, and local actors in furtherance

[3] TMDLs involving only point sources do not require reasonable assurances because the NPDES regulatory and permitting program provide the necessary reasonable assurance that the WLAs will be achieved. (AR0000250.)

of the cooperative efforts to improve water quality as envisioned by the CWA. *See id.* at 217. Implementation mechanisms are available under other provisions of the CWA, as well as the Clean Air Act, state laws, federal and state regulations, and local ordinances. (AR0000043.) States are required to submit their lists of WQLSs and TMDLs to EPA every two years for approval. 33 U.S.C. § 1313(d)(2); 40 C.F.R. § 130.7(d)(1) & (2). States are also required to establish a priority ranking for WQLSs based on "the severity of the pollution and the uses to be made of such waters." 33 U.S.C. § 1313(d)(1)(C). If EPA disapproves a state's impaired waters list, priority rankings, or TMDL, EPA must assume the duty to issue such a list or TMDL, which are then incorporated into the state's continuing planning process. 40 C.F.R. § 130.7(d)(2).

During the TMDL planning process, the seven Bay Jurisdictions were required to submit Watershed Implementation Plans ("WIPs"). The WIPs, developed pursuant to Section 117(g) of the CWA, 33 U.S.C. § 1267(g),[4] provide roadmaps for how the Bay Jurisdictions will achieve the preliminary target loads for nitrogen, phosphorus, and sediment allocations necessary to meet the applicable water quality standards. (AR0000255; AR0023289.) EPA expects that the WIPs will identify a schedule for accomplishing nutrient and sediment load reductions, and identify programs and actions to achieve these reductions, such as adopting new regulatory authorities, improving compliance with existing regulations, securing

[4] This section provides, in part: "The Administrator, in coordination with other members of the Chesapeake Executive Council, shall ensure that management plans are developed and implementation is begun by signatories to the Chesapeake Bay Agreement . . . ." 33 U.S.C. § 1267 (g)(1).

additional resources for cost-share programs, and issuing NPDES permits with more stringent effluent limits. (*See* AR000265.)

At this juncture, it is helpful to provide an overview of past Chesapeake Bay preservation efforts before reviewing the actions taken specifically with regard to the final TMDL.

C. Chesapeake Bay Preservation Efforts

The Chesapeake Bay TMDL is not a new or recent idea. Thus, it would be improper to view the Final TMDL in a vacuum as a single, isolated effort to restore water quality to the Chesapeake Bay. Rather, it is readily apparent from the record before this court that the Final TMDL is merely the latest effort in a long line of efforts dating back several decades to reach that end. In order to understand how and why this litigation came to be, and in order to determine whether EPA's actions were arbitrary and capricious, it is helpful to provide a history of past preservation and restoration efforts on the Bay.

To begin, it is essential to understand the physical characteristics of the Chesapeake Bay. The Chesapeake Bay is an estuary in the United States, and it has been described as one of the most biologically productive ecosystems in the world. (AR0004682.) The Bay is approximately 200 miles long and between four and 30 miles wide. (*Id.*) The water surface of the Bay encompasses more than 2,500 square miles, and the watershed, or drainage basin to the Bay, covers 64,000 square miles in Virginia, Maryland, Pennsylvania, New York, Delaware, West Virginia, and the District of Columbia. (*Id.*) Although huge in surface area, the Bay is relatively shallow, averaging 28 feet in depth. (*Id.*) There are 50 major tributaries to the Bay, the largest of which is the Susquehanna River. (*Id.*) Other major tributaries include

the Potomac, Patuxent, Rappahannock, York, James, and Choptank Rivers, as well as the West Chesapeake Drainage Area. (*Id.*) As with all estuarine systems, the water of the Chesapeake Bay is an ever-changing mixture of salt and freshwater. (AR0004685.)

The Bay and its watershed add ecological, economic, recreational, historic, and cultural value to the region. The Bay's value has been estimated by economists to exceed $1 trillion. (AR0006969.) More than 500 million pounds of seafood, including crabs, oysters, and rockfish, are harvested from Bay waters each year. (*Id.*; AR0021459.) The Bay supports a diverse ecosystem and is home to more than 3,600 species of plants, fish, and other animals, and is a key resting ground for migratory bird species along the Atlantic Flyway. (*Id.*; AR0005417.) In light of this, Congress has recognized that the Chesapeake Bay is a "national treasure and resource of worldwide significance." (AR0021458.)

Much of the Chesapeake Bay watershed has been dramatically changed and no longer resembles what Captain John Smith encountered some 400 years ago. (AR0005509.) Indeed, for over 300 years, the Bay region has supported a number of growing economic sectors, including forestry, agriculture, and industry. (AR004691.) Population growth over the past century has dramatically impacted land use in the Bay watershed. (AR0005417.) Between 1950 and 1980, for example, the amount of developed land in the Patuxent River Basin in southern Maryland has risen from approximately three percent to over 35 percent, a number that is no doubt higher today. (AR0004692.) The intensified agricultural and forestry activities and urban development have placed a significant strain on the Bay's ecological health. (AR0004694.) In 1982, a five-year study concluded that a

rapid loss of aquatic life was due to excess nutrient runoff into the Bay, namely nitrogen and phosphorus. (AR0004725-AR0005374; AR0000050.) By 2009, more than half of the streams in the Chesapeake watershed were rated "poor" or "very poor" by the EPA. (AR0005511.) Non-point sources are the primary sources of pollutants to the Bay, with agriculture alone accounting for 44 percent of the nitrogen and phosphorus loads, and 65 percent of the sediment loads delivered to the Bay. (AR0000136.)

Efforts to improve the water quality of the Bay have been ongoing for more than 30 years. In 1983, the governors of Maryland, Virginia, and Pennsylvania, as well as the Mayor of the District of Columbia, the chairman of the Chesapeake Bay Commission, and the EPA Administrator signed the first Chesapeake Bay Agreement. (AR0000051.) This represented the first multi-state coordinated effort to restore water quality in the Bay. The signatories to the Agreement acknowledged the decline of the Bay and agreed "to assess and oversee the implementation of coordinated plans to improve and protect the water quality and living resources of the Chesapeake Bay estuarine systems." (AR0005488-AR0005489.)

The signatories to the 1983 Agreement entered into another agreement in 1987 with the intent of establishing a more comprehensive and coordinated approach to restoring water quality in the Bay. (AR0000051.) The 1987 Agreement set a key goal to "reduce and control point and nonpoint sources of pollution to attain the water quality condition necessary to support the living resources of the Bay." (AR0005483.) To accomplish this goal, the signatories set the first numeric goal for water quality enhancement: a 40 percent reduction in nitrogen and

phosphorus entering the Bay by 2000. (*Id.*) That same year, Congress amended Section 117 of the Clean Water Act to establish the Chesapeake Bay Program ("CBP"), directing the CBP to "coordinate state and federal efforts to improve Bay water quality, to evaluate sediment impacts on the Bay, and to determine the impact of natural and human-induced environmental changes on the living resources of the Bay." 33 U.S.C. § 1267.

In 1991, the CBP reevaluated the progress made toward achieving the 1987 Agreement's 40 percent nutrient reduction goal. (AR0000051.) The 1991 reevaluation contained an evaluation of progress made to that point in improving water quality, and it prescribed a detailed quantification of the original narrative goal. (*Id.*) As a result of this reevaluation, several amendments to the 1987 Bay Agreement were made in 1992. (AR0000052; AR0005478.) Based on the 1991 reevaluation, the 1992 amendments included an increased focused on the importance of the Bay's tributaries to the goal of water quality restoration. (*Id.*) The parties to the 1987 Bay Agreement agreed to develop and begin implementation of tributary-specific strategies to meet nutrient reduction goals and improve water quality by August 1993. (AR0005479.)

In 1997, the CBP once again conducted an evaluation to determine what progress had been made toward the goal set in the 1987 Agreement of a 40 percent reduction by 2000 in nitrogen and phosphorus. (AR0000052.) The reevaluation indicated significant progress toward the nutrient reduction goals, finding that between 1985 and 1996, phosphorus loads delivered to the Bay declined by six million pounds annually, and nitrogen loads declined by 29 million pounds annually over that same period. (*Id.*) Nevertheless, the reevaluation recognized that

there was no clear improvement in dissolved oxygen levels[5] ("DO"), and further concluded that it would be necessary to speed up implementation of nutrient reduction strategies if the goal of a 40 percent reduction by 2000 was to be met. (*Id.*)

In 1998, EPA added the mainstem and tidal tributary waters of the Chesapeake Bay to Virginia's Section 303(d) list of impaired waters, thus triggering the statutory requirement under 33 U.S.C. § 1313(d)(1)(c) for the establishment of a TMDL for those water bodies. (AR0000063.)

On June 28, 2000, the governors of Maryland, Virginia, and Pennsylvania, as well as the Mayor of the District of Columbia, the Administrator of the EPA, and the chairman of the Chesapeake Bay Commission signed the Chesapeake 2000 Agreement. (AR0000052; AR0005417-AR0005429.) The 2000 Agreement noted that water quality protection and restoration has increasingly focused on a "tributary approach" and, for the first time, emphasized the regulatory framework of the CWA (*see supra* Section I.B) along with the cooperative efforts by the members of the CBP as the means to address nutrient enrichment problems within the Bay and its tributaries. (AR0005421-AR0005422; AR0000052-AR0000053.) Specifically, the 2000 Agreement set the overall goal of correcting nutrient- and sediment-related problems in the Bay and its tidal tributaries sufficient to remove those waters from the list of impaired waters by 2010. (AR0000053; AR0005422.) To achieve this, the agreement set specific benchmarks and

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[5] The goal of nutrient (nitrogen and phosphorus) reduction is to increase dissolved oxygen levels in Bay waters. Excessive nutrients act as fertilizer and encourage the growth of undesirable weed plants and blue-green algae. When the resulting plant growth dies off, the ensuing decay causes dissolved oxygen levels in the water to plummet, leading to anoxic conditions. Moreover, algal blooms severely limit the growth of ecologically desirable submerged aquatic vegetation. (AR0004700-AR0004701.)

established a cooperative framework between the Bay Jurisdictions (at that point including Maryland, Virginia, Pennsylvania, and the District of Columbia), whereby the Bay Jurisdictions would: (1) By 2001, define the water quality conditions necessary to protect living resources and then assess load reductions for nitrogen, phosphorus, and sediment for each major tributary; (2) By 2002, complete a public process to develop and begin implementation of revised tributary strategies to achieve and maintain the assigned loading goals; (3) By 2003, adopt new or revised water quality standards consistent with the defined water quality conditions. (AR0000053; AR0005422.) Once the Bay Jurisdictions adopted these revised standards, EPA would review the standards. Following EPA's review, the revised standards would be the basis for removing the Bay and its tributaries from the 303(d) list of impaired waters. (*Id.*)

Also in 2000, EPA, Maryland, New York, Pennsylvania, Virginia, and, for the first time, New York and Delaware, signed a Memorandum of Understanding ("MOU"). (AR0005415-AR0005416.) This multi-jurisdictional MOU once again recognized that, despite some progress, the Bay remained on the CWA's list of impaired waters and, at least insofar as this court is able to discern, mentions for the first time the establishment of a TMDL by May 2011, unless the Bay and its tributaries meet applicable water quality standards by 2010. (*Id.*) In 2002, West Virginia signed the MOU, and the parties collectively agreed to work cooperatively to achieve nutrient and sediment targets to cause the Bay and its tidal tributaries to be removed from the list of impaired waters. (AR0000053.) The MOU also called for an "inclusive, open and comprehensive public participation process" and for collaboration in the development of innovative methods to improve water quality.

(*Id.*) It is worth noting that, as with the 1983, 1987, and 2000 Bay Agreements, the signatories to the MOU included both the Bay states (Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia, District of Columbia) as well as the federal government (EPA).

In 2003, EPA and the seven Bay Jurisdictions, using the best scientific information available, established cap loads for nitrogen, phosphorus, and sediment entering the Bay. (AR0000053; AR0005397.) The goal was that the allocations would serve as the basis for each state's tributary strategy, which were scheduled to be completed in 2004. (*Id.*) Specifically, the states, the District of Columbia, and EPA agreed to cap annual nitrogen loads delivered into the Bay's tidal waters at 175 million pounds and annual phosphorus loads at 12.8 million pounds. (AR0000054; AR0005397). All parties concurred that attainment of these load reductions would eliminate the persistent anoxic conditions in the deep waters of the Bay. (AR0005398.)

As stated, in order to achieve the nitrogen, phosphorus, and sediment cap loads, the seven Bay Jurisdictions developed their own Chesapeake Bay tributary strategies. Each tributary strategy outlined river basin-specific implementation activities to reduce nitrogen, phosphorus, and sediment load from point and non-point sources with the goal of removing the Bay and its tidal tributaries from the 303(d) list of impaired waters. (AR0000054.) By way of example, in December 2004, the Pennsylvania Department of Environmental Protection issued Pennsylvania's Chesapeake Bay Tributary Strategy. (AR0024672-AR0024798.) In that document, Pennsylvania recognized that in order to meet the water quality goals set forth in the Chesapeake 2000 Agreement, reductions of 37

million pounds of nitrogen per year, 1.1 million pounds of phosphorus per year, and 116,000 tons of sediment per year were necessary. (AR0024674.) In the 119-page document, numerous strategies and recommendations were proposed to show how those goals could be met. Such strategies included: (1) limiting wastewater and industrial discharges through the NPDES permitting process; (2) upgrading sewer and water infrastructure by using $250 million in new grants and loans that had been secured; (3) enhancing stormwater management through the NPDES permitting process; (4) accelerating dam removals and building fish passageways; (5) enacting extensive new farm management regulations through the $13 million Preserving Agriculture, Communities, and Rural Environments ("ACRE") initiative; (6) expanding the Conservation Reserve Enhancement Program ("CREP"); (7) increasing forested buffers and wetlands; (8) promoting manure-to-energy programs by increasing the number of methane biodigesters through programs such as the Pennsylvania Energy Harvest Grant Program, Alternative Energy Portfolio Standard, and the First Industries Farm Investment Fund; (9) establishing a market-based nutrient trading program; (10) securing conservation easements for riparian buffers; and (11) expanding the $52 million Growing Greener II initiative. (AR0024675-AR0024675.) The Tributary Strategy contains a detailed analysis of these strategies and programs, their goals and expected effectiveness, and a cost table that estimates the total tributary strategy implementation cost to be $703,318,063.[6] (AR0024798.)

[6] The purpose of this summary is not to convey a detailed understanding of Pennsylvania's Tributary Strategy, which would be well beyond the scope of this memoranda, but rather to give the reader a sense of the types of issues and level of effort put forth by the states as members of the CBP. Similar plans were generated by Virginia (AR0024844-AR0024928), West Virginia (AR0024929-AR0024981), New York (AR0024581-AR0024671), Maryland (AR0024529-AR0024579), Delaware (AR0024419-AR0024439), and the District of Columbia (AR0024440-AR0024528).

In 2007, the seven Bay Jurisdictions reevaluated their nutrient and sediment cap loads. (AR0000055.) The 2007 reevaluation found that insufficient progress had been made toward improving water quality to a level that indicated the mainstem of the Chesapeake Bay and its tidal tributaries and embayments were no longer impaired by nitrogen, phosphorus, and sediment pollution. (*Id.*)

Coordination of the seven Bay Jurisdictions and EPA was accomplished mainly through the Principal Staff Committee ("PSC"). The PSC includes the cabinet secretaries of each Bay state's agricultural, environmental, and natural resources departments and the EPA Region III Administrator. (AR0000055; AR0000059-AR0000060.) A management board oversees six implementation teams, the most crucial of which for the purposes of the TMDL is the Water Quality Goal Implementation Team ("WQGIT"). (*Id.*)

At a meeting of the PSC on October 1, 2007, the seven Bay Jurisdictions and EPA reached consensus that EPA would establish a Bay TMDL with a target date of 2025 when all necessary pollution control measures would be in place. (AR0000056.) Specifically, it was agreed that "The Bay watershed TMDLs will be developed jointly between the six Bay watershed states, the District and EPA and then established by EPA . . . no later than May 1, 2011." (*Id.*; *see also Meeting Summary for the Chesapeake Bay Program Principals' Staff Committee*, October 1, 2007, available at http://archive.chesapeakebay.net/pubs/calendar/PSC_10-01-07_Minutes_1_9029.pdf, *link provided at* AR0000426.)

D. Drafting the Bay TMDL

To date, more than 47,000 TMDLs have been completed throughout the United States. (AR0000018; Doc. 110 at 14 of 52, n. 3.) The Chesapeake Bay TMDL, however, is the largest and most complex TMDL thus far. (*Id.*) Between 2005 and 2010, EPA and members of the CBP met numerous times to evaluate and agree on approaches to address multiple technical aspects related to developing the Bay TMDL. (AR0000198.) By this court's count, 730 CBP committee, team, and stakeholder meetings took place during that time frame. (*See* AR0000422-AR0000454.) Of those, 639 meetings took place after the October 1, 2007 decision to have EPA issue the TMDL. Numerous meetings were held with the public including national, regional, and local stakeholders to discuss issues regarding development of TMDL models and the use of data. (*Id.*; AR0000060-AR0000062.)

Throughout 2009 up to the summer of 2010, EPA and the Bay states developed target loads for nitrogen, phosphorus, and sediment for each state.. (AR0000244.) These targets were developed based on the recognition that an equitable approach to apportionment of allowable loading among the Bay Jurisdictions was necessary. (AR0000212.) To that end, on October 23, 2009, the partners[7] met and reached consensus on several principles to guide equitable allocation, including:

- The allocated loads should protect the living resources of the Bay and its tidal tributaries and result in all segments of the Bay mainstem, tidal tributaries, and embayments meeting [water quality standards] for [dissolved oxygen], chlorophyll, and water clarity.

[7] The TMDL refers to the seven Bay Jurisdictions and EPA collectively as "Partners" or "the Partnership." (AR0000055.)

- Major river basins that contribute the most to the Bay water quality problems must do the most to resolve those problems (on a pound-per-pound basis).
- All tracked and reported reductions in nitrogen and phosphorous loads are credited toward achieving final assigned loads.

