UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

JUL 25 2012

Ms. Marie Halka, Acting Director
Science Services Administration
Maryland Department of the Environment
1800 Washington Blvd., Suite 540
Baltimore, Maryland 21230-1718

Dear Ms. Halka:

The U.S. Environmental Protection Agency (EPA) Region III is pleased to inform you that we are approving the Total Suspended Solids (TSS)/sediment Total Maximum Daily Loads (TMDLs) for the Anacostia River watershed. The approved 2012 TSS TMDL consists of the TMDL for sediment and TSS in the tidal Anacostia River and its tributaries submitted by the District of Columbia Department of the Environment (DDOE) and the Maryland Department of Environment (MDE) by letter dated June 22, 2007 (approved by EPA July 24, 2007) and incorporated by reference in the submission of June 29, 2012, together with a new *Appendix E: Evaluation of Turbidity Criteria Applicable to the Recreational and Aesthetic Designated uses vs. Secchi Depth in the TMDL Scenario* (Appendix E), and its response to comment document submitted by DDOE and MDE on June 29, 2012.

The 2012 TMDLs were established in accordance with Sections 303(d)(1)(c) and (2) of the Clean Water Act (CWA) to address impairments of water quality to the non-tidal and tidal segments of the Anacostia River as identified on the District's 1998 CWA Section 303(d) list of impaired waters and Maryland's 1996 CWA Section 303(d) lists of impaired waters. These segments were identified as failing to meet the aquatic life uses due to excessive sediment and/or TSS.

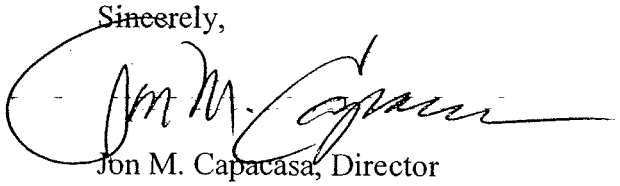
In 2009, EPA's TMDL approval was challenged in court by the Anacostia Riverkeeper and Friends of the Earth in the U.S. District Court for the District of Columbia. On July 25, 2011, the district court issued its decision. *Anacostia Riverkeeper v. Jackson*, 798 F. Supp. 2d 210 (D.D.C. 2011) (District Court decision). In that decision, the District Court upheld all challenged aspects of EPA's approval of the 2007 TMDL, except that the District Court found that the record before EPA was insufficient to support a determination by EPA that the allocations in the 2007 TMDL would be sufficient to achieve the designated recreational use in Maryland and the District of Columbia water quality standards, and the aesthetic designated use in the District of Columbia water quality standards. For that reason, the District Court vacated EPA's approval of the 2007 TMDL, but stayed its vacatur until July 25, 2012, "by which time EPA must adopt or approve a sediment/TSS TMDL for the Anacostia River that complies with today's Memorandum Opinion and applicable statutory and regulatory requirements."

These TMDL revisions, being approved today, demonstrate that implementation of the loads established in the 2007 TMDL will also achieve the recreational and aesthetic designated uses applicable to the tidal Anacostia River and its tributaries. EPA believes that the revisions we are approving today adequately respond to the Court's decision.

In accordance with Federal regulations at 40 CFR §130.7 and EPA policy, a TMDL must comply with the following requirements: (1) be designed to attain and maintain the applicable water quality standards, (2) include a total allowable loading and as appropriate, wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources, (3) consider the impacts of background pollutant contributions, (4) take critical stream conditions into account (the conditions when water quality is most likely to be violated), (5) consider seasonal variations, (6) include a margin of safety (which accounts for uncertainties in the relationship between pollutant loads and instream water quality), and (7) be subject to public participation. The 2012 TSS TMDLs for the Anacostia River watershed satisfies each of these requirements. A copy of EPA's Decision Rationale for approval of these TMDLs is enclosed.

If you have any questions or comments concerning this letter, please do not hesitate to contact me, or have your staff contact Ms. Helene Drago, TMDL Program Manager, at (215) 814-5796.

Sincerely,



Jon M. Capacasa, Director
Water Protection Division

Enclosure

cc: G. Onyullo, DDOE
T. Thorton, MDE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Decision Rationale
2012 Total Maximum Daily Loads
Anacostia River Watershed
For Sediment/Total Suspended Solids
Montgomery and Prince George's Counties Maryland and the District of Columbia

Jon M. Capacasa, Director
Water Protection Division

Date: 7/25/2012

Decision Rationale
2012 Total Maximum Daily Loads
Anacostia River Watershed
For Sediment/Total Suspended Solids
Montgomery and Prince George's Counties, Maryland and
The District of Columbia

I. Introduction

The Clean Water Act (CWA) requires a Total Maximum Daily Load (TMDL) be developed for those waterbodies identified as impaired by the State where technology- based and other controls will not provide for attainment of water quality standards. A TMDL is a determination of the amount of a pollutant from point, nonpoint, and natural background sources, including a Margin of Safety (MOS), that may be introduced into a water quality limited waterbody.

This document sets forth the rationale for the U.S. Environmental Protection Agency's (EPA) approval of TMDLs for sediment and Total Suspended Solids (TSS) in the tidal Anacostia River and its tributaries (2012 TSS TMDL). The approved 2012 TSS TMDL consists of the TMDL for sediment and TSS in the tidal Anacostia River and its tributaries submitted by the District of Columbia Department of the Environment (DDOE) and the Maryland Department of Environment (MDE) by letter dated June 22, 2007, (received by EPA June 25, 2007) and incorporated by reference in the submission of June 29, 2012, together with a new *Appendix E: Evaluation of Turbidity Criteria Applicable to the Recreational and Aesthetic Designated uses vs. Secchi Depth in the TMDL Scenario* (Appendix E) submitted by DDOE and MDE on June 29, 2012.

II. Background

By letters dated June 22, 2007, DDOE and MDE submitted to EPA the *Total Maximum Daily Loads for Sediment/Total Suspended Solids for the Anacostia River Basin, Montgomery and Prince George's Counties, Maryland, and the District of Columbia*, (2007 TMDL). Based on the review of this report and its supporting documentation, EPA approved the 2007 TMDL on July 24, 2007. In 2009, EPA's TMDL approval was challenged by the Anacostia Riverkeeper and Friends of the Earth in the U.S. District Court for the District of Columbia. On July 25, 2011, the district court issued its decision. *Anacostia Riverkeeper v. Jackson*, 798 F. Supp. 2d 210 (D.D.C. 2011) (District Court decision). In that decision, the District Court upheld all challenged aspects of EPA's approval of the 2007 TMDL, except that the District Court found that the record before EPA was insufficient to support a determination by EPA that the allocations in the 2007 TMDL would be sufficient to achieve the designated recreational use in Maryland and the District of Columbia water quality standards and the aesthetic designated use in the District of Columbia water quality standards. For that reason, the District Court vacated EPA's approval of the 2007 TMDL, but stayed its vacatur until July 25, 2012, "by which time

EPA must adopt or approve a sediment/TSS TMDL for the Anacostia River that complies with today's Memorandum Opinion and applicable statutory and regulatory requirements."