(*Id.*)

Applying those principles, EPA developed draft nitrogen and phosphorus target loads. By way of a letter dated November 3, 2009, EPA proposed those targets to the Bay Jurisdictions. (AR0023289-AR0023293.) On July 1, 2010 and August 13, 2010, EPA issued refined target loads as to nitrogen, phosphorus, and sediment. (AR0000244; AR0012670-AR0012682.) The Bay Jurisdictions developed their Phase I WIPs using these revised allocations. (AR0000244.)

Meanwhile, in May 2009, President Obama issued Executive Order 13508, which required seven federal agencies, led by the Administrator of the EPA, and in consultation with the Bay Jurisdictions, to develop a strategy for addressing Bay pollution and preserving Bay natural resources. (AR0006953-AR0006960.) The executive order recognized that "at the current level and scope of pollution control within the Chesapeake Bay's watershed, restoration of the Chesapeake Bay is not expected for many years." (AR0006953.) In calling for the development of a Bay strategy, the President acknowledged that a "renewed commitment to controlling pollution from all sources" is required. (*Id.*) The President called for a "new era of shared federal leadership with respect to restoration of the Chesapeake Bay" and required that the seven federal agencies prepare and submit reports to that end. (AR0006954.) The President also called for extensive consultation with the seven Bay Jurisdictions. (AR0006956.)

Between 2008 and 2010, EPA provided several letters to the Bay states explaining its expectations regarding each state's proposed WIP. (*See, e.g.,* AR0000255-AR0000256; AR0023294-AR0023301; AR0023289-AR0023293.) In those letters, EPA acknowledged the complexities associated with drafting WIPs and outlined a three-step process in which the WIPs would be drafted: (1) Phase I WIPs were to be submitted to EPA by September 1, 2010; (2) Phase II WIPs by November 1, 2011; and (3) Phase III WIPs by 2017. (AR0000256.) EPA would use the Phase I WIPs to support the development of specific allocations in the draft Bay TMDL. (*Id.*) The Phase II and III WIPs will be submitted after the Final TMDL is established, and will refine the actions and controls implemented to achieve applicable water quality standards. (*Id.*)

EPA conducted a "reasonable assurances" evaluation on the states' draft Phase I WIPs to see if they met expectations, in terms of (1) meeting the state's numeric target loads, and (2) providing reasonable assurance that the state's proposed source and sector allocations would be met. (AR0000257; AR0024034-AR0024054.) EPA found that many of the draft Phase I WIPs did not meet their target goal and therefore adjusted the allocations accordingly. (AR0000020.) These adjustments are referred to as "backstop" allocations. EPA then used the states' draft Phase I WIPs in conjunction with its own backstop allocations, to issue a draft TMDL. (*Id.*; AR0023773.) That TMDL was published for a 45-day public comment period from September 24 to November 8, 2010. (AR0000016.) During that time, EPA held 18 public meetings in all six states and the District of Columbia. (AR0000020.) EPA also held 15 webinars in 2010 to keep the public up to date (AR0000340) and received over 14,000 public comments from individuals as well

as agricultural, municipal, and environmental groups. (AR0000341.) EPA reviewed and responded to each comment, and, where appropriate, incorporated responses to those comments in developing the Final TMDL. (*Id.*; AR0000016.)

EPA continued working with the Bay Jurisdictions on strengthening the WIPs (AR0000025) and, upon receipt of the final Phase I WIPs, found those plans to be considerably improved compared to the draft WIPs. (AR0000263, AR0000266.) As a result, EPA was able to significantly reduce the number of backstop allocations used in the Final TMDL. In the Final TMDL, backstop measures were provided only in the three following instances: (1) making New York's WLA for wastewater sources more stringent (AR0000285-AR0000286); (2) shifting 50 percent of Pennsylvania's urban stormwater load that is not currently subject to NPDES permits from the LA category to the WLA category (AR0000287); and (3) shifting 75 percent of the pollutant loads that West Virginia allocated to animal feeding operations that are not subject to NPDES permitting from the LA category to the WLA category and signaling that EPA is prepared to designate any animal feeding operations as a source requiring a NPDES permit (AR0000292). The remainder of the Final TMDL was based on the Bay states' final Phase I WIPs, which EPA determined had satisfied the reasonable assurances analysis. On December 29, 2010, the Final Bay TMDL was issued. (AR0000015-AR0003790.) That TMDL set forth allocations of 185.9 million pounds per year (mpy) of nitrogen (representing a 25 percent reduction from current levels), 12.5 mpy of phosphorus (representing a 24 percent reduction), and 6.45 billion pounds per year of sediment (representing a 20 percent reduction) among the Bay Jurisdictions. (AR0000016.) The TMDL requires that all pollution control

measures be fully implemented by 2025, with at least 60 percent of the actions taken by 2017. (*Id.*; AR0000021.)

E. Consent Decrees, Settlement Agreements, and Memoranda of Understanding

The Chesapeake Bay TMDL has also been the subject of considerable litigation over the years. This was not always the case, however, as state and federal governments largely ignored their obligations under CWA Section 303(d) in the years after its passage. Indeed, given the complexities, costs, scientific uncertainties associated with identifying impaired waters and determining TMDLs for those water bodies, and perceived difficulties in implementing TMDLs, states were initially reluctant to undertake such efforts. Likewise, EPA largely ignored CWA Section 303(d) until environmental groups began bringing citizen's suits against EPA for inadequately implementing TMDLs as envisioned by the CWA. *See, e.g., Scott v. City of Hammond*, 741 F.2d 992 (7th Cir. 1984); *Alaska Ctr. for the Env't v. Browner*, 20 F.2d 981 (9th Cir. 1994); *Idaho Sportsmen's Coal. v. Browner*, 951 F. Supp. 962 (W.D. Wash. 1996). More relevant to the case *sub judice* are several consent decrees, MOU's, and settlement agreements involving the establishment of a TMDL for Chesapeake Bay and its tributaries. For example, in 1996, the American Littoral Society and Sierra Club filed suit against EPA due to EPA's failure to, *inter alia*, establish TMDLs for all WQLSs in Delaware, in violation of the APA and CWA. (AR0012640; *Am. Littoral Soc'y v. EPA*, Docket No. 96-cv-591 (D. Del. 1997).) The consent decree, which was reviewed and approved by the court and effectively resolved the lawsuit, called for EPA to "establish TMDLs for the balance of all pollutants for all WQLSs for which Delaware has not established TMDLs by December 15 of the year following the State's deadline, except that EPA

shall establish all such TMDLs by December 15, 2006." (AR0012647.) In other words, the consent decree required EPA to establish TMDLs if Delaware failed to do so within the 10-year TMDL development schedule, which was attached to the decree. (AR0000066; AR0012668.)

EPA entered into a similar consent decree in *Kingman Park Civic Assoc. v. EPA*, Docket No. 1:98-CV-00758 (D.D.C. June 13, 2000). In that case, Plaintiffs Kingman Park Civic Association, Friends of the Earth, and the Anacostia Watershed Society sued EPA alleging that EPA failed to establish TMDLs for all the District of Columbia's WQLSs, which constituted a violation of CWA Section 303(d). The court-approved consent decree required EPA to, *inter alia*, establish TMDLs for the District's portions of the tidal Potomac and Anacostia rivers, if not first established by the District by a certain date. (AR0000066; AR0012502-AR0012526.) These rivers are tidal tributaries to the Chesapeake Bay and share common impairing pollutants (nitrogen and phosphorus). Thus, establishment of TMDLs on these rivers is directly related to the establishment of the Bay TMDL. (AR0000066.)

In 1999, EPA entered into another consent decree in *American Canoe Assoc. v. EPA*, Docket No. 98-cv-979 (E.D. Va. June 11, 1999). In that case, Plaintiffs, American Canoe Association, Inc., and the American Littoral Society, sued EPA as a result of EPA's failure to establish a TMDL for all waters on Virginia's Section 303(d) list. Specifically, Virginia was required to submit its Section 303(d) list and its TMDL by June 26, 1979. *See Am. Canoe Assoc. v. EPA*, 30 F. Supp. 908, 913 (E.D. Va. 1998). Virginia had failed to do so, and by the time the case was filed nearly 20 years later, had still failed to submit a TMDL. In

response to EPA's motion to dismiss, Plaintiffs argued, *inter alia*, that Virginia's failure to submit a TMDL by the 1979 deadline constituted a constructive submission that no TMDLs are required, and the CWA compelled EPA to disapprove this position as inadequate and establish a federal TMDL for Virginia's WQLSs. EPA disagreed, arguing that its duty to approve or disapprove is triggered only when the states submit their TMDL to EPA. Thus, EPA argued, because Virginia submitted no TMDL, there was no duty to disapprove and submit its own TMDL. *Id.* at 919. The court disagreed with EPA and declined to dismiss the plaintiffs' complaint on this ground, finding that "it seems highly likely that Congress intended that EPA should be required to act not only when states promulgate lists that fail to meet the standards set forth in Section 303, but also when states completely ignore their mandatory statutory responsibilities and fail to promulgate any list at all." *Id.* at 921. The suit eventually settled pursuant to a court-approved consent decree, which required EPA to establish a Bay TMDL if Virginia failed to do so by May 1, 2011, in accordance with the schedule established in the consent decree. (AR0000065; AR0012537-AR0012538.) However, as stated above, Virginia, as well as all other Bay Jurisdictions, requested in 2007 that EPA establish TMDLs for nutrient- and sediment-impaired tidal portions of the Chesapeake Bay. (AR0000056, AR0000065.)

In addition to the above consent decrees which required EPA to establish nutrient and sediment TMDLs for the Chesapeake Bay, EPA also entered into an MOU with Maryland which required the Maryland Department of the Environment to use available resources to establish and submit to EPA a TMDL for each WQLS identified in Maryland's 303(d) list by 2008 ("Maryland MOU").

(AR0012626.) This goal was somewhat superceded by the Chesapeake 2000 agreement which targeted 2010 as the year to achieve water quality standards. (AR0000067.) Accordingly, Maryland and EPA entered into a revised MOU in September 2004, that extended the schedule for TMDL development to 2011. (AR0012454-AR0012501.) Regardless, in 2007, Maryland, like all the other Bay Jurisdictions, requested that EPA take the lead in developing TMDLs for its portion of the Chesapeake Bay watershed, in essence mooting the Maryland MOU. (AR0000056; AR0000067.)

Finally, in January 2009, the Chesapeake Bay Foundation and others filed suit against EPA alleging, *inter alia*, that EPA has failed to carry out its nondiscretionary duties under Section 117(g) of the CWA, 33 U.S.C. § 1267(g), to achieve and maintain the goals of the Chesapeake Bay Agreement. (AR0000067; AR0012363; *Fowler v. EPA*, No. 1:09-C-00005-CKK (D.D.C. 2009).) In May, 2010, the parties entered into a settlement agreement whereby EPA was to establish a nutrient and sediment TMDL for the Bay and its tidal tributaries by December 31, 2010. (AR0000067; AR0012374.) In the case *sub judice*, EPA asserts that it established the Final TMDL in part to meet its commitment under that settlement agreement, and further contends that the establishment of the TMDL is consistent with EPA's duties established in the other consent decrees. (AR0000067; Doc. 100 at 18 of 76.)

The above historical recitation of the Bay TMDL development, and the legal challenges to date, are, without doubt, complicated and confounding. However, as previously stated, a familiarity with the evolution of the Bay TMDL is relevant to Plaintiffs' challenge of the Final TMDL. To simply view the Final

TMDL in a vacuum would ignore the bigger question of why this complicated regulatory procedure has been established in such a manner. With this understanding of the historical and legal context of the TMDL, the court is better positioned to address Plaintiffs' challenges.

F. Procedural History

Plaintiffs filed their initial complaint on January 10, 2011 (Doc. 1), followed by an amended complaint (Doc. 16) challenging the Bay TMDL, and seeking a declaratory judgment and injunctive relief against EPA and requesting that the court vacate the TMDL. On May 25, 2011, the CBF Group filed a motion to intervene (Doc. 25) and a brief in support on June 3, 2011 (Doc. 52). Also on May 25, 2011, the Municipal Associations Group filed a motion to intervene and brief in support. (Docs. 27 & 29.) Plaintiffs filed a consolidated response on June 20, 2011. (Doc. 57.) Reply briefs were filed by the Municipal Associations Group (Doc. 66) and the CBF Group (Doc. 67) on July 5 and July 7, 2011, respectively. On June 27, 2011, PMAA filed a motion to intervene (Doc. 59) and brief in support (Doc. 61). Plaintiffs filed a brief in opposition on July 14, 2011 (Doc. 68), to which a reply brief was filed on July 28, 2011 (Doc. 70). On October 13, 2011, the court issued a memorandum and order granting all three motions to intervene. (Doc. 87; *Am. Farm. Bureau Fed'n v. EPA*, 278 F.R.D. 98 (M.D. Pa. 2011).)

On August 26, 2011, EPA filed a notice of lodging the administrative record and a certified index to the record. (Doc. 76.) The administrative record was filed on September 1, 2011 (Doc. 77) and electronic copies of the record were sent to the court and the parties.

On October 11, 2011, Plaintiffs filed a motion to complete the administrative record and brief in support, requesting the court add additional documents to the administrative record. (Docs. 82 & 85.) Briefs in opposition were filed by EPA (Doc. 88) and Defendant-Intervenors (Doc. 89) on October 28, 2011. Plaintiffs filed a reply brief on November 14, 2011. (Doc. 91.) On December 18, 2011, the court issued a memorandum and order granting in part and denying in part the motion, permitting some of the requested documents to be added to the record. (Doc. 92.)

On January 27, 2012, Plaintiffs filed the instant motion for summary judgment and brief in support. (Docs. 95 & 96.) On March 27, 2012, EPA filed a cross-motion for summary judgment and a brief in opposition to Plaintiffs' motion for summary judgment. (Doc. 100.) On April 20, 2012, Defendant-Intervenor PMAA filed a brief in support of EPA's cross-motion for summary judgment and in opposition to Plaintiffs' motion for summary judgment. (Doc. 102.) On April 20, 2012, Defendant-Intervenor Municipal Associations Group filed its own cross-motion for summary judgment and brief in support of that motion and in opposition to Plaintiffs' motion for summary judgment. (Docs. 103 & 104.) On April 24, 2012, Defendant-Intervenor CBF Group filed a brief in support of EPA's cross-motion for summary judgment and in opposition to Plaintiffs' motion for summary judgment. (Doc. 108.) On May 21, 2012, Plaintiffs filed a brief in opposition to EPA's cross-motion for summary judgment and a reply in support of its own motion for summary judgment. (Doc. 109.) On June 20, 2012, EPA filed its brief in support of its cross-motion for summary judgment. (Doc. 110.) Reply briefs were

filed by PMAA and the Municipal Associations Group on July 13, 2012. (Docs. 115 & 116.) On July 20, 2012, the CBF Group filed its reply brief.[8] (Doc. 122.)

Given the complexities of this case and the volume of documents in the administrative record, Plaintiffs moved for oral argument on the cross-motions for summary judgment on August 3, 2012. (Doc. 123.) EPA and Defendant-Intervenors opposed the motion. (Doc. 125.) By order dated August 10, 2012, the court granted the motion and, on October 4, 2012, the court heard oral arguments on the motions for summary judgment. Following oral argument, the court requested additional briefing on the issue of agency deference. (Doc. 138.) Briefs on this issue were filed by Plaintiffs on October 17, 2012 (Doc. 139), and by EPA and the CBF Group on October 24, 2012 (Docs. 140 & 142). Defendant-Intervenors PMAA and the Municipal Associations Group abstained from filing additional briefing. (Docs. 141 & 143.) On November 2, 2012, Plaintiffs filed a reply brief. (Doc. 146.) Thus, all issues having been fully briefed, the motion and cross-motions for summary judgment are ripe for disposition.

II. Standard

Under Federal Rule of Civil Procedure 56, summary judgment will be granted "if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). However, unlike the typical summary judgment action, Plaintiffs are seeking judicial review under the APA. While "[s]ummary judgment is the proper mechanism for

[8] Over Plaintiffs' objections, the court also accepted for consideration the Amicus Curiae Memorandum filed by the City of Annapolis, Maryland. (Doc. 117.)

deciding, as a matter of law, whether an agency action is supported by the administrative record and consistent with the APA standard of review[,] . . . [b]ecause . . . 'the district judge sits as an appellate tribunal' in such cases, the usual standard for summary judgment does not apply." *Udin v. Mayorkas*, 862 F. Supp. 2d 391, 399-400 (E.D. Pa. 2012) (citing *Am. Bioscience, Inc. v. Thompson*, 269 F.3d 1077, 1083 (D.C. Cir. 2001); *UMPC Mercy v. Sebelius*, 793 F. Supp. 2d 62, 67 (D.D.C. 2011)); *Occidental Eng'g Co. v. I.N.S.*, 753 F.2d 766, 770 (9th Cir. 1985) (explaining that summary judgment in an original district court proceeding "is appropriate only when the court finds there is no factual issues requiring resolution by trial"; whereas, summary judgment in a case where the district court is reviewing the decision of an administrative agency under the APA "is an appropriate mechanism for deciding the legal question of whether the agency could reasonably have found the facts as it did.").

Under the APA, a district court may only hold unlawful and set aside an agency action if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). The court is required to walk a fine line of conducting a "searching and careful" inquiry into the administrative record to determine whether the agency's decision was "based on a consideration of the relevant factors and whether there has been a clear error of judgment" while, at the same time, refraining from substituting its own judgment for that of the agency. *Citizens Advisory Comm. on Private Prisons v. Fed. Bureau of Prisons*, 197 F. Supp. 2d 226, 240 (W.D. Pa. 2001) (quoting *Citizens to Protect Overton Park, Inc. v. Volpe,* 401 U.S. 402, 415-17 (1971) and *Soc'y Hill Towers Owners' Ass'n v. Rendell*, 201 F.3d 168, 178 (3d Cir. 2000)). Even an agency "decision of less than

ideal clarity" should be upheld "if the agency's path may be reasonably discerned." *Anacostia Riverkeeper*,798 F. Supp. 2d at 222 (quoting *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). At the same time, it is "an axiom of administrative law that an agency's explanation of the basis for its decision must include a rational connection between the facts and the choice made." *Id.* (quoting *Bowen v. Am. Hosp. Ass'n*, 476 U.S. 610, 626 (1986)). It has been repeatedly stated that "the focal point for judicial review should be the administrative record already in existence, not some new record made initially in the reviewing court." *United States v. Keystone Sanitation Co.*, 1996 U.S. Dist. LEXIS 22808, *10 (M.D. Pa. Aug. 27, 1996) (quoting *Camp v. Pitts*, 411 U.S. 138, 142 (1973)). The "whole record" consists of materials either directly or indirectly considered by the decision maker. *Keystone Sanitation*, 1996 U.S. Dist. LEXIS 22808, *23 n.6 (citing *Wade v. Dole*, 631 F. Supp. 1100, 1107 (N.D. Ill. 1986), *aff'd* 813 F.2d 798 (7th Cir. 1987)); *see also Bar MK Ranches v. Yuetter*, 994 F.2d 735, 739 (10th Cir. 1993); *Ohio Valley Envtl. Coal. v. Whitman*, 2003 U.S. Dist. LEXIS 148, *8 (S.D. W.Va. Jan. 6, 2003). "An agency's action is entitled to a presumption of validity, and the petitioner challenging that action bears the burden of establishing that the action is arbitrary or capricious." *Forest Guardians v. U.S. Fish & Wildlife Serv.*, 611 F.3d 692, 704 (10th Cir. 2010); *see also Taggart v. GMAC Mortg., LLC*, 2013 U.S. Dist. LEXIS 113823 *10 n.6 (E.D. Pa. Aug. 12, 2013).