Following the district court's decision, DDOE and MDE, working with EPA, completed an analysis submitted as *Appendix E: Evaluation of Turbidity Criteria Applicable to the Recreational and Aesthetic Designated uses vs. Secchi Depth in the TMDL Scenario* (Appendix E). Appendix E demonstrates that implementation of the loads established in the 2007 TMDL will also achieve the recreational and aesthetic designated uses applicable to the tidal Anacostia River and its tributaries. DDOE and MDE submitted a draft of Appendix E for public comment from April 6, 2012 through May 7, 2012. DDOE, MDE and EPA held a public meeting on April 23, 2012, at the Metropolitan Washington Council of Governments offices. DDOE and MDE received three sets of written comments during the public comment period, responded to comments, and made certain adjustments to Appendix E.

On June 29, 2012, MDE and DDOE, jointly submitted to EPA the Appendix E and Response to Comments documents, along with supporting documentation, incorporating their earlier submission of the 2007 TMDL by reference.

III. Analysis

EPA's review determined that the June 29, 2012, submission (including the 2007 TMDL and Appendix E) meets the following seven regulatory requirements pursuant to 40 CFR Part 130.

1. The TMDL is designed to implement applicable water quality standards.
2. The TMDL includes a total allowable load as well as individual wasteload allocations (WLAs) and load allocations (LAs).
3. The TMDL considers the impacts of background pollutant contributions.
4. The TMDL considers critical environmental conditions.
5. The TMDL considers seasonal environmental variations.
6. The TMDL includes a MOS.
7. The TMDL has been subject to public participation.

In addition, the TMDL considered reasonable assurance that the TMDL allocations assigned to nonpoint sources can be reasonably met over time.

Except where otherwise noted, EPA incorporates by reference into this Decision Rationale and record its July 24, 2007, Decision Rationale and record.

A. *TMDL Description*

The 2007 TMDL for MD and DC tidal and non-tidal waters of the Anacostia River has been incorporated by reference in this 2012 TSS TMDL revision. The TMDL loads are as follows: 7097.6 tons/year annually (or 4302.65 tons/day maximum daily load) and 3, 396.1 tons/growing season for the growing season April 1 to October 31 (or 1632.27 tons/day maximum daily load).

Annually-based Maximum Daily Loads for Sediment/TSS for the Anacostia River

Summary of Annually-Based Maximum Daily Loads of Sediment/TSS for the Anacostia River Watershed (tons/day)

Non-Tidal Anacostia River

Flow Range (m^3/s)	Upstream (max, avg)	MD Non-Tidal MS4-WLA	MD Non-Tidal Other PS-WLA	MD Non-Tidal LA	MOS	Non-Tidal TMDL (max, avg)
< 0.89	0.003, 0.002	0.505	0.349	0.0007	Implicit	0.858, 0.199
0.89 - 2.34	0.009, 0.003	2.581	0.349	0.016	Implicit	2.955, 0.381
2.34 - 3.48	0.020, 0.005	20.870	0.349	0.041	Implicit	21.28, 0.800
3.48 - 10.75	0.279, 0.013	44.617	0.349	0.459	Implicit	45.70, 3.016
> 10.75	19.23, 0.676	3828.51	0.349	244.45	Implicit	4092.54, 168.86

MD Tidal Anacostia River

Flow Range (m^3/s)	Upstream (max, avg)	MD Tidal MS4-WLA	MD Tidal LA	MOS	TMDL to MD/DC Border (max, avg)
All	4092.54, 18.15	18.85	0.11	Implicit	4111.50, 18.95

Summary of Annually-Based Maximum Daily Loads of Sediment/TSS for the Anacostia River Watershed (cont'd.) (tons/day)

DC Tidal Upper Anacostia River

Non-Tidal Lower Beaverdam Creek					
Flow Range (m^3/s)	Upstream (max, avg)	DC LBC MS4-WLA (max, avg)	DC LBC LA (max, avg)	MOS	Total TMDL (max, avg)
All	106.01, 1.324	0.0954, 0.0016	-, -	Implicit	106.105, 1.326
Non-Tidal Watts Branch					
Flow Range (m^3/s)	Upstream (max, avg)	DC WB MS4-WLA (max, avg)	DC WB LA (max, avg)	MOS	Total TMDL (max, avg)
All	4.338, 0.1314	3.425, 0.1114	-, -	Implicit	7.763, 0.2428
DC Tidal Upper Anacostia					
Flow Range (m^3/s)	Upstream (max, avg)	DC Upper Anacostia MS4-WLA (max, avg)	DC Upper Anacostia CSO-WLA (max, avg)	DC Upper Anacostia LA (max, avg)	MOS	TMDL to Upper / Lower Boundary (max, avg)
All	4111.50, 18.95	18.35, 0.78	84.61, 24.37	6.33, 0.28	Implicit	4220.79, 44.38

DC Tidal Lower Anacostia River

Flow Range (m^3/s)	Upstream (max, avg)	DC Lower Anacostia MS4-WLA (max, avg)	DC Lower Anacostia Other PS-WLA	DC Lower Anacostia CSO-WLA (max, avg)	DC Lower Anacostia LA (max, avg)	MOS	TOTAL TMDL (max, avg)
All	4220.79, 44.38	10.24, 0.43	0.0043	67.10, 25.85	4.52, 0.19	Implicit	4302.65, 70.85

Seasonally-based Maximum Daily Loads for Sediment/TSS for the Anacostia River

Summary of Seasonally-Based Maximum Daily Loads of Sediment/TSS for the Anacostia River Watershed (tons/day during growing season)

Non-Tidal Anacostia River

Flow Range (m^3/s)	Upstream (max, avg)	MD Non-Tidal MS4-WLA	MD Non-Tidal Other PS-WLA	MD Non-Tidal LA	MOS	Non-Tidal TMDL (max, avg)
< 0.89	0.003, 0.0023	0.500	0.302	0.0007	Implicit	0.806, 0.156
0.89 - 2.34	0.009, 0.0037	2.580	0.302	0.006	Implicit	2.897, 0.669
2.34 - 3.48	0.020, 0.0071	20.870	0.302	0.022	Implicit	21.21, 1.016
3.48 - 10.75	0.279, 0.0236	44.620	0.302	0.168	Implicit	45.37, 4.854
> 10.75	19.23, 1.0981	1393.24	0.302	9.500	Implicit	1422.27, 158.69

MD Tidal Anacostia River

Flow Range (m^3/s)	Upstream (max, avg)	MD Tidal MS4-WLA	MD Tidal LA	MOS	TMDL to MD/DC Border (max, avg)
All	1422.27, 14.23	18.85	0.0005	Implicit	1441.12, 15.44

Summary of Seasonally-Based Maximum Daily Loads of Sediment/TSS for the Anacostia River Watershed (cont'd) (tons/day during growing season)

DC Tidal Upper Anacostia River

Non-Tidal Lower Beaverdam Creek

Flow Range (m^3/s)	Upstream (max, avg)	DC LBC MS4-WLA (max, avg)	DC LBC LA (max, avg)	MOS	Total TMDL (max, avg)
All	66.01, 1.403	0.0930, 0.0020	-, -	Implicit	66.10, 1.405

Non-Tidal Watts Branch

Flow Range (m^3/s)	Upstream (max, avg)	DC WB MS4-WLA (max, avg)	DC WB LA (max, avg)	MOS	Total TMDL (max, avg)
All	3.65, 0.1406	3.425, 0.1318	-, -	Implicit	7.075, 0.2724

DC Tidal Upper Anacostia

Flow Range (m^3/s)	Upstream (max, avg)	DC Upper Anacostia MS4-WLA (max, avg)	DC Upper Anacostia CSO-WLA (max, avg)	DC Upper Anacostia LA (max, avg)	MOS	TMDL to Upper / Lower Boundary (max, avg)
All	1441.12, 15.44	18.35, 1.18	84.61, 21.94	6.33, 0.41	Implicit	1550.41, 38.97

DC Tidal Lower Anacostia River

Flow Range (m^3/s)	Upstream (max, avg)	DC Lower Anacostia MS4-WLA (max, avg)	DC Lower Anacostia Other PS-WLA	DC Lower Anacostia CSO-WLA (max, avg)	DC Lower Anacostia LA (max, avg)	MOS	TOTAL TMDL (max, avg)
All	1550.41, 38.97	10.24, 0.66	0.0043	67.10, 25.85	4.52, 0.291	Implicit	1632.27, 65.77

Average Annual Sediment/TSS TMDLs for Anacostia River Watershed (tons/year)

MD Non-Tidal Anacostia

Upstream Load from DC	MD Non-Tidal WLA	MD Non-Tidal LA	MOS	MD Non-Tidal TMDL
27.0[1]	6355.8	246.8	Implicit	6629.6

MD Tidal Anacostia

Upstream Load	MD Tidal WLA	MD Tidal LA	MOS	MD Tidal TMDL (does not include non-tidal loads from Watts Br & LBC)
6117.4[2]	86.4	0	Implicit	6203.8

DC Tidal Upper Anacostia

Upstream Load (all MD loads including Watts Br & LBC)	DC Upper Anacostia MS4 WLA	DC Upper Anacostia CSO WLA	DC Upper Anacostia LA	MOS	DC Tidal Upper TMDL
6716.0[3]	109.4[4]	83.9	29.8	Implicit	6938.9

DC Tidal Lower Anacostia

Upstream Load	DC Lower Anacostia MS4 WLA	DC Lower Anacostia CSO WLA	DC PS WLA	DC Lower Anacostia LA	MOS	TOTAL TMDL
6938.9	46.4	90.8	0.5	20.7	Implicit	7097.4

[1]This load drains to MD waters from DC's portion of the NWB subwatershed

[2]Does not include MD non-tidal loads from Watts Branch (28.5) and Lower Beaverdam Creek (483.7). Since these drain to DC tidal waters, they are included in the upstream load to the DC Tidal Upper Anacostia.

[3]Upstream load comprises all MD tidal and non-tidal loads, including MD loads from Watts Branch (28.5) and LBC (483.7).

[4]Includes loads from DC non-tidal waters in Watts Branch (24.1) and LBC (0.6)

Growing Season Sediment/TSS TMDLs for Anacostia River Watershed (tons/season)

MD Non-Tidal Anacostia

Upstream Load from DC	MD Non-Tidal WLA	MD Non-Tidal LA	MOS	MD Non-Tidal TMDL
20.7[1]	3005.8	25.1	Implicit	3051.6

MD Tidal Anacostia

Upstream Load	MD Tidal WLA	MD Tidal LA	MOS	MD Tidal TMDL (does not include non-tidal loads from Watts Br & LBC)
2734.8[2]	62.0	0	Implicit	2796.8

DC Tidal Upper Anacostia

Upstream Load (includes all MD loads from Watts Br & LBC)	DC Upper Anacostia MS4 WLA	DC Upper Anacostia CSO WLA	DC Upper Anacostia LA	MOS	DC Tidal Upper TMDL
3113.5[3]	76.3[4]	61.7	20.9	Implicit	3272.5

DC Tidal Lower Anacostia

Upstream Load	DC Lower Anacostia MS4 WLA	DC Lower Anacostia CSO WLA	DC PS WLA	DC Lower Anacostia LA	MOS	TOTAL TMDL
3272.5	33.6	74.6	.3	14.9	Implicit	3395.8

[1]This load drains to MD waters from DC's portion of the NWB subwatershed

[2]Does not include MD non-tidal loads from Watts Branch (16.5) and Lower Beaverdam Creek (300.2). Since these drain to DC tidal waters, they are included in the upstream load to the DC Tidal Upper Anacostia.

[3]Upstream load comprises all MD tidal and non-tidal loads, including MD loads from Watts Branch (16.5) and LBC (300.2).

[4]Includes loads from DC non-tidal waters in Watts Branch (15.5) and LBC (0.4)

Appendix E clarifies that: " To comply with the Anacostia River Sediment/TSS TMDL, sediment loads discharged to the Anacostia must be consistent with all of the stated loading limits in the TMDL—annual average, seasonal, and maximum daily. This means that even if the allowed highest flow maximum daily load were to occur, the seasonal and average annual maximum allowable loads must still be met." Appendix E, page E-1.

The loading caps represent an 85 percent overall reduction of sediment/TSS from the baseline loads determined for the TMDL analysis period 1995-1997 (46,906 tons/year and 22,312 tons/growing season). The allocations were set at the most stringent water quality standard – the District's 0.8 meters Secchi depth as a seasonal average during the growing season. For more background information and the analysis used to develop the TMDLs, see attached 2007 EPA's Decision Rationale.

B. ***The 2012 TSS TMDL is designed to achieve applicable water quality standards***

1. Applicable Designated Uses

Water Quality Standards consist of three components: designated uses; narrative and/or numerical water quality criteria necessary to support those uses; and an anti-degradation policy.

In MD, the Anacostia River and its tributaries have been variously designated as:

- Use I-P (water contact recreation, protection of non-tidal warmwater aquatic life, public drinking supply);
- Use II (support of estuarine and marine aquatic life and shellfish harvesting – seasonal shallow water SAV category);
- Use III (non-tidal cold water (supporting self-sustaining trout populations); and
- Use IV waters (recreational trout waters)

[Code of Maryland Regulations (COMAR) 26.08.02.08].