The court owes *Chevron* deference to the extent that EPA's actions are based on an interpretation of statutory language. All parties are in agreement that the applicable analysis is the two-step analysis set forth in *Chevron, USA, Inc. v.*

Natural Res. Def. Council, 467 U.S. 837, 842 (1984).[9] Under *Chevron*, an agency's interpretation is entitled to deference if "Congress delegated authority to the agency generally to make rules carrying the force of law, and . . . the agency interpretation claiming deference was promulgated in the exercise of the authority." *United States v. Mead*, 533 U.S. 218, 226-27 (2001). If a court finds *Chevron* deference applies, the court must first ask "whether Congress has directly spoken to the precise question at issue." *Id.* "If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Id.* at 842-43. Second, a court asks whether, if the statute is ambiguous, the agency has rendered "a permissible construction." *Id.* at 843.

A court is more likely to find the agency's interpretation permissible if there is a "complex and highly technical regulatory program," *Robert Wood Johnson Univ. Hosp. v. Thompson*, 297 F.3d 273, 282 (3d Cir. 2002) (citations and quotations omitted), or if the agency has employed formal procedures, such as notice and comment rulemaking, *see Christensen v. Harris Cnty.*, 529 U.S. 576, 587 (2000). If *Chevron* deference applies, the court must defer to the agency's interpretation as long as it is reasonably consistent with the statute. *See Mead*, 533 U.S. at 229. Where a court declines to extend *Chevron* deference, it may nonetheless extend the lesser degree of deference set forth in *Skidmore v. Swift &*

[9] Although Plaintiffs did not believe *Chevron* deference should be applicable "in the context of an agency interpreting a statute to determine the limits of its own jurisdiction," Plaintiffs conceded that the Third Circuit has held that it is applicable. (Doc. 139, n. 3 (citing *NE Hub Partners, L.P. v. CGN Transmission Corp.*, 239 F.3d 333, 355 (3d Cir. 2001).)

Co., 323 U.S. 134 (1944).[10] However, the court is in agreement with the parties that *Chevron* deference is appropriate in this case. *See Pronsolino* II, 291 F.3d at 1131 (finding *Chevron* deference applicable in a TMDL case because the "EPA has the statutory authority to enact a rule carrying force of law [in a TMDL case because]" the CWA delegates to EPA the general rule-making authority necessary for the agency to carry out its functions under the Act).

III. Discussion

Plaintiffs put forward various arguments in support of vacating the Bay TMDL. As a preliminary matter, however, the court will address EPA's argument that Plaintiffs lack standing to bring suit. The court will then address each of Plaintiffs' arguments *ad seriatum.*

A. EPA's Standing Argument

EPA argues for the first time in its memorandum in support of its cross-motion for summary judgment (Doc. 100) that Plaintiffs lack standing to bring suit under Article III of the Constitution. Article III limits the federal courts to adjudication of actual "[c]ases" and "[c]ontroversies." U.S. Const. Art. III, § 2, cl. 1. "Standing circumscribes the federal judicial power by requiring a litigant to show that it is entitled to have the court decide the merits of its case." *Am. Auto. Ins. Co. v. Murray*, 658 F.3d 311, 317 (3d Cir. 2011) (citing *Allen v. Wright*, 468 U.S. 737, 750-51 (1984)). The three constitutional elements of standing are: (1) an "injury in fact," that is, a concrete and particularized invasion of a legally protected interest

[10] Under *Skidmore*, a court defers to an agency's position according to its persuasiveness. 323 U.S. 139-140. Factors relevant to this analysis include the agency's expertise, care, consistency, and formality, as well as the logic of the agency's position. *Id.*

that is actual or imminent, not conjectural or hypothetical; (2) causation, the showing of a fairly traceable connection between the alleged injury in fact and the alleged conduct of the defendant; and (3) redressability, that is, "it must be 'likely,' as opposed to merely 'speculative,' that the injury will be 'redressed by a favorable decision.'" *Id.* (quoting *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992)).

The import of EPA's argument in this regard is that Plaintiffs failed to submit affidavits or set forth any evidence to establish the requisite elements of representational standing. In response to this argument, Plaintiffs, in their brief in opposition to EPA's cross-motion, attached 13 declarations which contain statements pertaining to the various Plaintiffs' standing in this case. (Docs. 109-1 – 109-13.) EPA nevertheless argues in its reply brief that such affidavits must be submitted "at the first appropriate point in the review proceeding," in this case Plaintiffs' opening brief, and that Plaintiffs produced no reason to excuse the untimely filing of the declarations. (Doc. 110 at 10 of 52 (citing *Communities Against Runway Expansion, Inc. v. FAA*, 355 F.3d 678, 684 (D.C. Cir 2004) ("*CARE*").)

The court rejects EPA's argument. First, while it is true that at the summary judgment stage, a plaintiff may not base standing on mere allegations and must set forth by affidavit or other evidence of "specific facts" to support standing, *see Sierra Club v. EPA*, 292 F.3d 895, 900 (D.C. Cir. 2002), there is no hard and fast rule that failure to attach said affidavits to an opening brief automatically divests a plaintiff of Article III standing, and thus the court of subject matter jurisdiction. Indeed, in *CARE*, a case relied upon by EPA, the court readily excused the plaintiff's

belated submission of declarations regarding standing, where, like here, the declarations were not filed concurrent with the opening brief. 355 F.3d at 685. The court found that the supplemental declarations clearly demonstrated "injury in fact" sufficient for standing purposes, and further found that the agency was not prejudiced because it was permitted to respond to the declarations. *Id.*

Here, too, EPA's prejudice is limited because it was able to respond to Plaintiffs' declarations in its reply brief, wherein EPA merely restates its untimeliness argument. (Doc. 110 at 10-11 of 52.) Moreover, the affidavits were not filed egregiously late in the proceedings. Indeed, the first time standing was even challenged was in EPA's memorandum in support of its cross-motion. This was not a case where a preliminary motion to dismiss for lack of standing was filed. Nor was this a case where a plaintiff did not submit any evidence regarding standing until its final brief, thus requiring post-argument supplementation, as in *Sierra Club*. Rather, the court finds Plaintiffs' standing to seek review of this administrative action to be self-evident. As stated by the court in *Sierra Club*,

> [I]n many, if not most cases the petitioner's standing to seek review of administrative action is self-evident; no evidence outside the administrative record is necessary for the court to be sure of it. In particular, if the complainant is "an object of the action . . . at issue" – as is the case usually in review of a rulemaking and nearly always in review of an adjudication – there should be "little question that the action or inaction has caused him injury, and that judgment preventing or requiring the action will redress it."

Sierra Club, 292 F.3d at 899-900 (quoting *Lujan*, 504 U.S. at 561-62.) Here, the declarations make clear that Plaintiffs are the object of the action, and that they will incur economic injury if required to comply with the TMDL. For example, some of the Plaintiffs are point source dischargers and are NPDES permit holders who will

need to comply with the standards set forth in the Bay TMDL. (*See, e.g.*, Doc. 109-1, Shafer Decl. ¶¶ 6, 8, 10 ("Pilgrim's Pride [a member of the U.S. Poultry & Egg Association] has determined that in order to comply with the individual wasteload allocations in the TMDL, it will need to change its wastewater treatment operations [and] employ new treatment technology [which will be] prohibitively expensive for most businesses and municipalities."); Doc. 109-2, Igli Decl. ("Each Tyson [(member of U.S. Poultry & Egg Association)] facilit[y] operates a wastewater treatment plant [and] holds a [NPDES] permit. [To meet the requirements of the Bay TMDL] will require additional costs to achieve compliance. Tyson also expects increases in operating costs associated with all facilities.").) Other declarations contain similar concerns and declarations of economic injuries. (*See* Doc. 109-3, Behrer Decl. ¶¶ 12-14 (describing economic harm from changes to dairy operations that a farm needs to undertake to comply with "aggregate" WLAs); Doc. 109-4, Kettler Decl. ¶¶ 11-14, 16 (describing costs of complying with the Final TMDL as including engineering and planning work to develop stormwater pollution control plans, installation of systems to treat and control stormwater, and implementation and maintenance measures); Doc. 109-5, Sowers Decl. ¶¶ 8-15 (same); Doc. 109-6, Herz Decl. ¶¶ 5-8 (describing how the Final TMDL will increase the cost of complying with discharge limitations and result in reduced fertilizer sales); Doc. 109-7, Doggett Decl., ¶¶ 4, 6 (describing how pollutant allocations in the Final TMDL will increase already significant costs associated with nutrient management plans for corn farms).) It has long been held that economic injuries are a sufficient

basis for standing. *See Clinton v. City of N.Y.*, 524 U.S. 417, 434-33 (1998); *see also Sierra Club v. Morton*, 405 U.S. 727, 733-34 (1972).[11]

Moreover, based on a review of the declarations, the court has no trouble concluding that the causation and redressability requirements are also satisfied. CBF argues that the Final TMDL is not the cause of Plaintiffs' injuries because the TMDL is not self-implementing; rather, the TMDL is implemented by the states. This view is too restrictive. A TMDL, while only informational in nature, is, in this case, the product of extensive collaboration between the Bay states and EPA. The TMDL was used by the states to construct the WIPs, which are the cause of the alleged injuries. Moreover, EPA's role is not purely passive: EPA is the permitting authority for point source pollution, via NPDES permitting. In short, if the court were to adopt CBF's argument, then ostensibly no party, including environmental groups, regulated entities, or trade groups, would ever have standing to challenge a TMDL in federal court as either insufficiently protective or in excess of EPA's regulatory authority. Yet, many courts have asserted jurisdiction over such cases. *See, e.g.*, *Natural Res. Def. Council, Inc. v. Muszynski*, 268 F.3d 91 (2d Cir. 2001); *Dioxin/Organochlorine Ctr. v. Clarke*, 57 F.3d 1517 (9th Cir. 1995); *Anacostia Riverkeeper*, 798 F. Supp. 2d 210. Accordingly, the court finds that Plaintiffs' alleged imminent injuries are fairly traceable to the Final TMDL, and thus causation is satisfied.

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[11] Defendant-Intervenor CBF also argues that the alleged injuries are speculative and not sufficiently imminent. (Doc. 108 at 17 of 39.) While it is true that the concept of imminence is elastic, it should not be "stretched beyond the breaking point" by only alleging an injury "at some indefinite time in the future." *Lujan*, 504 U.S. at 564 n. 2. The court does not find that the alleged economic injury is so speculative. Plaintiffs, through the various declarations, state that, if the Final TMDL is upheld, then economic injury will result as a result of the reduced nutrient allocations. Although this injury might not be present or immediate, it is sufficiently imminent for the purposes of Article III standing.

Lastly, the court finds that the requested relief, vacatur of the Final TMDL, would likely relieve Plaintiffs of their alleged injuries. Redressability is closely related to traceability, except that traceability looks backward (did the defendants cause the harm?), while redressability looks forward (will a favorable decision alleviate the harm?). *See Toll Bros., Inc. v. Twp. of Readington*, 555 F.3d 131, 143 (3d Cir. 2009) (citing *Lujan*, 504 U.S. at 560-61). Plaintiffs need not show that a favorable decision will certainly redress their members' injuries, only that it is likely to do so. *Id.* Here, based on the above, the court is satisfied that Plaintiffs have met the redressability prong, as vacatur of the TMDL will likely alleviate at least some of Plaintiffs' economic concerns.

In short, Plaintiffs have satisfied the test for Article III standing: injury-in-fact, causation, and redressability. That the declarations providing evidence in support of Plaintiffs' standing were not filed in the opening brief, but rather in their opposition brief to Plaintiffs' cross-motion, is not fatal to Plaintiffs' standing.

B. Bay TMDL is not an unlawful federal implementation plan

In this issue of first impression, Plaintiffs argue that the Final TMDL represents an unlawful federal implementation because it impedes on the states' rights to implement the TMDL as each state sees fit. Plaintiffs assert that, while EPA may *issue* a TMDL, EPA has no authority to *implement* a TMDL. Plaintiffs further argue that only Congress can grant EPA authority to implement TMDLs, and no executive order, consent decree, or MOU can expand EPA's authority. Plaintiffs point to the level of detail of TMDL allocations, as well as EPA's backstop measures as evidence of unlawful federal implementation measures. For the reasons set forth below, the court agrees with Plaintiffs that TMDL implementation

responsibilities primarily fall to the individual states, but disagrees that the Final TMDL represents an unlawful implementation plan.

1. CWA §§ 303 (33 U.S.C. § 1313) and 117 (33 U.S.C. § 1267)

As explained in detail above, the CWA sets forth a step-by-step approach to restoring impaired waters. *See supra* Section I.B. To review, the CWA first requires the establishment of water quality standards. 33 U.S.C. § 1313(a) & (c). Second, states are required to identify waters that do not meet those standards (the "303(d) list"). 33 U.S.C. § 1313(d). Third, states must establish TMDLs, subject to EPA approval, for those waters at levels necessary to achieve the standards. *Id.* Finally, states are required to submit plans (the "continuing planning process"), subject to EPA approval, which are designed to achieve the water quality standards. 33 U.S.C. § 1313(e).

Plaintiffs concede that, while states have primary responsibility for establishing water quality standards, 303(d) lists, and TMDLs, EPA is authorized to take action in the event of state inaction or insufficient action. *See* 33 U.S.C. § 1313 (c) (authorizing EPA to establish water quality standards where it is determined that the state standards are inconsistent with the CWA); 33 U.S.C. § 1313(d) (authorizing EPA to establish TMDLs where it is determined that the proposed state TMDL will not achieve water quality standards); 33 U.S.C. § 1313(e) (authorizing EPA to review each state's continuing planning process and disapprove of any state permit program for any state that does not have an approved continuing planning process). (Doc. 96 at 40 of 81.) Plaintiffs nevertheless argue that states have *exclusive* authority over the final step in this process: implementation of the TMDL

allocations. (*Id.*) Having reviewed the applicable statutory provisions, the court finds that this argument is overbroad.

TMDL implementation, as is evident from the analysis below, is an amorphous term. Practically speaking, TMDL "implementation" is divided between EPA and states. *See Sierra Club v. Meiburg*, 296 F.3d 1021 (11th Cir. 2002). For example, point-source discharges are regulated through the federal NPDES permitting regime, with TMDLs incorporated into the effluent and technology-based limitations. 33 U.S.C. §§ 1311(b)(1)(C), 1342(d)(3); 40 C.F.R. § 122.44(d)(1)(vii)(B). These permits may be issued either by EPA, or by states with EPA-approved NPDES programs. However, even where EPA has delegated permitting authority to the states, EPA retains the right to include additional limits in NPDES permits when necessary to ensure achievement of water quality. 33 U.S.C. § 1312(a), 1342(a). Non-point source regulation, however, is generally left to the states. 33 U.S.C. § 1329.[12] Nevertheless, EPA can influence state implementation by providing grant money for state non-point source pollution management programs. 33 U.S.C. §§ 1311(b)(1)(C), 1342(d)(2). Thus, to say that implementation is left *exclusively* to the states would be an overstatement.

Plaintiffs' exclusivity argument is based on CWA Section 303(e), which requires that states prepare a "continuing planning process" ("CPP"). 33 U.S.C. § 1313(e)(2). These CPPs include TMDLs for pollutants, as well as effluent limitations and standards, revision procedures, and adequate implementation

[12] This section requires states to prepare a non-point source management plan, 33 U.S.C. § 1329(a), and a management program that identifies "best management practice and measures," 33 U.S.C. § 1329(b). "EPA exercises authority over these programs and must approve them." *Meiberg*, 296 F.3d at 1026. Once a management program is approved, EPA may make grants to the states to allow them to implement the plan. 33 U.S.C. § 1329(h).

measures including a schedule for compliance. *Id.* at 1313(e)(3). Plaintiffs note that Section 303(e) does not confer backstop authority to EPA or permit EPA to otherwise take over state implementation plans. (Doc. 96 at 40-42 of 81.) Plaintiffs contrast this section with Section 303(c) and (d) which, as state above, permit EPA to establish water quality standards and TMDLs, respectively, wherever state efforts fall short. (*Id.* at 41 of 81.)

After reviewing Section 303(e), the court agrees that EPA is not authorized to establish or otherwise take over TMDL implementation plans. However, here again, it would go too far to say that EPA has no role in developing state implementation plans. In fact, EPA is required to review and approve or disapprove each state's CPP, and, once its process has been approved, occasionally review it to ensure that it stays consistent with the Act. 33 U.S.C. § 1313(e)(2). Thus, here too, EPA has supervisory authority. EPA's supervisory authority is consistent with the CWA's requirement that EPA "ensure that management plans are developed and implementation is begun by signatories to the Chesapeake Bay Agreement to achieve and maintain . . . the nutrient goals of the Chesapeake Bay Agreement . . . [and] the water quality requirements necessary to restore living resources to the Chesapeake Bay ecosystem." 33 U.S.C. § 1267(g). Nevertheless, Plaintiffs are correct that Section 303(e) stops short of giving EPA authority to enact its own implementation plan where it has determined that the state's effort has fallen short. EPA may not, for example, dictate to a state what measures the state must undertake to reduce pollution from a particular source.