The Maryland Department of the Environment (MDE) has identified the Anacostia on the State's Section 303(d) List as impaired by the following (listing years in parentheses): nutrients (1996); sediments (1996); fecal bacteria (non-tidal waters in 2002, tidal waters in 2004); impacts to biological communities (2002); and toxics (polychlorinated biphenyls [PCBs] and heptachlor epoxide) in 2002. Fecal bacteria TMDLs for MD tidal and non-tidal areas were submitted to EPA for approval in 2006. TMDLs for PCBs were approved in 2007 (MD tidal waters) and 2011 (MD non-tidal waters). A MD and DC TMDL for nutrients/BOD was approved in 2008. A MD and DC TMDL for trash was approved in 2010. The TMDLs developed in this report address the sediments impairment. All other impairments in MD's tidal and non-tidal portions of the Anacostia will be addressed at a future date.

DC has classified the Anacostia for current and designated uses including:

- Class A: "Primary Contact Recreation";
- Class B: "Secondary Contact Recreation and aesthetic enjoyment";

- Class C: "Protection & Propagation of fish, shellfish and wildlife";
- Class D: "Protection of human health related to consumption of fish and shellfish"; and
- Class E: "Navigation."

[Title 21 of the District of Columbia Municipal Regulations (DCMR) §1101.1].

DC's Section 303(d) List divides the Anacostia River within the District's borders into two segments. The lower Anacostia is identified as that portion of the river extending from the mouth of the river to the John Philip Sousa Bridge on Pennsylvania Avenue and the upper Anacostia from the bridge to the Maryland border. The upper and lower segments of the Anacostia were listed on DC's 1998 Section 303(d) List as impaired by biochemical oxygen demand (BOD), bacteria, organics, metals, TSS, and oil and grease. DC has already developed TMDLs addressing these impairments in the Anacostia.[1] A Maryland and District of Columbia TMDL for nutrients/BOD was approved in 2008. A Maryland and District of Columbia TMDL for trash was approved in 2010. A TSS TMDL was established for the tidal Anacostia in DC in 2002.

On June 22, 2007, DDOE and MDE submitted to EPA the *Total Maximum Daily Loads for Sediment/Total Suspended Solids for the Anacostia River Basin, Montgomery and Prince George's Counties, Maryland, and the District of Columbia*, which EPA approved on July 24, 2007. The 2007 TSS TMDL superseded the 2002 TMDL. The 2007 TMDL together with Appendix E, submitted to EPA on June 29, 2012, now supersedes the 2007 TMDL.

2. Water Quality Criteria Applicable to the Designated Uses

Table E-1 in Appendix E summarizes the applicable water quality criteria as they relate to TSS/sediment in the tidal portions of the Anacostia River and its tributaries in both jurisdictions and is reproduced below. Note that the column header referring to "Water Quality Standards" more accurately refers to the applicable water quality criteria necessary to support the designated use.

1 DC is in the process of revising a number of TMDLs consistent with the court's order in *Anacostia Riverkeeper v. Jackson,* 713 F.Supp.2d 50 (D.D.C. 2010).

Table E-1 Designated Uses and Sediment-Related Water Quality Standards for the Anacostia Watershed

	Designated Use	Waterbody	Water Quality Standards
MD non-tidal	Use I-P: Water contact recreation, protection of non-tidal warmwater aquatic life, public drinking supply	All non-tidal MD streams except those designated Use III and IV	Turbidity criterion: < 150 NTU / 50 NTU monthly average; narrative criteria
	Use III: Non-tidal cold water (supporting selfsustaining trout populations)	Paint Branch above Interstate 495 (Capital beltway)	Turbidity criterion: < 150 NTU / 50 NTU monthly average; narrative criteria
	Use IV: Recreational trout waters	NWB above highway 410	Turbidity criterion: < 150 NTU / 50 NTU monthly average; narrative criteria
MD tidal	Use II: Support of estuarine and marine aquatic life and shellfish harvesting – seasonal shallow water SAV subcategory	MD portion of tidal Anacostia	Secchi depth criterion: > 0.4 meters throughout growing season (Apr 1 - Oct 1) based on application depth of 0.5 meters; Turbidity criterion: < 150 NTU / 50 NTU monthly average
DC non-tidal	Class A: Primary Contact Recreation	All non-tidal DC streams	Turbidity criterion: < 20 NTU above background; narrative criteria

	Designated Use	Waterbody	Water Quality Standards
DC non-tidal	Class B: Secondary Contact Recreation; aesthetic enjoyment	All non-tidal DC streams	Turbidity criterion: < 20 NTU above background; narrative criteria
DC non-tidal	Class C: Protection & propagation of fish, shellfish and wildlife	All non-tidal DC streams	Turbidity criterion: < 20 NTU above background; narrative criteria
DC tidal	Class C: Protection & propagation of fish, shellfish and wildlife	DC portion of tidal Anacostia	Secchi depth criterion: seasonal segment average > 0.8 meters (Apr 1 - Oct 31); Turbidity criterion: < 20 NTU above background

Both jurisdictions' water quality standards expressly articulate a determination that meeting the stated numeric turbidity water quality criteria will be protective of the associated designated uses. Maryland's expressed linkage between meeting the numeric water quality criteria and the associated designated uses is found in the title of the water quality criteria section of the water quality standards regulations. See COMAR §26.08.02.03-03 ("Water Quality Criteria Specific to Designated Uses). Likewise, DC's water quality standards expressly link attainment of the stated numeric criteria with protecting the associated designated use: "Unless otherwise stated, the numeric criteria that shall be met to attain and maintain designated uses are as follows …" (21 DCMR §1104.8). This determination is consistent with federal regulations, which define water quality criteria as "elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, *representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use.*" 40 C.F.R. §131.3(b) (emphasis added).

In addition to numeric turbidity criteria, both jurisdictions have narrative criteria. DC's narrative water quality criteria provide that "The surface waters of the District shall be free from substances in amounts or combinations that do any one of the following: (a) settle to form objectionable deposits; (b) produce objectionable odor, color, taste, or turbidity; and (c) impair the biological community that naturally occurs in the waters or depends upon the waters for its survival and propagation." 21 DCMR §1104.1. With respect to the aesthetic designated use, DC's narrative water quality criteria state: "The aesthetic qualities of Class B waters shall be maintained. Construction, placement or mooring of facilities not primarily and directly water

oriented is prohibited in, on, or over Class B waters unless: (a) the facility is for the general public benefit and service, and (b) land based alternatives are not available."
21 DCMR § 1104.4.