In the end, the parties do not have any real dispute in this regard. Both Plaintiffs and EPA acknowledge that EPA is authorized under the CWA to take

action regarding water quality standards and establishment of TMDLs if the states' efforts fall short. (*See* Doc. 96 at 40 of 81; Doc. 100 at 15-16 of 76.) It is further undisputed, despite Plaintiffs' claim that implementation is left exclusively to the states, that EPA's implementation authority is limited to its authority over NPDES permitting for point sources, and providing or withholding grant money to encourage implementation for non-point sources.[13] It is logical for states to retain control over implementation of non-point pollution regulation because non-point pollution control measures often involve local land use and zoning decisions, activities which are generally within the well-protected province of state and local government.

Nevertheless, Plaintiffs claim that EPA unlawfully impinged on the Bay states' implementation authority when issuing the Final TMDL. Specifically, Plaintiffs argue that EPA violated the CWA because (1) the Final TMDL contains detailed allocations rendering the TMDL tantamount to an implementation plan, (2) EPA unlawfully imposed "backstop" adjustments, and (3) EPA unlawfully locked-in those allocations by establishing a federal timeline for implementation and reserving exclusive authority to revise them. Plaintiffs further claim that EPA violated the CWA by requiring "reasonable assurances" of the Bay states' WIPs and by providing allocations for "upstream" states (the headwater jurisdictions of New York, Pennsylvania, and West Virginia). The court will address each argument.

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[13] In *Pronsolino* II, the court noted that this sort of "carrot-and-stick" approach is central to attaining acceptable water quality without direct federal regulation of non-point sources of pollution. 291 F.3d at 1127. The court further explained that the advantage of the "intricate scheme is that the CWA leaves to the states the responsibility of developing plans to achieve water quality standards if the statutorily-mandated point source controls will not alone suffice, while providing federal funding to aid in the implementation of the state plans." *Id.* at 1128 (citations omitted).

2. Detailed Allocations

Plaintiffs initially argue that the high level of detail in the TMDL's allocations constrains the states implementation powers. (Doc. 96 at 29 of 81.) Specifically, Plaintiffs state that "[a]lthough implementation of TMDLs involves difficult policy choices concerning land use and regulation that are left to the states under the CWA, EPA's allocations in the TMDL micro-manage implementation by dictating the distribution of loadings among numerous source categories and even individual sources throughout the watershed." (*Id.* at 28 of 81.) Plaintiffs note that EPA established annual and daily WLAs for specific sectors, such as regulated agriculture, regulated stormwater, and wastewater and for 478 individual permitted facilities throughout the seven Bay Jurisdictions. (*Id*. at 28-29 of 81.) At oral argument, Plaintiffs argued that "the amount of regulation of individual sources, the extent of those allocations is unprecedent[ed]." (Notes of Transcript ("Tr.") 36.)[14]

The court does not find that the level of detail associated with allocations renders the TMDL a *de facto* implementation plan. Plaintiffs themselves seemingly concede this point, stating that "EPA violated the CWA *not by referencing detailed allocations in the TMDL*, but by locking those allocations in, establishing a federal timeline for implementation, and reserving exclusive authority to revise them." (Doc. 109 at 23 of 56) (emphasis added.) Nevertheless, at oral argument, Plaintiffs reiterated their argument that by first dividing the allocations in WLAs and LAs and then further dividing allocations among various sectors,

[14] The court reporter provided the court with a preliminary copy of the transcript of proceedings on October 4, 2012. A final transcript has not been requested by any party. Any citations to the transcript refer to the court's copy of the preliminary transcript and, therefore, may contain different pagination to a final transcript, in the event that one is requested.

including agriculture, stormwater, wastewater, forest, non-tidal atmospheric deposition, onsite septic and urban, EPA was essentially divesting the states of the ability to split the allocations as they saw fit, thus restricting the scope of their implementation powers.[15] (Tr. 32; Doc. 96 at 29 of 81.)

As explained below, the court disagrees that allocations, by virtue of their level of detail, have converted the Final TMDL into an unlawful federal implementation plan.

a. WLAs and LAs

Plaintiffs argue that the regulation establishing a TMDL as the *sum* of WLAs from point sources and LAs from non-point sources, *see* 40 C.F.R. § 130.2, is in violation of the CWA because the CWA only authorizes EPA to establish the *total* maximum daily load. (Doc. 96 at 21 of 81; Doc. 139 at 6 of 12.) In other words, Plaintiffs interpret the CWA to authorize EPA to establish a single total load for a state for a particular pollutant, but not to authorize EPA to allocate that total load or otherwise determine how the total load is to be achieved. (Doc. 139 at 6 of 12.) Thus, the question, which appears to be an issue of first impression, is whether EPA exceeded its authority under the CWA by defining a TMDL as "[t]he sum of

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[15] Here again, Plaintiffs seemingly contradicted themselves by subsequently stating at oral argument that the detail of the allocation is not at issue in the following exchange:

> THE COURT: You don't object to the detail of the allocations, you object to the fact that you claim they're locked in?
>
> MR. SCHWARTZ: That's correct. If they're not locked in, then that actually changes the equation.

(Tr. 7.)

the individual WLAs for point sources and LAs for non point sources and natural background." 40 C.F.R. § 130.2. The court finds that it did not.

Plaintiffs' argument in this regard is limited to the reservations of state authority in 33 U.S.C. § 1251(b) and § 1370. Section 1251(b) provides as follows:

> (b) Congressional recognition, preservation, and protection of primary responsibilities of States. It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use . . . of land and water resources, and to consult with the Administrator in the exercise of authority under this Act. It is the policy of Congress that the States manage the construction grant program under this Act and implement the permit programs under sections 402 and 404 of this Act. It is further the policy of Congress to support and aid research relating to the prevention, reduction, and elimination of pollution, and to provide Federal technical services and financial aid to State and interstate agencies and municipalities in connection with the prevention, reduction, and elimination of pollution.

33 U.S.C. § 1251(b). Section 1370 provides:

> § 1370. State Authority
>
> Except as expressly provided in this Act, nothing in this Act shall (1) preclude or deny the right of any State or political subdivision thereof or interstate agency to adopt or enforce (A) any standard or limitation respecting discharges of pollutants, or (B) any requirement respecting control or abatement of pollution; except that if an effluent limitation, or other limitation, effluent standard, prohibition, pretreatment standard, or standard of performance is in effect under this Act, such State or political subdivision or interstate agency may not adopt or enforce any effluent limitation, or other limitation, effluent standard, prohibition, pretreatment standard, or standard of performance which is less stringent than the effluent limitation, or other limitation, effluent standard, prohibition, pretreatment standard, or standard of performance under this Act; or (2) be construed as impairing or in any manner affecting any right or jurisdiction of the States with respect to the waters (including boundary waters) of such States.

33 U.S.C. § 1370. Thus, Section 1251 contains broad Congressional policy statements, and Section 1370 requires states to meet minimum federal effluent limitations standards. Interestingly, although both sections address state authority, neither section addresses the issues of TMDLs and whether a TMDL may consist of both WLAs and LAs. There is nothing in these sections that explicitly prohibits defining a TMDL as the sum of WLAs and LAs. At the same time, the CWA does not expressly define a TMDL as a sum of WLAs and LAs, instead describing a TMDL as the "the total maximum daily load, for those pollutants which the administrator identified under Section 304(a)(2) [33 U.S.C. § 1314(a)(2)] . . . to implement the applicable water quality standards." 33 U.S.C. § 1313(d)(1)(C).[16]

Clearly, the CWA leaves room for interpretation when defining a TMDL. EPA, while conceding that there is no statutory mention of WLAs and LAs, has determined that it is necessary to include both WLAs and LAs in order to effectuate the overall goal of achieving water quality standards. Specifically, EPA has determined that:

> Although section 303(d)(2) of the Act does not specifically mention either WLAs or LAs, it is impossible to evaluate whether a TMDL is technically sound and whether it will be able to achieve standards without evaluating component WLAs and LAs and how these loads were calculated. Thus, it is necessary for EPA to review and approve or

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[16] CWA § 304(a)(2) simply states that "[t]he Administrator, after consultation with appropriate Federal and State agencies . . . shall develop and publish information . . . on the identification of pollutants suitable for maximum daily load measurement correlated with the achievement of water quality objectives." 33 U.S.C. § 1314. This is not at issue here because Plaintiffs are not challenging suitability of regulating nitrogen, phosphorus, or sediments to achieve water quality objectives. In any event, EPA issued its final identification of pollutants subject to TMDL regulation on December 28, 1978, wherein EPA did not identify any specific pollutants by name, but simply identified "all pollutants, under proper technical conditions, as being suitable for the calculation of total maximum daily loads." 43 Fed. Reg. 60662.

> disapprove a TMDL in conjunction with component WLAs and LAs.

50 Fed. Reg. 1775 (Jan. 11, 1985).

Plaintiffs argue that this interpretation is not entitled to *Chevron* deference because there is no ambiguity in the statutory language at issue. (Doc. 139 at 3-6.) In support, Plaintiffs reiterate that the CWA authorizes EPA to establish the *total* maximum daily load, but does not otherwise authorize EPA to allocate that total load among sources, and the statute's silence on the matter does not prove ambiguity. (*Id.*) The court disagrees.

As stated above, under the *Chevron* standard, where the court finds that the statute is open or ambiguous – that is, if Congress left a "gap" for the agency to fill – then this court must uphold the agency's interpretation so long as it is "reasonable." Moreover, that silence does not prove ambiguity is besides the point because the court in *Chevron* held that where "the statute *is silent or* ambiguous with respect to a specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute." 467 U.S. at 843.

The court finds the statutory provisions at issue are precisely the type that Congress intended to leave to EPA for interpretation. For one, there is no question that the calculation of a TMDL is a "highly technical, specialized interstitial matter that Congress does not often decide itself, but delegates to specialized agencies to decide." *Zuni Pub. Sch. Dist. v. Dep't of Educ.*, 550 U.S. 81, 90 (2007). Second, there is no dispute that Congress was silent as to the precise variables attributable to a TMDL, defining a TMDL only as the load necessary "to implement the applicable water quality standards." 33 U.S.C. § 1313(d)(1)(C). Third, the statutory language itself supports EPA involvement in interpreting the

statute. *See* 33 U.S.C. § 1313(d)(1)(c) (defining a TMDL as "the total maximum daily load, for those pollutants which *the Administrator* identified under Section 304(a)(2) [33 U.S.C. § 1314(a)(2)] . . . to implement the applicable water quality standards." (emphasis added)); *see also* 33 U.S.C.§ 1314(a)(2) ("*The Administrator* . . . shall develop and publish . . . the identification of pollutants suitable for maximum daily load measurement . . . ." (emphasis added)).

EPA's position also finds support in the courts. Although neither the parties nor the court has been able to identify any case where a plaintiff specifically challenged EPA's definition of a TMDL as the sum of WLAs and LAs plus natural background, courts have nevertheless cited to that provision numerous times without issue. For example, in *Anacostia Riverkeeper v. Jackson*, 798 F. Supp. 2d 210 (D.D.C. 2011), the court set aside a TMDL for the Anacostia River that sought to reduce sediments and total suspended solids (TSS) by 85 percent. The court found that while the proposed reduction was designed to ensure *some* of the water quality standards for the river's designated uses – namely protection of plant and animal life – it did not consider the reduction required to protect *all* the water's designated uses, which also included water contact recreation (*e.g.*, swimming), secondary contact recreation (*e.g.*, boating), and aesthetic enjoyment. The TMDL at issue contained both WLAs and LAs. The court noted that:

> A core requirement of any TMDL is to divide sources of contamination along the water body by specifying load allocations, or LAs, to predict inflows of pollution from particular non-point sources; and to then set[] wasteload allocations, or WLAs, to allocate daily caps among each point source of pollution.

Id. at 248-49. Neither the court, nor any party, took issue with this requirement.

In *Pronsolino* I, the district court resolved a challenge to the TMDL for the Garcia River in northern California. 91 F. Supp. 2d 1337. In that case, the Pronsolinos, landowners in the Garcia River watershed, challenged the TMDL on the grounds that the CWA does not authorize EPA to determine a TMDL for rivers and waters polluted only by non-point sources. The plaintiffs argued that the TMDL requirements of Section 303(d) were reserved exclusively for point sources, largely because that section makes no mention of non-point sources.[17] The court disagreed, holding that a TMDL is applicable to "all pollutants," which includes both point and non-point sources. The court looked to Ninth Circuit case law, wherein the court found support for the defendant's view that TMDLs are applicable to both point and non-point sources. *Id.* at 1348-49 (quoting *Alaska Ctr. for the Env't v. Browner*, 20 F.3d 981, 985 (9th Cir. 1994) ("Congress and EPA have already determined that establishing TMDLs is an effective tool for achieving water quality standards in waters impacted by non-point source pollution."); and *Dioxin/Organochlorine Ctr. v. Clarke*, 57 F.3d 1517, 1520 (9th Cir. 1995) ("A TMDL defines the specific maximum amount of a pollutant which can be discharged or 'loaded' into the waters at issue from all combined sources. Thus a TMDL represents the cumulative total of 'load allocations' which are in turn best estimates of the discrete loading attributed to nonpoint sources, natural background sources, and individual wasteload allocations . . . , that is, specific portions of the total load allocated to individual

[17] As previously stated, Section 303(d) requires states to identify and compile a list of waters for which certain "effluent limitations" are not stringent enough to meet applicable water quality standards (*e.g.*, the aforementioned 303(d) list). 33 U.S.C. § 1313(d)(1). Effluent limitations pertain only to point sources. This was the basis of the plaintiff's challenge, which is distinguishable from Plaintiffs' challenge in this case, wherein EPA's ability to allocate as between WLAs and LAs is challenged on the basis that the CWA only authorizes EPA to set the allocation as a single, cumulative number.

point sources.")). The court concluded that, "[i]n the face of these statements, it would be difficult for a district court within the Ninth Circuit to hold that TMDLs were not required for listed rivers and waters harmed only by nonpoint pollution." *Id.* at 1349.

The court also looked to the legislative history of Section 303(d), finding that although the legislative history focused on effluent limitations for point sources, it also recognized that "non-point sources of pollution are a major contribution to water quality problems." *Id.* at 1350. The court interpreted this statement as Congress' recognition that non-point pollution would also be required to meet water quality standards. *Id.*

Additionally, the court looked to CWA Section 304(a)(2) which states that TMDLs are obligatory only for those "pollutants" which the Administrator identifies under Section 304(a) as suitable for calculation. As stated, EPA identified "all pollutants" as being suitable for TMDL calculation. *See supra* note 16. The question, then, was whether sediment, the non-point source at issue, constituted a "pollutant" even though it was not identified as a pollutant under the Act's definition of "pollutant," which states "[t]he term 'pollutant' means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive wastes, heat wrecked or discarded equipment, rock, sand, cellar dirt[,] and industrial, municipal, and agricultural waste discharged into water." 33 U.S.C. § 1362; 40 § C.F.R. 122.2. Nevertheless, the court found that sediment was a "pollutant," in part based on Ninth Circuit case law, and in part based on legislative history, which referenced sediment as a "pollutant." 91 F. Supp. 2d at 1351 (citing S. Rep. No. 92-414, 92 Cong. 1st Sess. 52

(1971)("sediment, often associated with agricultural activities, is by volume our major pollutant . . . .")). The court also looked to other sections in the CWA which referred to "non-point sources" as "pollutants." *Id.* at 352 (citing CWA §§ 105(d), 304(e), and 305(b)(1)(E)). Thus, the court concluded that the "operative language of the Act . . . expressly treated pollutants as emanating from nonpoint sources" and thus non-point sources were "pollutants" subject to TMDLs. *Id.* at 1351-52.

In holding that TMDLs applied to non-point sources of pollution (as well as point sources), the court stated broadly that this view was in line with the "comprehensive fabric" of the Act. *Id.* at 1352. Further, any remaining doubt, the court stated, should be eliminated by deference to EPA's reasonable construction of the statute. *Id.*

On appeal, the Ninth Circuit Court of Appeals affirmed the district court's holding. The court initially found that EPA's interpretation of the statutory requirements of Section 303(d) [33 U.S.C. § 1313(d)] as being applicable to waters that receive water from point sources, non-point sources, or both, is entitled to *Chevron* deference. The court reasoned that "Congress entrusted to the EPA the responsibility of approving or disapproving § 303(d)(1) lists, bestowing upon it the discretion that comes with such responsibility; the EPA has specialized experience regarding the CWA which this court lacks; and the agency has consistently interpreted the provisions at issue." 291 F.3d at 1134. The court, after analyzing the language and structure of Section 303(d) and the structure of the statutory scheme as a whole, found EPA's interpretation of Section 303(d) to be "entirely reasonable." *Id.* at 1139.

Returning to Plaintiffs' argument here, the court simply can not find any basis to conclude that EPA's interpretation of a TMDL as the sum of WLAs and LAs is unreasonable. EPA has defined a TMDL as the sum of WLAs and LAs (plus background) since 1985. *See* 50 Fed. Reg. 1774. Since then, more than 47,000 TMDLs have been completed throughout the United States. (AR0000018; Doc. 110 at 14 of 52 n.2.) Of those, more than 25,000 were issued or approved by EPA and contained WLAs and LAs. Now, 28 years later, Plaintiffs challenge this interpretation of TMDLs arguing, for the first time, that "EPA's interpretation that the 'total' load somehow derives from the 'allocations' is unreasonable . . . ." (Doc. 139 at 9 of 12.) Nevertheless, every case that this court has identified that touched on this issue has said that a TMDL appropriately pertains to both point and non-point source allocations. *See, e.g., Pronsolino* I, 91 F. Supp. 2d 1337; *Pronsolino* II, 291 F.3d 1123; *see also Anacostia Riverkeeper*, 798 F. Supp. 2d 210; *Meiburg*, 296 F.3d at 1025 ("As should be apparent, TMDLs are central to the Clean Water Act's water-quality scheme because . . . they tie 'together point-source and non-point source pollution issues in a manner that addresses the whole health of the water.'"). In so concluding, courts have (1) parsed the language of Section 303(d), (2) analyzed the legislative history of Section 303(d), and (3) analyzed the statutory scheme as a whole. The court finds this analysis persuasive and exhaustive. As stated, EPA's interpretation is entitled to *Chevron* deference, because the CWA does not precisely define a TMDL, the definition of which is complex and technical. In the end, the court finds EPA's allocation of a TMDL as between WLAs and LAs to be entirely reasonable, and consistent with Congress's goals of establishing an "all-compassing program of water pollution regulation" and to establish a

"comprehensive long-range policy for the elimination of water pollution." *Arkansas v. Oklahoma*, 503 U.S. 91, 107 n.12 (quoting *Milwaukee v. Illinois*, 451 U.S. 304, 318 (1981)).

b. Sector and Individual Source Allocations

Plaintiffs' unlawful implementation argument does not end there. As stated, Plaintiffs challenge EPA's allocations not only because they divide the allocations into WLAs and LAs, but also because EPA further allocated among various sectors including WLAs and LAs for agriculture, stormwater, wastewater, forest, non-tidal atmospheric deposition, onsite septic, and urban. (Doc. 96 at 29 of 81.) Plaintiffs further point out that EPA also established annual and daily WLAs for 478 individual permitted facilities. (*Id.*) It is this level of detail that Plaintiffs argue results in unlawful "micro-manage implementation." (*Id.* at 28 of 81.)[18]

There is no denying that the Chesapeake Bay Final TMDL is much more than a single number for nitrogen, phosphorus, and sediment total load allocations. Indeed, the TMDL itself is several thousand pages (*see* AR0000015-AR0003790), but many of those pages are dedicated to information regarding source identification, watershed and land use descriptions, modeling application, and implementation approaches. The total nitrogen, total phosphorus, and total suspended sediment allocations themselves can be found in Tables 9-1, 9-2, and 9-3 of the TMDL, respectively, and span 33 pages, each page containing approximately 30 allocations. (AR000029-AR0000348.) Thus, it would be misleading to suggest

[18] Here again, this argument is asserted notwithstanding Plaintiffs' various contradictory statements that it is not the level of detail in the TMDL that amounts to implementation, but the fact that the allocations are "locked-in." *See supra* note 15.

that the TMDL is not highly detailed and complex. However, the court does not find that this level of detail unlawfully crosses the line into TMDL implementation.

EPA's regulations instruct that WLAs and LAs should be assigned to "one of [the water body's] existing or future point sources of pollution." 40 C.F.R. §§ 130.2 (g) & (h). In *Anacostia Riverkeeper*, the court noted that "[a] core requirement of any TMDL is to divide sources of contamination along the water body by *specifying load allocations,* or LAs, to predict inflows of pollution from *particular non-point sources*; and then to set[] *wasteload allocations*, or WLAs, to allocate daily caps among *each point source* of pollution." 798 F. Supp. 2d at 248-49 (emphasis added). Thus, neither the regulations, nor the court in *Anacostia Riverkeeper*, anticipated that a TMDL would consist of only a single number. The regulations provide that a TMDL include allocations to point and, if necessary, non-point sources of pollution, rather than be devised at a later stage of post-TMDL implementation. *See id.* at 216 ("In addition to setting a maximum daily level of pollution, EPA regulations require TMDLs to allocate contaminant loads among point and non-point sources of pollution."). The court in *Anacostia Riverkeeper* went on to explain that:

> Total pollutant load established by a TMDL are incorporated into the NPDES permit system, which is a key step in the enforcement of those load limits. Absent specification of WLAs for individual point sources in the TMDL, therefore, the task of breaking down the total pollutant load – represented by a single number – into individual allocations is effectively delegated to NPDES permit writers. To the extent multiple permit writers oversee a single water body, such delegation risks either failure to implement the TMDL through overly-generous individual allocations that, in the aggregate, exceed total load limits, or over-enforcement of the TMDL through the setting of unnecessarily harsh individual allocations developed out of fear of under-enforcement. *To minimize*

> *these risks, EPA reasonably determined that specific WLAs should be developed at the stage when both the State and Agency are evaluating the health of an entire water body – i.e., when developing the TMDL – because the designers of the TMDL can more easily take into account all point sources and attempt to divvy up acceptable pollution levels among them.*

Id. at 249-50 (emphasis added). In other words, the court concluded that EPA reasonably assigned allocations to individual point sources. To do otherwise, *i.e.*, to simply give a number to an entire municipal sewer system, consisting of multiple sources of point source pollution, and then letting multiple permit writers attempt to attain that allocation, does not make sense because, as the court pointed out, the individual permit writers would lack the coordination required to effectively "divvy up acceptable pollution levels among [the sources]."

The court finds the *Anacostia Riverkeeper* court's reasoning persuasive, and, if that reasoning holds true regarding a municipal sewer system draining into a single water body (as in *Anacostia Riverkeeper*), it is all the more true here, where six states and the District of Columbia all drain into the Chesapeake Bay. To merely set a number, and then let the states, permit writers, and other groups within each state "duke it out" would not only be impractical, but would also be inconsistent with the CWA's foundational principle, which is that the burdens of eliminating pollution in the Nation's water is one to be shared among federal, state, and local authorities. *Id*. at 250 (citing *Friends of the Earth v. EPA*, 346 F. Supp. 2d 182, 203 (D.D.C. 2004)).

In addition, it would be misleading to say that EPA was the sole author of the TMDL. Rather, the allocations were devised largely by the states in their WIPs. The process included considerable back-and-forth between EPA and the Bay

states. To reiterate, on November 3, 2009, EPA, following meetings with the Bay states, devised proposed target loads for nitrogen and phosphorus (AR0023289-AR0023293), followed by revised target loads as to nitrogen, phosphorus, and sediment. (AR0000244; AR0012670-AR0012682.) States used these targets to begin drafting their WIPs. EPA communicated with the Bay states during this phase, and set deadlines and expectations to guide the drafting process. (*See, e.g.,* AR0000255-AR0000256; AR0023294-AR0023301; AR0023289-AR0023293.) EPA and the Bay states worked together to improve the successive draft WIPs. The Final TMDL was, in all but three instances wherein EPA substituted backstop allocations, based on the Bay states' Phase I WIPs. Thus, as EPA argues in its reply brief "in all but three cases (the so-called "backstops"), EPA's TMDL allocations *were informed by* the state's WIPs, not the other way around." (Doc. 110 at 25 of 52) (emphasis in original).

Plaintiffs argue, however, that the WIP drafting process was not so cooperative, and that EPA exerted pressure over the states that amounted to coercion. In support, Plaintiffs offer two slides from EPA presentations, each containing a single-panel comic. Plaintiffs suggest that these comics portray EPA's coercive attitude toward the WIP drafting process. One comic contains the headnote "It's a new day for restoring local streams, rivers and the Chesapeake Bay." (AR0032986.) The illustration depicts a classroom with students, a teacher, and a caged tiger in the rear of the classroom. The caption reads "Well, Timmy, it looks like you've just earned yourself 10 minutes in the cage with Mr. Whiskers." The second comic depicts two men, one holding a ball and chain attached to his ankle. (AR0027660.) The caption states "You dropped the ball, You must have known

there would be consequences." Plaintiffs also point to two emails that, in their view, further illustrate how EPA exerted pressure over the states. In one email, an EPA employee wrote to two employees of the Virginia Department of Conservation and Natural Resources, inquiring whether Virginia had "a better understanding of what needs to be in the WIPs and how EPA will judge adequacy of WIPs." (Doc. 85-2.)[19] In the other email, an EPA employee stated, "It's important to stress that in the absence of significant revisions to the discussion topics we've had at our meeting EPA will be forced to retain these backstop allocations in the final TMDL." (Doc. 85-6.) Finally, Plaintiffs list, without explaining, other threats, including: "(a) promulgating federal numeric nutrient standards, (b) requiring unreasonable additional point source reductions, (c) engaging in increased federal enforcement activity, (d) withholding grant money to states for reasons not intended by Congress, all because it did not agree with a state's WIP." (Doc. 96 at 33 of 81 (citing AR0024032-33).)

There is no doubt that EPA conveyed its expectations during the WIP drafting process and further conveyed the possibility of using backstop measures where the states did not meet EPA's expectations. EPA expected each Bay state's Phase I WIP to: (1) meet the state's numeric target loads; and (2) provide "reasonable assurance" that the state's proposed source and sector allocations would be met. (*See* Doc. 100 at 32 of 76.) Further, there is no dispute that, if EPA determined that the states' efforts fell short, it would substitute its own backstop

[19] These emails were not part of the original administrative record, but were added to the record when the court granted in part and denied in part Plaintiffs' motion to complete the administrative record. (Doc. 92.) The emails were attached to Plaintiffs' memorandum in support of its motion to complete the administrative record as exhibits. (*See* Docs. 85-2 and 85-6.)

measures. As Plaintiffs point out, the states did not always agree with EPA's backstop allocations. (*See* Doc. 109 at 30 of 56.) The question, then, is whether this arrangement amounted to unlawful coercion, or was the result of collaborative, cooperative federalism. The court finds in favor of the latter.

As several commentators have recognized, cooperative federalism can be, at times, messy and cumbersome. *See* Robert L. Fischman & Jaelith Hall-Rivera, *A Lesson for Conservation from Pollution Control Law: Cooperative Federalism for Recovery Under the Endangered Species Act*, 27 Colum. J. Envtl. L. 45, 79 (2002) ("[D]espite its sometimes messy and redundant framework, cooperative federalism has proven to be one of the most enduring characteristics of pollution control law over the past three decades."); Philip J. Weiser, *Federal Common Law, Cooperative Federalism, and the Enforcement of the Telecom Act*, 76 N.Y.U.L. Rev. 1692, 1693 (2001) ("Cooperative federalism regulatory programs, which combine federal and state authority in creative ways, strike many courts and commentators as a messy and chaotic means of generating federal law.") It is unavoidable that states and the federal government will occasionally disagree. Here, the federal government had oversight of the states' WIP drafting efforts. EPA worked with the states to ensure that the proposed allocations were sufficient to achieve water quality standards. The states had the first opportunity to determine the allocations necessary to achieve water quality standards. EPA then reviewed the proposed allocations, approving some while disapproving others. EPA inserted backstop allocations where necessary, and remanded the draft WIPs to the states for further analysis and revision. The states then submitted a final Phase I WIP. In short, EPA incorporated the states' allocations in all but three instances.

The parties have wildly different interpretations of this process. While Plaintiffs view the process as "threatening" and "coercive" (*see* Doc. 96 at 17-19 of 81), EPA describes the process as a "collaborative process that synergistically developed the TMDL allocations" and as being "both efficient and a model of 'good government' in action" (Doc. 110 at 23 of 52 n.9). Although there may be a fine line between collaboration and coercion, the court finds this framework to be more indicative of collaboration. The purpose of the revision process and the insertion of backstops was to strengthen the WIPs to ensure attainment of water quality standards through the use of both federal and state resources and expertise. The court is not convinced that the portions of the record identified by Plaintiffs rise to the level of coercion. Indeed, the record is replete with numerous communications that demonstrate discussion, debate, and negotiation between the federal and state government, not coercion.

Complete unanimity between the states and EPA in resolving all the complex issues involved here is likely impossible. Disagreements between the states and the federal government regarding some of the allocations necessary to achieve water quality standards was to be expected, and the debate and discussions that ensued were of nature that is required in a cooperative federalism scheme. Moreover, although Plaintiffs believe that this process was coercive, it is noteworthy that no state has filed suit challenging the TMDL, let alone alleged that their participation in the TMDL drafting process was a result of coercion. In short, the court concludes that the inclusion of sector and individual source allocations is consistent with the CWA and relevant caselaw. Moreover, the court finds that most of the individual allocations were provided by the states, not EPA, through the use

of CWA's cooperative federalism scheme. Thus, the record, when viewed as a whole, does not support a finding that the framework of federal and state interaction was coercive in nature so as to render the TMDL an unlawful federal implementation plan.

3. Backstop Adjustments

Plaintiffs contend that EPA unlawfully overrode state decisions on TMDL implementation by substituting backstop adjustments to the Bay states' WIPs. (Doc. 96 at 50 of 81.) As stated, EPA adopted the allocations in the state WIPs in all but three instances, which were as follows: (1) making New York's WLA for wastewater sources more stringent (AR0000285-AR0000285); (2) shifting 50 percent of the urban stormwater load that is not currently subject to NPDES permits from the LA category to the WLA category (AR0000287); and (3) shifting 75 percent of the pollutant loads that West Virginia allocated to animal feeding operations that are not subject to NPDES permitting from the LA category to the WLA category and signaling that EPA is prepared to designate any animal feeding operations as requiring a NPDES permit (AR0000292). Plaintiffs argue that these measures are binding on the states, and that the CWA does not authorize EPA to take such actions. (Doc. 109 at 25 of 56.)

The primary flaw in Plaintiffs' argument is that the CWA contains several provisions that support EPA's backstop authority. For instance, under the broad language of Section 117(g), EPA, in coordination with members of the Chesapeake Bay Executive Council, is charged with "ensur[ing] that management plans are developed and implementation is begun by signatories to the Chesapeake Bay Agreement *to achieve and maintain . . . the nutrient goals of the Chesapeake*

Bay Agreement . . . [and] the water quality requirements necessary to restore living resources to the Chesapeake Bay ecosystem." 33 U.S.C. § 1267(g) (emphasis added). Moreover, Section 303 gives EPA oversight over the waters identified and the loads established in the TMDL. Specifically, Section 303(d) states:

> Each State shall submit to the Administrator from time to time, . . . for his approval the waters identified and the loads established [for those waters requiring a TMDL]. The Administrator shall either approve or disapprove such identification and load . . . . If the Administrator disapproves such identification and load, he shall . . . identify such waters in such state and establish loads for such waters as he determines necessary to implement water quality standards applicable to such waters and upon such identification and establishment the State shall incorporate them into its current plan.

33 U.S.C. § 1313(d)(2).

The court finds that the backstop measures were properly used in instances where EPA disapproved of the state-submitted allocations, and, consistent with its responsibilities under Section 303(d), and its broad responsibilities of ensuring the nutrient goals of the Chesapeake Bay Agreement are achieved under Section 117(g), substituted its own allocations calculated to achieve applicable water quality standards. Plaintiffs do not dispute that these backstops were necessary to achieve water quality standards. Moreover, as explained below, the court finds that neither the backstop measures nor the WLAs or LAs are binding on the states. In short, EPA's actions of reviewing the states' proposed WIP allocations and substituting its own allocations where necessary did not violate the CWA.

4. <u>Reasonable Assurances</u>

In determining whether a state's proposed allocations were adequate, EPA required "reasonable assurances" from the state that LAs will be achieved and

applicable water quality standards will be met.[20] (Doc. 96 at 51 of 81; AR0000250.) Plaintiffs argue, here again, that "the 'reasonable assurance' requirement is simply an attempt by EPA to unlawfully insert itself into TMDL implementation." (*Id.*) Plaintiffs contend that this requirement lacks any basis in the CWA and is therefore *ultra vires.* In support, Plaintiffs note that Congress blocked EPA's previous attempt to implement revised TMDL regulations that incorporate a "reasonable assurance" requirement. (Doc. 109 at 33 of 56) (citing 68 Fed. Reg. 13608, 13609 (Mar. 19, 2003).)

The court does not find that the reasonable assurances requirement was an unlawful exercise of authority by EPA under the CWA. First, unlike Plaintiffs' other arguments, the court is hard-pressed to see precisely how this argument relates to implementation. For example, if EPA determines that a state has not met its burden of providing reasonable assurances, EPA may substitute a backstop allocation. (*See* Doc. 100 at 33 of 76.) This substitution gives way to the plausible, but rejected argument that EPA's backstop allocations cross the line into implementation. However, the mere practice of setting a standard upon which the proposed allocations are judged is not, by itself, implementation. The standard does not require the states to undertake any particular implementation effort. Rather, the court finds that the "reasonable assurance" standard was an attempt by EPA to clarify the basis upon which the proposed allocations are judged. Moreover, as stated above, Section 303(d) requires that a TMDL be "established at a level necessary to implement the applicable water quality standards . . . ." 33 U.S.C. §

[20] EPA's reasonable assurance requirement was first published in a 1991 guidance document, and was later reiterated in a 1997 guidance document. (Doc. 100 at 52 of 76; AR0022979-AR0022980).

1313(d)(1). EPA's reasonable assurances requirement appears to be consistent with this provision.

It bears repeating that a TMDL is an informational document, not an implementation plan. However, TMDLs provide crucial information for federal, state, and local actors in furtherance of the cooperative efforts to improve water quality as envisioned by the CWA. *See Anacostia Riverkeeper*, 798 F. Supp. 2d at 216-17. Here, where the target water body is drained by a multi-state watershed, cooperation and coordination are all the more crucial to achieving the statutory goal of achieving water quality standards. To the extent that TMDLs guide the states' implementation process,[21] it is essential that the allocations contained therein be reasonably calculated to achieve those goals. This point was recognized by the court in *Anacostia*, when it stated that WLAs and LAs can be "developed at the stage when both the State and the [EPA] are evaluating the health of an entire water body – i.e., when developing the TMDL, because the designers of the TMDL can more easily take into account all point sources and attempt to divvy up acceptable pollution levels among them." 798 F. Supp. 2d at 250. To this end, the reasonable assurances requirement helps to inform the TMDL writer of the proper setting of pollutant allocations so that the TMDL equation is properly budgeted. This is true because WLAs are determined, in part, on the expectations of pollution reductions from LAs. If LAs are not fully achieved, water quality standards will not be met.

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[21] The TMDL/WIP dichotomy makes clear that development of the TMDL and WIPs are guided by each other. For example, "[d]raft Phase I WIPs were developed and submitted to EPA . . . [who] used them to support the development of specific allocations in the draft Bay TMDL." (AR0000256.) In turn, the Phase II WIPs will "subdivide the allocations provided in the Bay TMDL at an increasingly finer scale." (*Id.*) Lastly, "EPA will consider whether modifications to the Chesapeake Bay TMDL are necessary and appropriate on the basis of developments or changes in the jurisdictions' [Phase II and III] WIPs." (*Id.*)

The WLAs contained in an ineffectual TMDL will themselves be ineffectual and will therefore be useless as a NPDES permitting guide. On the other hand, where EPA determines reasonable assurances exists, greater loadings can be allocated to point sources. (AR000251.) Thus, the requirement of reasonable assurances allows a TMDL writer to decide *how* to apportion loadings between point and non-point sources under the TMDL cap.