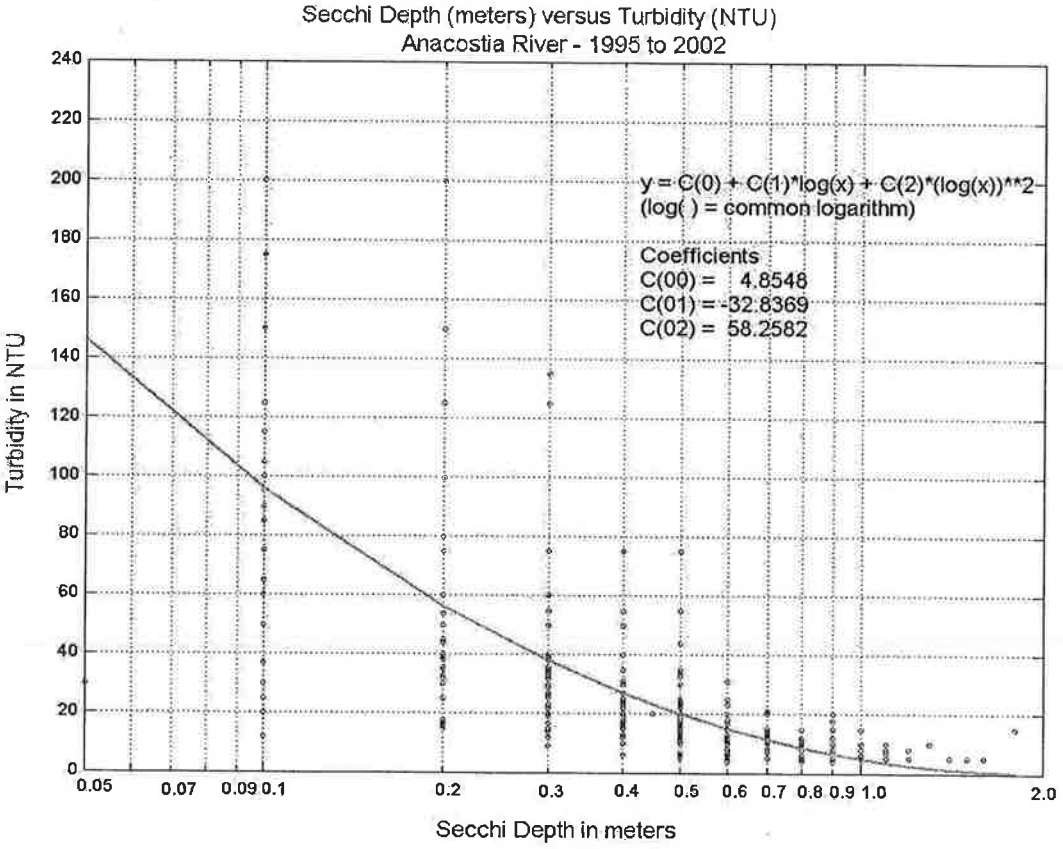
Maryland's water quality standards include the following general water quality criteria: "The waters of this State may not be polluted by: (2) any material, including floating debris, oil, grease, scum, sludge, and other floating materials attributable to sewage, industrial waste, or other waste in amounts sufficient to: (a) be unsightly; (b) produce taste or odor; (c) change the existing color to produce objectionable color for aesthetic purposes; (d) create a nuisance; or (e) interfere directly or indirectly with designated uses." COMAR §26.08.02.03B.

3. The TMDL allocations are designed to achieve all applicable numeric criteria

The TMDL loads were developed specifically to achieve the Secchi depth criterion, the most stringent of all applicable numeric criteria listed in Table E-1. In addition, the TMDL loads were developed to achieve the more stringent of the two jurisdictions' Secchi depth criterion, which is DC's seasonal 0.8 meters Secchi depth criterion. For an analysis of how the TMDL loads will achieve DC's seasonal 0.8 meters Secchi depth criterion, EPA incorporates by reference its July 24, 2007, approval, decision rationale, and record.

Although the TMDL loads were developed to achieve DC's seasonal 0.8 meters Secchi depth criterion, the TMDL includes annual average and maximum daily loads. Appendix E also clarifies that, "[e]ven if the allowed highest flow maximum daily loads were to occur, the seasonal and average annual maximum allowable loads [also] must still be met." In other words, while the TMDL loads allow for day-to-day variability (reflecting variability in natural precipitation patterns), the variability in the daily loads must be viewed in combination with the average annual and seasonal loads, which act to limit the frequency of any maximum daily loads. It is not the case (as assumed by one commenter) that the TMDL allows the maximum daily load to be repeated without limitation. Implementation of the TMDL requires achieving all three expressions of loading.

While DC's Secchi depth criterion is expressed as a seasonal criterion, the numeric turbidity criteria in DC's and Maryland's water quality standards apply year round. Accordingly, it was necessary for DC and Maryland to determine whether the TMDL loads that were developed to achieve DC's seasonal 0.8 meters Secchi depth criterion are also sufficient to achieve the jurisdictions' year round turbidity criteria. In order to determine whether the TMDL loads will achieve the jurisdictions' year round turbidity criteria as measured in Nephelometer Turbidity Units (NTU), DC and MDE performed an analysis using daily average turbidity values and Secchi depth visibility at the same points in the Anacostia River based on DC water quality data between 1995 and 2002. The data used by the jurisdictions is available from the "Data Hub" on the Chesapeake Bay Program web site at: www.chesapeakebay.net. The analysis is depicted in Figure E-1 of Appendix E, which is reproduced below:



As discussed below, this analysis allowed DC and MD to establish a relationship between Secchi depth and turbidity in the Anacostia River. It also demonstrated generally that when the absolute value of 0.8 Secchi depth is achieved, the turbidity is approximately 10 NTU, demonstrating that DC's Secchi depth criterion of 0.8 meters, viewed as an absolute value, is more stringent than the numeric turbidity values in either jurisdiction.

Using the observed water quality measurements of daily average turbidity values and Secchi depth in the Anacostia River between1995-2002, the jurisdictions developed an empirical relationship between Secchi depth and turbidity in the Anacostia River as follows:

$$\text{Turbidity} = C_0 + C_1 * \log_{10}(\text{Secchi depth}) + C_2 * \log_{10}(\text{Secchi depth})^2$$

Where:

Secchi depths are measured in meters, turbidity is measured in NTU, and

$C_0 = 4.8548$
$C_1 = -32.8369$, and
$C_2 = 58.2582$

The jurisdictions then utilized the empirical relationship developed from the observed data to convert simulated Secchi depths from the TAM/WASP Model's TMDL scenario to

predict turbidity levels under the TMDL scenario.[2] In the 2007 TMDL, the TAM/WASP computer simulation model of sediment transport and water clarity simulated daily values of both total suspended sediment concentrations and water clarity under the TMDL scenario based on inputs including: tides, precipitation, and tributary flows; daily estimates of sediment loads from the various sources, including the tributaries; the District's MS4; and combined sewer overflows (CSOs). The 2007 TMDL provides further details on the TAM/WASP model and its use in the TMDL development.