In short, the court finds that nothing here runs afoul of the CWA. Rather, the reasonable assurances requirement is a practical measure that has a basis in Section 303(d) and 117(g) (requiring EPA to ensure that management plans and implementation are meeting the Bay's nutrient goals).[22] This requirement does not violate the TMDL/WIP dichotomy, nor does it unlawfully impinge on the states' rights to make decisions regarding the implementation of TMDL allocations.

5. <u>Allocations Are Not Binding</u>

Plaintiffs additionally argue that the TMDL is much more than just an informational tool, but rather it creates unlawfully binding, "locked-in" allocations. Specifically, Plaintiffs state that "EPA violated the CWA not by referencing detailed allocations in the TMDL, but by locking those allocations in, establishing a federal timeline for implementation, and reserving exclusive authority to revise them."

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[22] The court is cognizant that broad policy declarations can not be used to justify every action. *See Rodriguez v. United States*, 480 U.S. 522, 525-26 (1987) ("[N]o legislation pursues its purposes at all costs. Deciding what competing values will or will not be sacrificed to the achievement of a particular objective is the very essence of legislative choice – and it frustrates rather than effectuates legislative intent simplistically to assume that whatever furthers the statute's primary objective must be the law."). Nevertheless, in the face of no countervailing provisions explicitly or implicitly requiring or prohibiting a certain action, any action that is consistent with policy declarations and otherwise lawful should be upheld.

(Doc. 109 at 23 of 56.) Having examined each of Plaintiffs' points, the court disagrees that the allocations are "locked-in."

The primary basis for Plaintiffs' argument rests in 40 C.F.R. § 122.44(d)(1)(vii)(B), which provides, that effluent limits in permits for point sources be "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." Said another way, NPDES permits must contain effluent limits that are consistent with applicable WLAs in a TMDL. Plaintiffs further point to the language of the TMDL itself which states that TMDL allocations may only be revised with the approval of EPA as further evidence that the allocations are binding on the Bay Jurisdictions. (Doc. 109 at 21 of 56 (citing AR0000332-AR0000333 ("EPA would consider a request by the jurisdictions to propose such a revision to the TMDL following appropriate notice and comment. Alternatively, a jurisdiction could propose to revise a portion(s) of the Bay TMDL that applies within its boundaries (including, but limited to specific WLAs and LAs) and submit those revisions to EPA for approval. If EPA approved any such jurisdiction-submitted revisions, those revisions would replace their respective parts in the EPA-established Bay TMDL framework.")).)

In essence, the parties dispute the amount of flexibility the Bay states retain to adjust allocations as point source permits are issued and non-point source pollution control measures are implemented. Plaintiffs claim these allocations are "in ink" and can only be changed by EPA. (Doc. 109 at 24 of 56.) Upon closer review, the court disagrees that the allocations are so permanent.

First, it is evident from the language of the Bay TMDL that a state is not powerless to effectuate a revision or modification in TMDL allocations. Indeed, a state is free to propose modifications and submit them to EPA for review. EPA established this framework, recognizing that:

> [N]either the world at large nor the Bay watershed is static. In a dynamic environment like the Bay watershed, during the next 15 years change is inevitable. It may be possible to accommodate some of those changes within the existing TMDL framework without the need to revise it in whole, or in part.

(AR0000332.) Thus, the TMDL framework anticipates future modifications which can originate from either EPA or the states. That EPA gets final approval makes sense, given that EPA had final approval over the original allocations during the drafting process outlined and approved above. An alternative scenario, where states retain the flexibility to change the allocations as they see fit, would render the TMDL allocations essentially meaningless, and would be inconsistent with CWA Section 117(g) which requires EPA to ensure that management plans are developed and implementation is begun in order to achieve and maintain the Bay's nutrient goals. 33 U.S.C. § 1267(g).

Second, as recognized by the TMDL, and by the EPA Environmental Appeals Board, "WLAs are not permit limits *per se*; rather they still require translation into permit limits . . . . [W]hile [40 C.F.R. § 122.44(d)(1)(vii)(B)] require[s] *consistency*, [it does] not require that permit limitations that will finally be adopted by a final NPDES permit be *identical* to any of the WLAs that may be provided in a TMDL." (AR0000332; *In re City of Moscow*, 10 E.A.D. 135, 2001 WL 988721 (July 27, 2001) (emphasis in original).) Accordingly, in some circumstances, a state may write a NPDES permit limit that is different from the

WLA, provided that it is consistent with the operative assumptions underlying the WLA. (AR0000332.)

Other provisions in the TMDL provide for additional flexibility to the states. For example, inevitably, new or increased loadings of nutrients or sediments will occur that are not specifically accounted for in the TMDL. The TMDL contemplates such an occurrence, and permits these loadings, provided that the increases are offset by reductions and credits generated by other sources pursuant to offset programs developed and implemented by the states and subject to periodic review by EPA. (AR0000329-AR0000331.) Additionally, the TMDL supports the use of water quality trading programs that permit point and non-point sources to trade pounds of phosphorus or nitrogen, provided such trading does not result in exceedances of water quality standards and is otherwise consistent with the CWA and applicable regulations. (AR0000331.) Thus, the individual sources are free to trade pollution amounts without the need to revise or adjust the TMDL allocations. With all these considerations in mind, it is apparent the TMDL allocations are not set in stone to the extent suggested by Plaintiffs. The court, therefore, rejects Plaintiffs' assertion that "a state has no flexibility to reallocate pollutant loadings or from nonpoint to point sources" and that there are no circumstances in which "permit writers can include *less* stringent permit limits." (Doc. 109 at 20 of 56 (emphasis in original).)

Plaintiffs also argue that the TMDL is illegally binding with respect to non-point sources, because "EPA can coerce state action through threats to withhold grant funding." (*Id.*) No party disputes that the states retain primary responsibility for non-point pollution source control, and that EPA may influence state action

through the grant program. *See supra* note 12; 33 U.S.C. § 1329. In *Pronsolino* II, the Ninth Circuit, in upholding the Garcia River TMDL, stated that the TMDL did not invade California's implementation plan because "California chose both *if* and *how* it would implement the Garcia River TMDL." 291 F.3d at 1140. The court explained that "[s]tates must implement TMDLs only to the extent that they seek to avoid losing federal grant money; there is no pertinent statutory provision otherwise requiring implementation of § 303 plans or providing for their enforcement." *Id.* In other words, nothing requires states to "uncritically and mechanically" implement each and every TMDL allocation. Rather, states are free to choose whether or not they decide to do so, subject only to the risk of losing federal grant money. While the district court in *Pronsolino* I noted that such a withholding may seem like "coercive threats," especially to states that previously received and relied upon federal grant money, the framework nevertheless "is not direct federal regulation" but rather state regulation, albeit "influenced by incentives established by Congress and the agency charged with protecting the environment." 91 F. Supp. 2d at 1355.

While recognizing the fine line between incentivizing and coercion, the court is content that the grant program does not coerce state action. Plaintiffs do not allege any specific instance of federal coercion, opting instead to challenge the framework as whole. However, the court concludes, as did the courts in *Pronsolino* I and II, that the prospect of losing federal grant money does not make TMDLs "binding" or invade in the states' planning process.

Finally, the court must also address Plaintiffs' argument that the establishment of a federal timeline violates the CWA. (Doc. 109 at 23 of 56.) As stated above, the TMDL requires that all pollution control measures be fully

implemented by 2025, with at least 60 percent of the actions taken by 2017. (AR0000016, AR0000021.) Plaintiffs argue that "when EPA locked-in those allocations and deadlines, it exceeded its CWA authority by invading state implementation planning." (Doc. 109 at 26 of 56.) However, Plaintiffs' characterization of these deadlines as "EPA's deadlines" is misleading. A closer look at the record reveals that EPA and the Bay Jurisdictions reached a consensus regarding the target dates. At a meeting of the PSC on October 1, 2007, the seven Bay Jurisdictions and EPA reached consensus that, by 2025, all necessary pollution control measures would be in place. (AR0000056.) Accordingly, the record supports a conclusion that the timeline at issue was established by the Bay Partnership, which undermines the position that the timeline was a unilateral federal dictate from EPA.

In short, the court concludes that, because the 2025 implementation target was established jointly by the Bay Partnership, and because the states retain sufficient flexibility to change the allocations, the TMDL does not violate the CWA by impermissibly "locking-in" the TMDL allocations.

6. <u>Upstream States</u>

Plaintiffs argue that EPA's authority was limited to establishing the Final TMDL "to implement the *tidal Bay* [water quality] standards," which include those standards adopted by Maryland, Virginia, Delaware, and the District of Columbia. (Doc. 96 at 58 of 81 (emphasis added).) However, Plaintiffs maintain that EPA does not have authority to set allocations for the headwater jurisdictions of Pennsylvania, New York, and West Virginia. Plaintiffs reason that EPA's authority is derivative of the states' authority under 33 U.S.C. § 1313(d)(2). Because states

have no authority to allocate pollutant loadings for water bodies and sources outside their boundaries when establishing TMDLs under Section 1313(d)(2), EPA similarly lacks authority to do so. Plaintiffs believe that, if EPA's interpretation of the CWA is adopted, an untenable precedent would be established whereby any downstream state (*e.g.*, Louisiana) could establish a TMDL with allocations to sources in upstream states (*e.g.*, the other 31 upstream states in the Mississippi River Basin). The court rejects this argument.

Section 303(d) of the CWA does not expressly address what happens when a multi-state water body is impaired. *See* 33 U.S.C. § 1313(d). Indeed, there is no on-point precedent that establishes what happens when waters that are impaired overlap state boundaries. Likewise, there is no precedent that establishes precisely how to reduce water pollution loadings to an interstate water body impaired by pollutants from seven different states. These scenarios implicate obvious federalism concerns, some of which have already been addressed by the court. The history of the Bay TMDL, as outlined above, represents the Partnership's efforts to resolve these issues without upsetting the balance of federal-state control established by the CWA. The question remains, however, whether EPA has the authority to issue allocations not only to the tidal states, but to the upstream states as well. The court finds that it does.

Although nothing in the CWA specifically authorizes EPA to take this holistic, or watershed approach, it is equally true that nothing in the CWA prohibits such an approach. In the legislative history to the CWA, Congress recognized and anticipated a watershed-wide approach by stating "the Chesapeake Bay is an ecosystem that ignores State boundaries" and that implementation "will require a

partnership between the Federal Government and the individual states." (Doc. 100 at 19 of 56) (citing Leg. History of Water Qaulity Act of 1987 at 1473-74 (1988).)

This watershed-wide approach also appears to be consistent, if not specifically authorized by CWA Section 303(d), which requires TMDLs to be established for impaired waters "at a level necessary to implement the applicable water quality standards." 33 U.S.C. § 1313(d)(1)(C). The accomplishment of this task, however, raises practical questions pertaining to the equitable distribution of the burden of reducing pollutant loads. If the court were to adopt Plaintiffs' stance, then the tidal states of Maryland, Virginia, and Delaware would be responsible for reducing their pollution loadings to achieve water quality standards, notwithstanding significant contributions from upstream states. Pennsylvania, for example, is responsible for the largest portion of nitrogen loads to the Bay, accounting for 44 percent of the total, and is the second highest contributor of sediment, accounting for 32 percent of the total. (AR0000108-AR00000109.) Thus, to pin the hopes of attaining the statutorily-mandated goal of achieving water quality standards on the three tidal states would not only be inequitable, but also impractical and likely impossible.

Application of the TMDL to upstream states also finds support within EPA's regulations. For example, under EPA's regulations, WLAs and LAs must reflect the "portion of a receiving water's loading capacity that is allocated to one of *its* existing or future [point or non-point] sources. . . ." 40 C.F.R. §§ 130.2 (g) & (h) (emphasis added). In support of watershed-wide allocations, EPA interpreted the reference to "its" point and non-point sources to mean *all* watershed sources – from tidal as well as upstream sources – contributing to nutrient loading and

sedimentation of the Bay. (*See* Doc. 100 at 55 of 76.) EPA's interpretation of its own regulation is entitled to deference, unless "plainly erroneous or inconsistent with the regulation." *Auer v. Robbins*, 519 U.S. 452, 461 (1997) (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 359 (1989)). The court finds EPA's interpretation not only meets this deferential standard, but is otherwise entirely reasonable, considering that upstream sources unquestionably contribute pollutants to the Bay.

As with most issues involved here, there is scant judicial precedent to guide the court's analysis. However, in *Arkansas v. Oklahoma*, the United States Supreme Court addressed a similar issue in the context of a NPDES permit challenge. 503 U.S. 91 (1992). In that case, the city of Fayetteville, Arkansas, applied for a NPDES permit to discharge sewage into a tributary to the Illinois River at a point upstream from the Oklahoma border. *Id.* at 95. EPA issued the permit, conditioned upon the outcome of a study then underway. *Id.* If that study indicated that more stringent limitations were necessary to ensure compliance with Oklahoma's water quality standards, the permit would need to be modified to incorporate those limits. *Id.* Oklahoma challenged the permit, arguing that the upstream discharge violated Oklahoma's water quality regulations, which, as they pertained to the Illinois River, were stringent in light of Oklahoma's designation of that river as a "scenic river." *Id.* at 95-96. Arkansas, meanwhile, argued that the CWA does not require an Arkansas point source to comply with Oklahoma standards. *Id.* at 97.

The Court began its analysis by recognizing that interstate waters issues, particularly scenarios wherein a downstream state objects to the introduction of

pollutants to a waterway by an upstream state, have been a "font of controversy" since the founding of our Nation. *Id.* at 98. The Court further recognized, as this court does here, that the CWA "anticipates a partnership between the States and the Federal Government, animated by a shared objective: 'to restore and maintain the chemical, physical, and biological integrity of our Nation's waters.'" *Id.* at 101 (quoting 33 U.S.C. § 1251(a)). The Court then framed the issues as follows: "First, does the Act require the EPA, in crafting and issuing a permit to a point source in one State, to apply the water quality standards of downstream States? Second, even if the Act does not *require* as much, does the Agency have the statutory authority to mandate such compliance?" *Id.* at 104.

The Court found that EPA's position – that in issuing the NPDES permit for a source in Arkansas, EPA was required by the CWA and its regulations to also comply with Oklahoma's downstream water quality standards – was a reasonable exercise of EPA's statutory discretion. The Court reasoned that, although the CWA does not require that upstream discharges comply with downstream water quality standards, the CWA also does not limit EPA's authority to mandate such compliance. The Court further reasoned that "[t]he application of state water quality standards in the interstate context is wholly consistent with the Act's broad purposes" of restoring our Nation's waters. *Id.* at 106-107 (citing 33 U.S.C. § 1251(a).) Thus, this case supports the proposition that EPA has authority to regulate upstream pollution sources in order to achieve downstream water quality standards. This conclusion is also consistent with the Supreme Court's recognition that "the Clean Water Act vests the EPA and the States broad authority to develop long-range, areawide programs to alleviate and eliminate existing pollution." *Id.* at 108. This

holding is persuasive to the court's conclusion here that EPA has the authority to set TMDL allocations for upstream states in order to achieve downstream water quality standards.

In short, the court endorses the holistic, watershed approach used here. This approach receives ample support in the CWA, its legislative history, and Supreme Court precedent. Although Plaintiffs propose alternative methods of regulating upstream sources,[23] the existence of these alternatives does not render EPA's present approach unreasonable or unlawful. Rather, the court finds the approach to be consistent with the CWA, and practical in terms of attaining a full and fair contribution by *all* major source sectors and coordinated participation of *all* states in the watershed.

7. Conclusion as to implementation arguments

In the end, the court is tasked with determining precisely what is "implementation" in this context. As stated above, implementation is not an easily discernable term. Webster's Dictionary does not provide much guidance, defining "implementation" as "the act of implementing or the state of being implemented." The Oxford Online Dictionary is also of little help, defining implementation as "the process of putting a decision or plan into effect; execution." By far the most helpful definition comes from the Eleventh Circuit's statement in *Meiburg*, referring to an "implementation plan" as "a formal statement of how the level of pollutant can be brought down or kept under the TMDL." 296 F.3d at 1030. Clearly, this TMDL is not an implementation plan because it contains only allocations, and no formal

[23] For example, Plaintiffs suggest that rather than establishing a watershed-wide TMDL, EPA could regulate upstream sources by objecting to inadequate NPDES permits, or establishing separate upstream water quality standards and TMDLs.

statement of *how* the allocations are to be achieved. Indeed, the TMDL is silent as to methodology, strategy, and other implementations measures. Rather, implementation, in this regard, is left correctly to the states.[24] Furthermore, the states retain sufficient flexibility within this framework regarding the TMDL allocations to support the conclusion that the allocations are not binding. In the end, the states are still free to choose both *if* and *how* they will implement the TMDL allocations, regardless of the level of detail in those allocations, rendering Plaintiffs' federalism concerns unfounded.

The parties argue the import of the numerous consent decrees, settlement agreements, and memoranda of understanding outlined above. *See supra* Section I.E. The parties also argue the import of the states' consent to EPA's establishment of a Bay TMDL on behalf of the states. EPA contends that the states' consent coupled with the consent decrees, MOUs, settlement agreements, as well as President Obama's executive order, provide supplemental sources of authority for EPA's issuance of the Final TMDL. (*See* Doc. 100 at 19 of 76.) Plaintiffs, meanwhile, contend that neither state consent nor a consent decree or MOU justify an *ultra vires* action or supplant the provisions of the CWA. (Doc. 109 at 29 of 56) (citing *Meiburg*, 296 F.3d at 1034.) The court agrees that none of these

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[24] The individual Jurisdictions themselves seemingly recognize this flexibility in their Phase I WIPs. Virginia's Phase I WIP, for example, states:

> Virginia . . . reserves the right to adjust this [implementation] plan based on new information . . . . [W]e will continue to work with EPA, stakeholders, and the public to ensure that our implementation improves water quality in a manner that is sensible, fair and cost effective as this process unfolds over the next 15 years.

(AR0026675.) Similar reservations appear in other states' Phase I WIPs. (*See*, *e.g.*, AR0025149, AR0026456, AR0026460.)

supplemental sources can unilaterally expand Congressionally-bestowed powers. However, because the court concluded that EPA's actions in this matter were authorized under the CWA without considering these supplemental sources of authority, the court need not opine further on this issue. The court will note, however, that EPA's actions of establishing a watershed-wide TMDL appear to be consistent with the consent decrees, MOUs, and settlement agreements identified above, as well as the President's executive order.

Having determined that EPA did not act *ultra vires* by unlawfully invading the states' rights to implementation, and that the Final TMDL was otherwise consistent with the CWA, the court will now turn to Plaintiffs' other arguments raised under the APA.

C. Alleged Procedural Violations Under the APA

Plaintiffs' arguments alleging procedural violations are two-fold. First, Plaintiffs argue that the 45-day public comment period was insufficient because it did not give the public adequate opportunity to meaningfully participate in the rulemaking process. (*See* Doc. 96 at 59 of 81.) Second, Plaintiffs contend that key information and documentation regarding the models used was unavailable during the comment period. The court rejects both arguments.

1. The 45-day Public Comment Period Was Adequate

The APA requires EPA to provide notice of its proposed rulemaking adequate to afford "interested parties a reasonable opportunity to participate in the rule making through submission of written data, views, or arguments . . . ." 5 U.S.C. § 553(c). "The required publication or service of a substantive rule shall be made not less than 30 days before its effective date . . . ." 33 U.S.C. § 553(d). The

purpose of the public comment period is to allow interested individuals the opportunity to communicate information, concerns, and criticisms to EPA during the rule-making process. *See Conn. Light & Power Co. v. NRC*, 673 F.2d 525, 530 (D.C. Cir. 1982). During that period, EPA "must provide sufficient factual detail and rational for the rule to permit interested parties to comment meaningfully." *Fla. Power & Light Co. v. United States*, 846 F.2d 765, 771 (D.C. Cir. 1988).

The court does not find the 45-day public comment period to be unreasonable. For one, it exceeds the statutory minimum requirement of a 30-day period. 33 U.S.C. § 553(d). Thus, EPA did more than was statutorily required by the APA. Moreover, although the technical complexities of the regulations and issues raised here might have warranted a longer public comment period, to suggest that public participation in this process was limited to 45 days belies the record. As outlined above, efforts to improve the water quality of the Chesapeake Bay date back more than three decades, and the TMDL drafting process has been ongoing for more than a decade. *See supra* Sections I.C. & D. Over that decade, numerous meetings were held wherein EPA encouraged public participation and accepted public input. From 2005-2010 alone, 730 CBP committee, team, and stakeholder meetings were held. (*See* AR0000422-AR0000454.) As EPA points out, some of the Plaintiffs participated in the committee meetings and were involved in the drafting process. (Doc. 100-3 at 37-38; AR0000432.) Nothing in the record suggests that Plaintiffs could not avail themselves of these opportunities for participation.

Plaintiffs also fail to state specifically how they were harmed by the 45-day comment period, other than to claim generally that the comment period was insufficient to "allow the public to understand – let alone evaluate – how EPA

arrived at the allocation scheme in the Draft and Final TMDL." (Doc. 96 at 59 of 81.) Despite this assertion, the record shows that Plaintiffs submitted 141 comments, many of which addressed the issues challenged here. (Doc. 100 at 60 of 75; AR0029851.) To EPA's credit, a team of EPA specialists reviewed and responded to the more than 14,000 comments, including the 141 comments submitted by Plaintiffs. (AR0000341.) The comments were considered in the establishment of the Final TMDL. (*Id.*; AR0000016.) EPA also held 18 public meetings and 15 webinars during the comment period. (AR0000020; AR0000339-AR0000340.) Based on this, as well as the fact that the Final TMDL is the product of an open process spanning more than a decade, the court is unable to find the 45-day public comment period unreasonable. Simply put, Plaintiffs either participated, or had the opportunity to participate, in the drafting process in a meaningful way. Thus, the court concludes that EPA's actions were not arbitrary and capricious. It is also worth noting that a longer comment period would likely violate the terms of the settlement agreement in *Fowler v. EPA*, No. 1:09-C-00005-CKK (D.D.C. 2009), which required that the Final TMDL be established by December 31, 2010. This conclusion also finds support in relevant caselaw. *See, e.g., N. Am. Van Lines, Inc. v Interstate Commerce Comm'n*, 666 F.2d 1087, 1092 (7th Cir. 1981) (finding a 45-day comment period to be adequate for new regulations issued by the Interstate Commerce Commission, noting that "[o]nce an agency has fulfilled its statutory requirement governing a § 553 rulemaking, its decision may not be subjected to any additional procedural restraints"); *Conn. Light & Power Co.*, 673 F.2d at 534 (approving a 30-day comment period, notwithstanding "the technical complexity of the regulations"); *Omnipoint Corp. v. Fed. Commc'ns Comm'n*, 78 F.3d 620, 629

(D.C. Cir. 1996) (approving a 7-day comment period, in part due to a Congressional mandate to implement the regulations "without administrative or judicial delays").[25]

2. EPA Provided Adequate Documentation Regarding Modeling

Plaintiffs' second procedural objection is that they were deprived of key modeling information during the public comment period. Specifically, Plaintiffs contend that EPA withheld documentation regarding three core models underlying the Final TMDL: Scenario Builder, the Watershed Model, and the water quality and sediment transport model ("WQSTM").

As stated above, during a public comment period, an agency must provide sufficient factual background to give interested parties an opportunity to meaningfully comment on the proposed rule. *See Fla. Power & Light Co.*, 846 F.2d at 771. "When the basis for a proposed rule is a scientific decision, the scientific material which is believed to support the rule should be exposed to the view of interested parties for their comment." *United States v. Nova Scotia Food Prods. Corp.*, 568 F.2d 240, 252 (2d Cir. 1977); *see also Prometheus Radio Project v. Fed. Commc'ns Comm'n*, 373 F.3d 372, 412 (3d Cir. 2004). However, a regulation is not automatically invalidated even when notice-and-comment errors are committed by the agency; the party asserting error has the burden of demonstrating prejudice to its ability to effectively comment on the proposed rule. *See* 5 U.S.C. § 706 ("In [reviewing an agency action], the court shall review the whole record or those parts

[25] EPA further argues that Plaintiffs' argument regarding the alleged procedural deficiency of the 45-day public comment period is deficient because 5 U.S.C. § 553(c) applies to agency "rulemaking" and the TMDL is an "informal adjudication" as opposed to a "rule." (*See* Doc. 100 at 60 of 76.) Because the court is able to reject Plaintiffs' argument based on a reading of the APA and applicable caselaw, the court need not decide the "adjudication" versus "rule" distinction in this context.

of it cited by a party, and due account shall be taken of the rule of prejudicial error."); *see also Pers. Watercraft Indus. Ass'n v. Dept. of Commerce*, 48 F.3d 540, 544 (D.C. Cir. 1995); *AARP v. Equal Emp't Opportunity Comm'n*, 390 F. Supp. 2d 437, 461 (E.D. Pa. 2005). In order to prevail, Plaintiffs must "indicate with reasonable specificity what portions of the documents it objects to and how it might have responded if given the opportunity." *See AARP*, 390 F. Supp. 2d at 461 (citing *Pers. Watercraft Indus. Ass'n*, 48 F.3d at 544). This rule is not without reason. As is evident from this case, administrative procedures are often lengthy and complex and to vacate an administrative action due to *any* procedural error would be extreme. Accordingly, "[a]s incorporated into the APA, the harmless error rule requires the party asserting error to demonstrate prejudice from the error." *First Am. Disc. Corp. v. CFTC*, 222 F.3d 1008, 1015 (D.C. Cir. 2000). With these precepts in mind, the court will analyze Plaintiffs' arguments as to each of the implicated models.

a. Scenario Builder

Scenario Builder, as described in the Final TMDL, "is a standalone data pre-processor for the Phase 5.3 Chesapeake Bay Watershed Model." (AR0000179.) The model is designed to estimate sediment and nutrient loads from land use activities and to "facilitate parameterization of those sources for watershed model scenarios to be run through the Bay Watershed Model." (*Id.*) In essence, information from Scenario Builder is inputted to the Watershed Model, which then simulates fate, transport, and delivery of those pollutants to the Bay.

Plaintiffs argue that key components of the model were withheld from the public during the comment period. Specifically, Plaintiffs argue that only a single document describing how the model was developed was provided. (Doc. 96 at

62 of 81) (citing AR0000954-AR0000955; AR0001321; AR0001527-AR0001529).) Plaintiffs believe that EPA's failure to disclose key documents, or delayed release of documentation, limited their ability to fully analyze the technical science under the TMDL and comment in a meaningful way.

A review of the record reveals that Plaintiffs had access to more than just a single document regarding Scenario Builder. For example, the draft TMDL, which was made available on or about September 24, 2010 (the beginning of the public comment period), contained a "live" link, providing "[a]dditional information related to Scenario Builder and its application in Bay TMDL development . . ." (AR0023947.) EPA represents that the link directed users to a September 2010 publication titled *Estimates of County-Level Nitrogen and Phosphorus Data for Use in Modeling Pollutant Reduction, Documentation for Scenario Builder Version 2.2*, which is attached to Plaintiffs' brief in opposition to EPA's cross-motion. (Doc. 110 at 34 of 52; AR0023947-AR0023948; *see also* Doc. 109-15.)[26] This 129-page document describes how Scenario Builder was used, and covered, in detail, the mathematical functions, sources of data, key tables of data, and summaries of other data used in Scenario Builder. Furthermore, in response to requests for more information, EPA provided additional documents regarding Scenario Builder about one week before the close of the public comment period. That documentation included the Scenario Builder code, which was provided on October 29, 2010, and additional information regarding supporting databases was provided on November 1-5, 2010. (Doc. 100 at 64 of 76; AR0000929.)

[26] Although the court is unable to access the link, Plaintiffs have not refuted EPA's representation, and the publication will be considered for all intents and purposes.

With regard to the delayed disclosure of the additional requested documents, courts have held that:

> [I]t is not *per se* improper for EPA to add evidence to the record at the end of or close to the end of the comment period. EPA may sometimes be able to show that the late entry did not foreclose an opportunity for 'meaningful public comment.' For example, it might be proper for EPA to develop new evidence in order to respond to a particular comment, so long as it gives the commenter an opportunity to reply to the new evidence.

Small Refiner Lead Phase-Down Task Force v. EPA, 705 F.2d 506, 541 (D.C. Cir. 1983.) Furthermore, "[a]gencies may develop additional information in response to public comments and rely on that information without starting anew, unless prejudice is shown." *Pers. Watercraft Indus. Ass'n*, 48 F.3d at 544 (internal quotations and citations omitted).

Here, although the disclosures were made late in the comment period, Plaintiffs have failed to show, with "reasonable specificity," or any specificity for that matter, how they were prejudiced. For example, Plaintiffs fail to suggest what they might have told EPA if delayed information was disclosed earlier. *See id.* Nor do Plaintiffs suggest that the information they did receive was defective. *See id.* Even now, having received and reviewed all the disclosed information, Plaintiffs remain unable to make a reasonably specific showing of prejudice. Instead, Plaintiffs argue more generally, stating that EPA's actions are *per se* improper given "the critical importance of the [three models]." (Doc. 109 at 44 of 56.) As stated above, courts have rejected this generalized argument.

Plaintiffs instead hitch their wagon to their belief that, in the Third Circuit, "a regulated party *automatically* suffers prejudice when members of the public . . . are denied access to the *complete* public record." (Doc. 109 at 45 of 56

(quoting *Hanover Potato Prods. v. Shalala*, 989 F.2d 123, 130 n.9 (3d Cir. 1993) (emphasis added)).) However, Plaintiffs' reliance on *Hanover Potato* is misplaced. Initially, the court notes that the quoted language is from a footnote and is clearly dicta. Plaintiffs have not identified any court that has followed *Hanover Potato* for this proposition; nor has the court's independent research revealed any other case holding that an incomplete public record *automatically* results in prejudice. Moreover, the *Hanover Potato* case is distinguishable from the case at bar. First, the underlying facts are distinguishable. The facts underlying that case involved a request for the administrative record on which the Food and Drug Administration based its regulatory decision to ban sulfites as applied to "fresh" potatoes. In the underlying case, the district court granted summary judgment in favor of Hanover, finding that the Food and Drug Administration ("FDA") acted arbitrarily and capriciously by not making the entire record available for public inspection. Specifically, the FDA admitted that the 83-volume record previously certified "was not the true and complete administrative record." 989 F.2d at 126. The court then certified a new administrative record wherein 63 percent of the new record had never been disclosed to the public. The district court understandably found prejudice in light of the incomplete public record. 989 F.2d at 126 n.5. Thus, *Hanover Potato* did not involve a TMDL, or any other CWA or environmental regulation. Second, the case is procedurally distinguishable. On appeal, the Third Circuit affirmed the district court's decision. Following the appeal, Hanover moved the district court for attorney's fees. The district court denied that motion on the ground that Hanover was not prejudiced by FDA's omissions because Hanover did not review the administrative record during the comment period. In the case relied upon by

Plaintiffs here, the appellants were appealing the district court's denial of attorney's fees under the Equal Justice to Act law, 28 U.S.C. § 2412. 989 F.2d 123. Thus, the Third Circuit was not resolving an administrative review under the APA, but rather was deciding the merits of an attorney fees petition. In short, the court will follow the well-settled and well-reasoned rule that a regulation is not automatically invalidated even where notice-and-comment errors are committed by the agency unless the party asserting error satisfies its burden of demonstrating prejudice to its ability to meaningfully comment on the proposed rule. *See* 5 U.S.C. § 706; *see also AARP*, 390 F. Supp. 2d at 461; *Pers. Watercraft Indus. Ass'n*, 48 F.3d at 544.

The court in *Hanover Potato* also stated that one of the purposes of the public comment period "was to give the public the opportunity to participate in the rule-making process." 989 F.2d 130 n.9 (citing *Conn. Light & Power Co.* 673 F.2d at 530.) This court agrees, and it appears as though this purpose has been fulfilled. As Plaintiffs point out, Scenario Builder has been in development since 2003. (Doc. 96 at 61 of 81.) By this court's count, 730 CBP committee, team, and stakeholder public meetings took place between 2005 and 2010, some of which were attended by Plaintiffs. (*See* AR0000422-AR0000454; *see also* Doc. 108-5.) The Scenario Builder model was discussed at several of these meetings (*see, e.g.,* AR0000433-AR0000434; Docs. 100-11, 100-12, & 100-13) and this process was capped with a 45-day public comment period. Thus, the court finds that the public was given ample opportunity to participate in the Scenario Builder development process.

Finally, Plaintiffs infer that they have been improperly blamed for not being able to identify how they would have commented differently had they received adequate information. (*See* Doc. 109 at 45 of 56) ("EPA resorts to blaming us for

not demonstrating how we would have commented differently . . . .") This, however, is precisely the burden that courts have placed on the objecting party. *See Pers. Watercraft Indus. Ass'n*, 48 F.3d at 544 ("The party objecting has the burden of indicating with reasonable specificity . . . how it might have responded if given the opportunity." (internal quotations and citations omitted)); *Small Refiner Lead Phase-Down Task Force*, 705 F.2d at 540-41 ("It is also incumbent upon a petitioner objecting to the agency's late submission of documents to indicate with 'reasonable specificity' . . . how it might have responded if given the opportunity." (internal quotations and citations omitted)).

In short, the court finds that Plaintiffs have failed to meet their burden of establishing how they were prejudiced by the alleged failure to disclose key documents regarding Scenario Builder, and further finds that members of the public, including Plaintiffs, were provided with a meaningful opportunity to participate in the TMDL drafting and comment process. Thus, the court concludes that EPA's actions related to the disclosure of Scenario Builder documentation were not arbitrary and capricious.

b. Watershed Model

The Phase 5.3 Community Watershed Model simulates loading and transport of nitrogen, phosphorus, and sediment from pollutant sources throughout the Bay watershed and provides loading estimates resulting from various management scenarios. (AR0000171.) Plaintiffs argue that the documentation provided for the model was outdated as it pertained to an earlier Phase 5 version that was created in 2008, two years prior to the re-calibrated Phase 5.3 version. (Doc. 96 at 63 of 81.) Plaintiffs contend that this documentation was of little value, because

the public did not have access to information describing how the current model was developed, calibrated, and applied. (*Id.*) Plaintiffs further contend that EPA failed to disclose estimated nutrient transport factors and edge-of-stream nutrient targets for conservation cropland, information which is important in calibrating watershed models. (Doc. 96 at 51, 52 of 81.)

EPA concedes that it did not provide the public with Phase 5.3 documentation during the public comment period, but reasons that it could not have done so because the final application of the Watershed Model was not completed until after public comments were reviewed and final decisions regarding the Model were made by the Bay Partnership. (Doc. 100 at 62 of 76.) Consequently, EPA argues that production of complete documentation was impossible during the public comment period. (*Id.*) EPA further concedes that the documentation provided during the public comment period did not include estimated nutrient transport factors or edge-of-stream nutrient targets. However, EPA argues that Plaintiffs have made no efforts to show specifically how this lack of information resulted in prejudice.

Turning to the administrative record, there is no dispute that the Phase 5.3 Watershed Model itself and the supporting information necessary to run the model (*i.e.*, the model code) were available to the public during the public comment period. (*See* Doc. 96 at 63 of 81; Doc. 110 at 31 of 52.) Moreover, there is no dispute that EPA provided documentation regarding the Phase 5 Watershed Model. (Doc. 96 at 63 of 81.) Nevertheless, Plaintiffs contend that because EPA did not provide any information regarding how the current model was developed, calibrated, and applied, the availability of the model itself was of little value. (*Id.*)

The court's review of the record reveals that there was ample information available during the public comment period that explained the Phase 5.3 Watershed Model. For example, the draft TMDL explained the purpose and importance of the Watershed Model, and its overall purpose in the modeling framework. (*See* AR0023922-AR0023962.) More specifically, the draft TMDL described the Chesapeake Bay watershed water quality network and explained that "[d]ata from [this network] have been used to develop, calibrate and verify the Phase 5.3 Chesapeake Bay Watershed Model . . . ." (AR0023929.) The draft TMDL also described the Phase 5.3 Watershed Model as an "open source model" or a "community model" in which "input data [including precipitation information, point source discharges, atmospheric deposition, and land use] are all available to the public," allowing end users to actually use the model. (AR0023948.) The draft TMDL further provided a detailed description regarding the development and calibration of the Phase 5.3 Watershed Model. (AR0023948-AR0023957.) In addition to that information, the draft TMDL provided links to the model itself, as well as to information that included further details regarding model inputs and explaining how certain loading was calculated. (*See, e.g.,* AR0023948, AR0023951.) It is not apparent from Plaintiffs' briefs or from oral argument precisely how this information was deficient, and this court is ill-equipped to conduct its own technical review of the Watershed Model. In short, the court concludes that information provided during the public comment, including the model itself, the code, and supporting documentation was sufficient, and does not support a finding that EPA's actions were arbitrary and capricious.