The modeled turbidity levels under the TMDL scenario demonstrate the following. Under the TMDL scenario, predicted turbidity levels in Maryland will achieve the 50 NTU monthly average criterion 100 percent of the time and will achieve the never- to- exceed criterion of 150 NTU 99.99 percent of the time. The single turbidity value predicted by the model simulation to exceed 150 NTU in Maryland's waters reflects data associated with the blizzard of January 1996 and subsequent snowmelt which caused record flooding in the DC metropolitan area as reported by the U.S. Geological Survey, and thus is associated with an extreme weather condition. It is EPA's view that such extreme weather conditions are outside the range of critical conditions for which TMDLs must account. *See Anacostia Riverkeeper, Inc. v. Jackson,* 798 F. Supp. 2d at 246 ("the requirement to account for "critical conditions" is not equivalent to a mandate to set load limits so low as to satisfy applicable water quality standards even in the most extreme weather conditions"). Accordingly, EPA finds that the TMDL loads are designed to achieve all applicable numeric turbidity water quality criteria in the Anacostia's Maryland waters. Because Maryland's water quality standards expressly state that meeting those numeric criteria will protect the associated designated uses, (See COMAR §26.08.02.03-03 "Water Quality Criteria Specific to Designated Uses)", EPA finds that the TMDL loads will implement all applicable Maryland water quality standards, including recreation uses.[3]

Unlike Maryland, DC's water quality criterion for turbidity is not expressed as an absolute value, but rather as a relative value, i.e., 20 NTU above ambient conditions. DC's water quality criterion for turbidity also does not include an expression of duration or frequency, nor does it provide an estimation of ambient turbidity conditions. Accordingly, when running the model to predict turbidity levels in DC's waters under the TMDL scenario, DC had to make certain assumptions about ambient turbidity levels. DC also had to reasonably account for the numeric criterion's lack of duration and frequency components. As set forth below, application of reasonable assumptions regarding ambient turbidity levels and DC's historic methodology for assessing whether its waters are achieving applicable criterion allowed DC to reasonably conclude that DC's numeric turbidity water quality criterion is achieved.

DC and MDE analyzed a modeled scenario that utilized the predicted levels of turbidity under the TMDL scenario in the Maryland portion of the Anacostia River as the background levels entering the Anacostia's DC waters. Under the TMDL scenario, predicted daily DC turbidity levels exceed the corresponding predicted MD turbidity levels (the assumed ambient condition in DC waters) by more than 20 NTUs only 3.3 percent of the time over the three-year simulation period. Accordingly, the model predicts that turbidity levels in the DC portions of the

2 The TAM/WASP Model was used to determine the allocation of sediment loads that would meet DC's Secchi depth criterion. For a further discussion of how the TAM/WASP Model was utilized see the 2007 TMDL.
3 Maryland's water quality standards do not specify any designated use based upon aesthetic qualities.

Anacostia River will achieve DC's relative numeric turbidity water quality criterion (i.e., 20 NTU above ambient) 96.7 percent of the time over the three-year simulation period.

In addition to the foregoing, DC and MDE utilized the model to predict turbidity levels in the DC portions of the Anacostia River using the TMDL loads for the DC sources and assuming background levels entering DC of 0 NTU. While this is the most environmentally conservative assumption regarding ambient turbidity levels in DC's portion of the Anacostia, in any waterbody (much less an urban waterbody like the Anacostia) the existence of zero background turbidity is very unlikely. Nevertheless, use of an assumed 0 NTU is useful for predicting whether contributions from DC sources under the TMDL scenario are likely to result in a greater than 20 NTU increase in turbidity levels. In this zero ambient scenario, the TMDL model results indicate that less than 10 percent of the daily NTU values are greater than 20 NTU, which using a zero ambient assumption would represent the applicable numeric criterion.

DC determined that, because the TMDL loads (assuming delivered ambient background levels consistent with meeting MD's turbidity criteria) are predicted to attain the DC applicable numeric water quality criterion for turbidity 96.7 percent of the time, they are established at a level necessary to implement the applicable DC numeric criterion. In this instance, EPA agrees. As noted above, DC's turbidity water quality criterion does not include an expression of duration or frequency. Because other DC water quality criterion include expressions of duration and specify their application using terms such as "single sample value" and "instantaneous" criteria,[4] canons of construction dictate that the absence of such an expression of duration in connection with the turbidity criterion was intended. Without a stated frequency or duration, EPA agrees with DC's interpretation that its numeric "20 above ambient" turbidity criteria should not be construed as having a frequency/duration of "single sample value" or "never to exceed." Therefore, under these circumstances, it is not necessary for EPA approval that the model predict the DC turbidity criteria will be met 100 percent of the time. Nevertheless, some appropriate frequency and duration assumptions should be considered to determine whether the TMDL loads are established at a level necessary to implement DC's turbidity water quality criterion.

Under these circumstances, EPA believes that DC reasonably looked to its Section 303(d) listing methodology for guidance in determining when modeled results predict a waterbody does not achieve applicable water quality standards. This is reasonable because a central purpose of a TMDL is to identify loads that, when implemented, will return the waterbody to meeting its applicable WQS, thus, allowing the state to remove the waterbody from its impaired status on the Section 303(d) list. *See generally* 33 U.S.C. §1313(d)(1)(C) (TMDLs established for waters on the impaired waters list).

In Table 3.2 of DC's 2012 list of impaired waters, submitted pursuant to Section 303(d) of the CWA (and consistent with prior DC Section 303(d) lists), DC states that it considers a waterbody as fully supporting its designated use when $\leq$ 10% samples exceed the water quality criterion. Moreover, use of a 10 percent rule of thumb to determine whether standards are exceeded in the context of conventional pollutants where the water quality criterion lacks an

[4] For example, "single sample maximum" (*E. coli*), "instantaneous minimum," (dissolved oxygen), "4-day average," "1hour average," and "30-day average" (trace metals and organics). *See* 21 DCMR § 1104.8 (Tables 1 & 2).

expression of duration and frequency is consistent with longstanding EPA guidance.[5] In accepting application of DC's 10 percent listing rule of thumb in this circumstance, EPA is not saying it is *always* appropriate for a State to establish, or EPA to approve, a TMDL as long as its load reductions fall within 10 percent of the target deemed necessary to meet applicable water quality standards. Nor is EPA approving (or signaling that it is appropriate to establish or approve) a TMDL that "comes close" to, but does not implement, applicable water quality standards. Instead, what we determine is that, in light of the fact that turbidity is a conventional pollutant and DC's turbidity water quality criterion does not contain an express duration or frequency component indicating the temporal circumstances under which the Anacostia River may exceed the applicable numeric NTU criteria, EPA believes that application of DC's interpretation of when its water quality criteria are exceeded for listing purposes is reasonable. Accordingly, EPA finds that, where modeling demonstrates the TMDL loads are designed to achieve compliance with DC's turbidity water quality criterion 96.7 percent of the time (well within DC's 10 percent listing rule of thumb), and DC believes this satisfies DC's numeric water quality criteria, it is reasonable for EPA to approve the TMDL.[6]

4. The TMDL loads are designed to achieve applicable designated uses

With respect to achieving designated uses applicable to warm water aquatic life (Class C waters in DC and Uses I-P and II in Maryland waters), the district court held that "EPA properly relied on the Secchi depth criterion in approving the [2007] TMDL for protection of aquatic life." *Anacostia Riverkeeper, Inc. v. Jackson,* 728 F. Supp. 2d at 247. A discussion of how the TMDL allocations protect aquatic life is set forth in the 2007 Approval Rationale, which is incorporated herein.

EPA agrees with DDOE and MDE that the 2012 TMDL loads also are designed to achieve water quality standards in DC waters designated as Class A (primary contact recreation) and Class B (secondary contact recreation and aesthetic enjoyment) and MD waters designated as Use I-P, (including primary contact recreation). As set forth above, both Maryland's and DC's water quality standards tie the jurisdictions' respective turbidity water quality criterion to achievement of these designated uses. *See* 21 DCMR §1104.8 ("Unless otherwise stated, the numeric criteria that shall be met to attain and maintain designated uses are as follows ...."); COMAR § 26.08.02.03-03 ("Water Quality Criteria Specific to Designated Uses). As set forth

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[5] DC's interpretation is consistent with longstanding EPA guidance for conventional pollutants, such as turbidity. *See, e.g.,* Memorandum from Diane Regas, Director, Office of Wetlands, Oceans and Watersheds to EPA Regional Water Directors, *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act* (July 29, 2005) at pages 39-40; Memorandum from Diane Regas, Director, Office of Wetlands, Oceans and Watersheds to EPA Regional Water Directors, *Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act; TMDL-01-03* (July 21, 2003) at pages 30-31.

[6] EPA's determination in this regard is TMDL-specific based upon the lack of frequency and duration components in the applicable criteria and DC's longstanding and reasonable interpretation of its own water quality standards and should not be construed as applying beyond this TMDL. Whether a TMDL is designed to achieve the applicable water quality standards must be considered on a case-by-case basis.

in Section III.B.3 above, the 2012 TMDL loads are designed to achieve both jurisdictions' turbidity criteria.[7]

While EPA believes that the foregoing analysis is sufficient to establish that the TMDL loads are designed to achieve compliance with DC's Class A and Class B designated uses and Maryland's Use I-P,[8] DC and Maryland also made a finding that, in the jurisdictions' best professional judgment, the TMDL loads will achieve the aesthetic enjoyment and recreation components of the Class A and B designated uses in DC and the Use I-P and Use II designated uses in Maryland. Neither jurisdiction defines its designated uses beyond the general descriptions provided in Section III.B.1 above. The jurisdictions' finding is based upon their narrative water quality criteria. DC's narrative water quality criteria refer to "objectionable ... turbidity." 21 DCMR §1104.1 While MD's narrative water quality standard does not expressly reference turbidity, it uses terms such as "objectionable," "nuisance," and "unsightly." COMAR §26.08.02.03B. To the extent that the jurisdictions' narrative water quality criteria can be construed to describe turbidity levels relevant to protection of the aesthetic enjoyment and recreation components of the Class A and Class B designated uses (DC), and Use I-P and Use II designated uses (MD).[9] EPA finds that the professional judgment of the jurisdictions was reasonable.

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[7] One commenter questioned whether the loads were sufficient to protect the aquatic life use. EPA believes that the district court resolved that question when it held that "EPA properly relied on the Secchi depth criterion in approving the [2007] TMDL for protection of aquatic life." *Anacostia Riverkeeper, Inc. v. Jackson,* 728 F. Supp. 2d at 247. Nevertheless, to the extent some aspect of that question was not resolved by the district court's holding, EPA notes that both DC's and MD's numeric turbidity criteria also apply to the warm water aquatic life use. Accordingly, the same rationale regarding attainment of the applicable numeric water quality criteria also would apply to the warm water aquatic life use.

[8] This conclusion is consistent with EPA guidance suggesting that, where there is a numeric criterion for sediment applicable to the designated use, that numeric criterion appropriately can be used as the TMDL endpoint. *See* EPA, *Protocol for Developing Sediment TMDLs* (EPA 841-B-99-004) (1999) at p. 1-3 & Figure 4-1. One commenter asserted that a separate analysis of the designated use is necessary. To the extent the commenter suggests that the jurisdictions' numeric criteria are insufficiently protective of the designated uses, a challenge to the applicable water quality criteria is beyond the scope of this action. TMDLs must be designed to achieve *applicable* water quality standards. *See* 33 U.S.C. § 1313(d)(1)(C); 40 C.F.R. § 130.7(c)(1). A TMDL established pursuant to Section 303(d) of the CWA, 33 U.S.C. § 1313(d), is not the appropriate vehicle to challenge the sufficiency of an applicable water quality standard established pursuant to Section 303(c), id. § 1313(c). To the extent the commenter relies upon the holding in *PUD No. 1 of Jefferson County and City of Tacoma v. Washington Dep't of Ecology,* 511 U.S. 700 (1994), that case is distinguishable. In *PUD No. 1,* the Supreme Court held that a State may impose conditions to protect designated uses in its certification of a federal project pursuant to Section 401 of the CWA. EPA agrees that designated uses and water quality criteria are separate components of water quality standards and that States may include in their CWA Section 401 certifications conditions other than instream concentrations necessary to protect designated uses. EPA believes, however, that *PUD No. 1* is distinguishable because that case involves a condition necessary to protect designated uses (minimum flow) for which there was no applicable numeric water quality criterion. Here, however, there are numeric water quality criteria expressly applicable to the condition (avoidance of excess sediment) necessary to protect the designated use.

[9] EPA's decision to analyze the narrative criteria in this Approval Rationale should not be construed as a determination by EPA that the narrative criteria must be analyzed in all cases, even those where the applicable water quality standards provide a numeric criterion for the parameter of concern that is intended to protect the applicable designated use.

As noted above and by the jurisdictions in footnote 2 of Appendix E, the narrative criteria in both jurisdictions uses terms such as "objectionable" (21 DCMR § 1104.1; COMAR §26.08.02.03B), "unsightly" (COMAR § 26.08.02.03B), and "nuisance" (COMAR §26.08.02.03B). These concepts vary within the minds of different individuals encountering the waterbody and cannot generally be reduced to quantification. EPA, *Quality Criteria for Water* (EPA 440/5-86-001) (May 1, 1986) (Aesthetic Qualities). Accordingly, application of best professional judgment is appropriate.