Even if the court did find inadequacies, it is not readily apparent precisely how Plaintiffs were prejudiced by such inadequacies. As stated above, Plaintiffs have the burden of showing with reasonable specificity how it might have responded if given the opportunity. Plaintiffs point out that they now have access to the edge of stream nutrient target information as a result of an "errata" which is part of the administrative record. (*See* Doc. 96 at 66 of 81 (citing AR0014689).) Even so, Plaintiffs still fail to identify how they would have responded differently. Rather, Plaintiffs once again argue that the failure to have access to the complete record automatically resulted in prejudice (Doc. 96 at 66-67 of 81 (citing *Hanover Potato*, 989 F.2d 130 n.9)), an argument that the court already considered and rejected.

c. WQSTM

Plaintiffs assert similar arguments regarding the WQSTM. Plaintiffs argue that full and complete documentation regarding the WQSTM was made available only after the close of the public comment period, and that the draft TMDL acknowledges that the WQSTM was "in preparation" during that time. (Doc. 96 at 67 of 81.) Plaintiffs further argue that the documentation otherwise provided was outdated, as it refers to an earlier version of the WQSTM. (*Id.*)

EPA argues, once again, that formal documentation for the WQSTM could not be completed until after the public comment period when all decisions by the Partnership were finalized, giving due consideration to the comments. (Doc. 100 at 66 of 76.) Nevertheless, EPA contends that Plaintiffs had access to all necessary information for public comment. EPA explains that "[t]he WQSTM is composed of a series of linked and nested models including: hydrodynamic model, estuarine water column model, sediment transport model, sediment/water interface and flux model,

underwater Bay grasses model, bottom sediment dwelling community model, filter feeder model, phytoplankton model, and zooplankton model." (*Id.*) EPA further explains that only the sediment transport model was altered after 2002, and therefore any documentation provided was current for all component models except the sediment transport model. Plaintiffs retort that the WQSTM "fundamentally" and "dramatically" changed between 2005 and 2010. (Doc. 96 at 67 of 81; Doc. 109 at 41 of 56.) Unfortunately, the citations provided by the parties are of little help to the court.[27]

The court must reject Plaintiffs' arguments for two reasons. First, the court finds that the public was given ample opportunity to participate in the rule making process. As with the other models, the WQSTM was in development for years and was discussed during several public meetings. (*See, e.g.,* AR0000433-AR0000434; Doc. 100, Exs. K & L.) This process was capped with a 45-day public comment period in which numerous documents were provided to the public that explained how the sediment transport component of the WQSTM was applied in developing sediment load allocations. (*See, e.g.,* AR0023991; AR0024008-AR0024012; AR0024015-AR0024016; AR0024317-AR0024384; AR0024374-AR0024384.) As to the adequacy of the documentation, it is readily apparent that

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[27] Plaintiffs, for example, ask us to "compare" a 373-page document titled *The Chesapeake Bay Eutrophication Model* (July 2004) (AR0015530-AR0015903) with a 227-page document titled *The 2010 Chesapeake Bay Eutrophication Model: A Report of the US Environmental Protection Agency Chesapeake Bay Program* (December 2010) (AR0016176-AR0016403). Without further explanation, it is nearly impossible for this court to identify precisely how these documents indicate a fundamental change in the model. EPA, for its part, cites to the same documentation to support the proposition that all models, except for the sediment transport model, remained the same. Here again, same problem. *See N.W. Nat'l Ins. Co. v. Baltes*, 15 F.3d 660, 662-63 (7th Cir. 1994) ("District judges are not archaeologists. They need not excavate masses of papers in search of revealing tidbits – not only because the rules of procedure place the burden on the litigants, but also because their time is scarce.").

the draft TMDL references several documents that provide an explanation of the WQSTM. (*See* AR0024131.) Although one of these, a document titled *The Chesapeake Bay Water Quality and Sediment Transport Model* (2010), is labeled as "in preparation" (*Id.*), other documents, including, but not limited to, documentation for the 2002 WQSTM were provided. (*Id.*; AR0015530-AR0015903). The court is unclear precisely what information Plaintiffs required beyond what was provided. Second, Plaintiffs again failed to identify, with any specificity, how they might have responded to the final documentation. The final documentation, which was published along with the Final TMDL in December 2010 (*see* AR0016176-AR0016403), has now been available for review for nearly three years. Nevertheless, Plaintiffs still do not point to any specific information and proffer how they would have responded had it been available during the public comment period. Rather, they merely point out differences between the preliminary documentation and the final documentation, which fails to sustain Plaintiffs' burden of demonstrating prejudicial error. Accordingly, the administrative record does not support a finding that EPA acted arbitrarily and capriciously in this regard.

D. Alleged Modeling Flaws

Plaintiffs' final arguments relate to EPA's alleged reliance on flawed models and flawed data inputs. Plaintiffs raise several arguments contending that the Final TMDL is arbitrary and capricious on the basis that EPA used models to support TMDL allocations beyond their predictive capabilities. (*See* Doc. 96 at 68 of 81.) The court will first set forth the standard for judicial review of an agency's use of analytic modeling before addressing each argument in turn.

A model "is an abstraction from and simplification of the real world." *Small Refiner Lead Phase-Down Task Force*, 705 F.2d at 535. "Administrative agencies have undoubted power to use predictive tools." *Id.* Under the arbitrary and capricious standard set forth in the APA, a court's "deference to the agency is greatest when reviewing technical matters within [the agency's] expertise. In particular, the choice of scientific data and statistical methodology to be used is best left to the sound discretion of the [EPA]." *Nat'l Ass'n of Metal Finishers v. EPA,* 719 F.2d 624, 657 (3d Cir. 1983), *rev'd on other grounds sub nom. Chem. Mfrs. Ass'n v. NRDC*, 470 U.S. 116 (1985); *see also Kennecott v. EPA*, 780 F.2d 445, 449 (4th Cir. 1985) ("Once the agency has been found to follow the prescribed course of procedure, its choice of scientific data and statistical methodology is entitled to respect."). As to data gathering, "EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem" and a court "generally defer[s] to an agency's decision to proceed on the basis of imperfect scientific information, rather than to 'invest the resources to conduct a perfect study.'" *Sierra Club v. EPA*, 167 F.3d 658, 662 (D.C. Cir. 1999) (citing *Am. Iron & Steel Inst. v. EPA*, 115 F.3d 979, 1004 (D.C. Cir. 1997) (per curiam)). However, EPA's discretion, while broad, is not infinite, and an agency's choice of model will be rejected if it "bears no rational relationship to the reality it purports to represent." *Id.* (quoting *Columbia Falls Aluminum Co. v. EPA*, 139 F.3d 914, 923 (D.C. Cir. 1998)). As before, the burden is on Plaintiffs to prove that EPA's actions were arbitrary and capricious. *Forest Guardians*, 611 F.3d at 704.

1. Flawed Models

Plaintiffs first challenge the models used by EPA as being insufficient for allocations established at the sub-watershed level. Plaintiffs argument targets specifically the Watershed Model, contending that, although the Watershed Model was appropriate for TMDL development on a regional scale, the model was "not appropriate for development and implementation of TMDLs at the local watershed scale." (Doc. 96 at 70 of 71 (citing AR0015016-AR0015017).) Plaintiffs further argue that EPA acknowledged, but largely ignored, a peer review by the Chesapeake Bay Program's Scientific and Technical Advisory Committee ("STAC") that concluded that the Watershed Model was insufficient to support management decisions at the local watershed scale. *Id.*

EPA defends the use of the Watershed Model, noting that local allocations were not established solely through EPA's use of the Watershed Model, but by the Bay states in their WIPs. (Doc. 100 at 69 of 76.) EPA points out that, through a collaborative effort, EPA and the Bay states first developed nitrogen, phosphorus, and sediment allocations at the river basin level – a scale approved by STAC's peer review – and then continued to work with the states to develop proposed allocations at smaller levels using a combination of, *inter alia*, modeling results, programmatic implementation capabilities, monitoring data, and land use information. (*Id.* at 69-70.) Nevertheless, Plaintiffs maintain that the Bay states used the Watershed Model when developing their WIP allocations at the local watershed level notwithstanding STAC's assessment that the Watershed Model was not capable of supporting TMDL implementation at that level. (Doc. 109 at 48 of 56.)

The record does not support a finding that EPA's actions were arbitrary and capricious. First, the record is clear that the individual WLAs and LAs were, in all but three instances, provided by the Bay states via their respective WIPs, and were not derived solely from the Watershed Model. *See supra* Section III.B.2.b. Second, it is not *per se* improper for the Bay states to use the Watershed Model to assist in developing local watershed allocations. In fact, as explained above, the model was developed as a "community" model, allowing end users, such as watershed researchers, TMDL model developers, and implementation plan developers, to use the model in whatever way they deemed proper. (AR0000181.) The record shows that the Bay states used a variety of sources in developing local allocations, as recommended by the Partnership in its January 28, 2009 document titled *Response of the Modeling Subcommittee to the Second STAC Review of the Phase 5 Community Watershed Model*. (AR0014964-AR0014974.) In that document, the Modeling Subcommittee acknowledged that inputs for the Wastershed Model are at the county level, and stated that "in some cases, the best approach for a local TMDL exercise would be to use appropriate elements of the Phase 5 [Watershed] Model with augmentation of local-scale land use and monitoring data when this is available or can be set up." (AR0014967-AR0014968.) The Subcommittee continued, stating

> [T]he use of [the] Phase 5 [Watershed Model] for local TMDLs has the merit of the best available information consistently applied at the local scale. The alternative local approach is incorporation of additional local data at a more localized scale into a separate model, but that has the tradeoff of inconsistent analyses among different local jurisdictions. Given the tradeoffs of the relative merits of the two approaches, *we believe the local allocations should be evaluated on a case-by-case basis, and this is what our State partners are doing.*

(AR0014968) (emphasis added.) A review of the record confirms that, in setting local allocations, the Bay states used a variety of data including land use information, annual data on agricultural conservation practices implemented by farmers, stormwater best management practices, and current treatment technologies at wastewater discharge facilities. (*See* Doc. 110 at 45, 46 of 110 (citing AR0024982-AR0025421; AR0025422-AR0025524; AR0025525-AR0026300; AR0026301-AR0026392; AR0026393-AR0026671; AR00266720-AR0026812; AR0026813-AR0026962; AR0000250-AR0000261; AR0005397-AR0005405; and AR0012888-AR0012937).)

In light of the record, the court finds no support of Plaintiffs' argument that EPA stretched the Watershed Model's capabilities too far. While it appears that the Watershed Model is not calibrated to set local allocations, it is also apparent that the Model was used in conjunction with a number of other local factors that states also considered in drafting their local allocations, which were decided on a case-by-case basis. Thus, Plaintiffs have failed to meet their burden of showing that there was no rational relationship between the use of the Watershed Model and the development of local allocations.

2. Flawed Data

Plaintiffs next argue that EPA's reliance on flawed data renders the Final TMDL arbitrary and capricious. Plaintiffs point to several data inputs that they contend were erroneously used to determine loading estimates. For example, Plaintiffs argue that EPA improperly estimated that 50 percent of the cultivated cropland in the Bay watershed employed conventional tillage while the other 50 percent used conservation tillage. (Doc. 96 at 73 of 81; AR0014637.) In support,

Plaintiffs point to a U.S. Department of Agriculture Natural Resource Conservation Service ("NRCS") draft report dated October 2010, which estimated that 88 percent of the 4.38 million acres of cultivated cropland in the Bay watershed employed conservation tillage, while only seven percent used conventional tillage, with the remaining five percent using a mix of both practices. (AR0032862; Doc. 98-4.) According to Plaintiffs, correction of this single factor would have significantly changed the modeled pollutant loadings from these areas. (*See* Doc. 96 at 74 of 81 (displaying chart showing a more than eight million pound per year difference in nitrogen loading when the different figures are used).)

Nevertheless, the court must give substantial deference to EPA so long as EPA provides a rational basis for its use of data. EPA states that it used data provided by the United States Department of Agriculture ("USDA")-funded Conservation Technical Information Center at Purdue University ("USDA data") because it was more detailed and comprehensive than the data used by the NRCS. (Doc. 100 at 71 of 76.) EPA explained that

> [t]he conservation tillage data, as well as the agricultural portion of the CBP Watershed Model, is based in part on USDA county-level agricultural census data from thousands of farms from 1982-2007. . . . On the other hand, the NRCS data on conservation tillage[] was based on surveys of a sample of approximately 200 farms located across the Bay watershed, covered only four years, and provided information only at the scale of four large watersheds – Susquehanna River, Potomac River, upper Chesapeake Bay, and lower Chesapeake Bay – for the entire Chesapeake Bay basin.

(Doc. 100 at 71, 72 of 76 (citing AR0029737; AR0000184-R0000187).) Accordingly, it is clear that EPA considered the NRCS data, but ultimately rejected it in favor of USDA data. (*Id.; see also* Doc. 89-1.) There is also evidence on the

record that EPA worked with USDA to discuss the differences in EPA's and USDA's modeling efforts. (AR0029735-AR0029738; AR0029752-AR0029759.)

The court must defer to EPA's use of data, even if that data is imperfect, unless the data bears no rational relationship to the reality it purports to represent. *See Sierra Club*, 167 F.3d 662. Based on the record highlighted above, it is clear that EPA had a rational basis for the data used. Accordingly, the court can not conclude that Plaintiffs have satisfied their burden of showing that EPA's data choice was arbitrary and capricious and the court must defer to the Agency's expertise. *See Nat'l Ass'n of Metal Finishers,*719 F.2d at 657; *In re Three Mile Island Alert, Inc.*, 771 F.2d 720, 737 (3d Cir. 1985) (giving deference to Nuclear Regulatory Commission's decision to rely on earlier studies of the health effects of the TMI-2 accident, stating "we believe this is the kind of scientific determination over which 'a reviewing Court must generally be at its most deferential.'" (quoting *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983))); *Pa. Dep't of Envtl. Res. v. EPA*, 932 F.2d 269, 272 (3d Cir. 1991) ("On the merits of EPA's refusal to consider the updated . . . data, we defer to its expertise." (citing *EPA v. Nat'l Crushed Stone Ass'n*, 449 U.S. 64, 83 (1980))).

Plaintiffs' argument that EPA used improper assumptions regarding agricultural runoff suffers the same fate. Plaintiffs contend that EPA improperly assumed that 15 to 21 percent of all manure at animal feeding operations is left on impervious surfaces and managed in such a way that it runs off into Bay tributaries. (Doc. 96 at 76 of 81.) Here again, EPA did consider and address concerns regarding EPA's manure management data (*see* AR0001535-AR001550), and explained that "EPA's data reflect reductions in nutrients due to natural processes such as runoff

flows from feeding operations to streams, and that only a portion of nitrogen and phosphorous contained in the 15-21% of manure losses actually enters adjacent streams." (Doc. 100 at 73 of 76 (citing AR0016176-AR0016403).) Thus, for the same reasons cited above, the court will defer to EPA's use of this data and concludes that Plaintiffs have failed to demonstrate that EPA's actions in this regard were arbitrary and capricious.

IV. Conclusion

Notwithstanding the expansive administrative record, and the complexity of the numerous issues implicated herein, the court's scope of review in this case is relatively narrow. In accordance with the deferential standards applicable to a court's review of an agency's actions, this court must give EPA's interpretation of the CWA and its use of scientific models and data due deference in light of EPA's scientific and technical expertise. Plaintiffs are charged with the heavy burden of showing that the issuance of the Bay TMDL was arbitrary and capricious, and that EPA's use of modeling and data bore no rational relationship to the realities they purport to represent. Having carefully considered Plaintiffs' arguments, and the applicable portions of the administrative record related thereto, the court concludes that Plaintiffs have failed to meet this burden. The court further concludes that the procedures established to ensure public participation in the TMDL drafting process were sufficient to withstand scrutiny under the APA.

In closing, the court offers the following. The ecological and economic importance of the Chesapeake Bay is well-documented. As the largest estuary in the United States, the Chesapeake Bay is essential for the well-being of many living

things. (*See* AR0024989.) The record demonstrates extensive efforts on behalf of the Bay Partnership to protect this important resource. And yet, nutrient pollution and sedimentation remain a critical concern. Relevant to the legal challenges *sub judice*, the record reveals that the Partnership undertook significant efforts to preserve the framework of cooperative federalism, as envisioned by the CWA, and that EPA did not unlawfully infringe on the Bay states' rights because the CWA is an "all-compassing" and "comprehensive" statute that envisions a strong federal role for ensuring pollution reduction. *See Pronsolino* I, 91 F. Supp. 2d at 1341; 33 U.S.C. § 1267(g). Indeed, considering the numerous complexities of regulating an interstate water body, EPA's role is critical to coordinating the Bay Jurisdictions' efforts to ensure pollution reduction. In short, the court concludes that the framework established by the Bay Partnership in developing the Bay TMDL is consistent with the provisions of the CWA and APA. Accordingly, the court will grant Defendant EPA's and Defendant-Intervenor Municipal Associations Group's cross-motions for summary judgment and will deny Plaintiffs' motion for summary judgment. An appropriate order will issue.

S/Sylvia H. Rambo
United States District Judge

Dated: September 13, 2013.

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA

AMERICAN FARM BUREAU FEDERATION, *et al.,*	:	**CIVIL NO. 1:11-CV-0067**
Plaintiffs	:	
v.	:	
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.,*	:	**Judge Sylvia H. Rambo**
Defendants	:	

O R D E R

In accordance with the accompanying memorandum of law, it is **HEREBY ORDERED** as follows:

1. Plaintiffs' joint motion for summary judgment (Doc. 95) is **DENIED**;
2. Defendant EPA's cross-motion for summary judgment (Doc. 99) is **GRANTED;**
3. Defendant-Intervenor Municipal Associations Group's cross-motion for summary judgment (Doc. 103) is **GRANTED;**
4. The clerk of court is directed to enter judgment against Plaintiffs and in favor of Defendant EPA and Defendant-Intervenors on all claims.
5. The clerk of court is directed to **CLOSE** this case.

S/Sylvia H. Rambo
United States District Judge

Dated: September 13, 2013.