The application of best professional judgment should be based upon a reasoned analysis. Where, as here, the narrative criteria rely upon highly subjective responses by water users, it is difficult to quantify such subjective responses into a numeric endpoint.[10] In order to determine whether the turbidity values achieved by the TMDL scenario fall within generally accepted values for recreational and aesthetic purposes, EPA has reviewed water quality standards for turbidity across the United States.[11] EPA, *Water Quality Standards Criteria Summaries: A Compilation of State/Federal Criteria* (EPA 440/5-88/013) (September 1988). States' approaches to turbidity values are not uniform; to the contrary, the various states employ a range of approaches to protect designated uses from excessive sediment, and many states do not have numeric turbidity criteria to protect aesthetic or primary recreation designated uses. There is little uniformity among those States that do have numeric turbidity criteria, and many States also employ different criteria depending upon a variety of circumstances. By way of example, turbidity criteria for recreation designated uses expressed as "not to exceed" ranged from no turbidity unless naturally occurring (New Hampshire Class A waters[12]) to 150 NTU (Louisiana (general turbidity criteria of 25 NTU -150 NTU, depending upon the water)[13] and Maryland[14]). Many States expressed turbidity criteria as a value over background or natural conditions, rather than an absolute value, similar to DC's approach. Some States defined turbidity criteria as a value over background where background levels were specifically identified as 50 NTU or less (*e.g.,* Alaska[15] and Idaho[16]). Some States identified a value not to exceed 50 NTU (*e.g.,* New Jersey (general surface water criteria for fresh waters)[17] and North Carolina[18]).

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[10] EPA, *Quality Criteria for Water* (EPA 440/5-86-001) (May 1, 1986), notes that as a general matter, certain types of recreational contact (fishing, boating) will be protected when the aquatic life use criteria are attained.

[11] One commenter suggested that EPA conduct a public opinion poll to determine what level of turbidity the population of metropolitan DC and its MD suburbs would deem acceptable for purposes of recreation and aesthetics. EPA believes the best expression of the views of users is the numeric water quality criterion adopted by the users' governments on their behalf following a public process. To the extent additional analysis is undertaken, while EPA agrees that use of public opinion polls may be one approach, it is not required, and EPA believes that a survey of state water quality standards is also a reasonable approach to ascertaining generally accepted conditions, better fits within EPA's expertise, and avoids the risk of sampling or other polling error.

[12] N.H. Code Admin. R. Env-Wq 1703.11(a) (2012).

[13] La. Admin. Code, title 33, § 1113(B)(9)(b) (2012).

[14] COMAR § 26.08.02.03-03.

[15] Alaska Admin. Code, title 18 § 70.020(12)(B) (2012).

[16] Idaho's general water quality criteria (Idaho Admin. Code r. 58.01.02.200 (2012)) cross-references criteria for certain designated uses, specifically, the following: Idaho Admin. Code r. 58.01.02.250.02 (for cold water aquatic life use, turbidity shall not exceed background turbidity levels by more than 50 NTU); 58.02.252.01(b)(ii) (for small public water supply – not to exceed 5 NTU above background, when background is 50 NTU or less).

[17] N.J. Admin. Code § 7:9B-1.14(d)(13).

[18] 15A N.C. Admin. Code 02B.0211(k) (made applicable to primary contact recreation waters through 15A

Based on this review, a value of 50 NTU appears to be within the range of turbidity levels generally found acceptable as supporting primary recreation in freshwater. In Table E-2, the jurisdictions compared the predicted daily average absolute turbidity values in MD and DC waters under the TMDL scenario. Looking at the values in Table E-2 against an absolute value of 50 NTU, it is predicted that under the TMDL scenario, the monthly values in Maryland will always be below 50 NTU, average daily values in Maryland will be 50 NTU or less approximately 97 percent of the time, and average daily values in DC will be 50 NTU or less approximately 98 percent of the time. This analysis and comparison with other values accepted elsewhere in the United States provides support for the jurisdictions' use of best professional judgment to conclude that the subjective terms of DC's and MD's narrative water quality criteria will be achieved.

C. The TMDLs include a total allowable load as well as individual wasteload allocations and load allocations.

EPA finds that the TMDLs meet the requirements to include total loads as well as individual wasteload allocations and load allocations. EPA's rationale in its 2007 Approval Rationale is incorporated by reference.

D. The TMDLs consider the impacts of background pollutant contributions.

EPA finds that the TMDLs appropriately considered impacts of background pollutant contributions. EPA's basis for this finding is discussed in the 2007 Approval Rationale and incorporated by reference.

E. The TMDLs consider critical environmental conditions.

EPA regulations at 40 CFR §130.7(c)(1) require TMDLs to account for critical conditions for stream flow, loading, and water quality parameters.

EPA finds that the TMDLs consider critical environmental conditions. Critical conditions and seasonality were accounted for in the TMDL analysis by the choice of simulation period, 1995-1997. This three-year time period represents a relatively dry year, wet year, and average year, based on precipitation data and accounts for various hydrological conditions. Thus, the simulation period accounts for the range of conditions to be expected. As set forth above, the requirement to account for critical conditions does not include extreme weather events.

F. The TMDLs consider seasonal environmental variations.

EPA finds that the 2007 TMDLs consider seasonal environmental conditions. The basis for this regulatory requirement is discussed in the 2007 Approval Rationale and incorporated by reference.

N.C.Admin. Code 02B.0219)

G. The TMDLs include a Margin of Safety.

The requirement for a margin of safety (MOS) is intended to add a level of conservatism to the modeling process in order to account for uncertainty. Based on EPA guidance, the MOS can be achieved through two approaches. One approach is to reserve a portion of the loading capacity as a separate term, and the other approach is to incorporate the MOS as part of the design conditions.

The MOS used in the TMDLs was implicit. The 2007 Approval Rationale discusses several assumptions used in the TMDLs that support the selection of an implicit MOS and is incorporated by reference.

H. *The TMDLs have been subject to public participation.*

EPA finds that MDE and DDOE provided an appropriate opportunity for public review and comment on TMDLs. The public process in 2007 is discussed in the 2007 Approval Rationale, which is incorporated by reference.

DDOE and MDE also provided an appropriate opportunity for public review and comment on the Draft *Appendix E*: *Evaluation of Turbidity Criteria Applicable to the Recreational and Aesthetic Designated uses vs. Secchi Depth in the TMDL Scenario* document. The public comment period was open from April 6, 2012 through May 7, 2012. Copies of the draft document were placed in the Silver Spring Branch of the Montgomery County Public Library, the Greenbelt Branch of the Prince George's County Memorial Library System (PGCMLS), and the Hyattsville Branch of the PGCMLS. Copies of the draft document were also posted on each of the jurisdiction's websites.

A public meeting was held on April 23, 2012, at the Metropolitan Washington Council of Governments offices to discuss the Draft Appendix E for all interested parties from both Maryland and the District.

A response to comments document was submitted to EPA as part of the TMDL submittal. Comments were received from a citizen, the District of Columbia Water and Sewer Authority, and Earthjustice (on behalf of Anacostia Riverkeeper and Friends of the Earth). EPA considered those comments; and the District's and MD's response to them, in its evaluation of the TMDL submission. The public comments also resulted in the jurisdictions' decision to add a clarifying statement to Appendix E to clarify that consistency with the TMDL included consistency with the daily, seasonal and annual average loads set forth in the TMDL.

EPA believes that the TMDLs, including the analysis in Appendix E, meet the requirement to provide adequate opportunity for public participation.

I. Reasonable Assurance

A discussion regarding Reasonable Assurance is included in the 2007 Approval Rationale and incorporated herein by reference.