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

Mr. Scott Mandirola, Director
Division of Water and Waste Management
West Virginia Department of Environmental Protection
601 57th Street SE
Charleston, West Virginia 25304-2345

JAN 0 4 2013

Dear Mr. Mandirola:

The U.S. Environmental Protection Agency (EPA), Region III, is pleased to approve the West Virginia Department of Environmental Protection (WVDEP) Report, *Total Maximum Daily Loads for Selected Streams in the Middle Ohio River North and Middle Ohio River South Watersheds, West Virginia.* The draft TMDLs were subject to a public comment period from July 25, 2012 to August 25, 2012. The final TMDLs were submitted to EPA on September 5, 2012. The TMDL was established and submitted in accordance with Sections 303(d)(1)(c) and (2) of the Clean Water Act to address impairments of water quality as identified in West Virginia's Section 303(d) List.

In accordance with Federal regulations at 40 CFR §130.7, a TMDL must comply with the following requirements: (1) be designed to attain and maintain applicable water quality standards; (2) include a total allowable loading, and as appropriate, wasteload allocations for point sources and load allocations 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 any uncertainties in the relationship between pollutant loads and instream water quality); and (7) be subject to public participation. In addition, these TMDLs considered reasonable assurance that the TMDL allocations assigned to the nonpoint sources can be reasonably met. Based on the information provided by WVDEP, the TMDLs for selected streams in the Middle Ohio River North and Middle Ohio River South watersheds satisfy each of these requirements. A copy of EPA's Rationale is enclosed.

As you know, any new or revised National Pollutant Discharge Elimination System permits must be consistent with the assumptions and requirements of applicable TMDL wasteload allocations pursuant to 40 CFR §122.44(d)(1)(vii)(B). Please submit all such permits to EPA for review per EPA's letters dated October 1, 1998, and July 7, 2009.

If you have any questions regarding these TMDLs, please contact Ms. Jennifer Sincock, West Virginia TMDL coordinator, at 215-814-5766, or Mrs. Helene Drago at 215-814-5796.

Sincerely,

Jon M. Capacasa, Director
Water Protection Division

Enclosure

cc: Mr. John Wirts (WVDEP)
Mr. David Montali (WVDEP)

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

Decision Rationale
Total Maximum Daily Loads for Selected Streams in the Middle Ohio River North and Middle Ohio River South Watersheds West Virginia

Jon M. Capacasa, Director
Water Protection Division

Date: 1.4.13

Decision Rationale
Total Maximum Daily Loads for Selected Streams in the
Middle Ohio River North and Middle Ohio River South Watersheds
West Virginia

I. Introduction

The Clean Water Act (CWA) requires a Total Maximum Daily Load (TMDL) be developed for those waterbodies identified as impaired by a state where technology-based and other controls do not provide for the 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), which may be discharged to a water quality-limited waterbody.

This document will set forth the U.S. Environmental Protection Agency's (EPA) rationale for approving the TMDLs for total iron, fecal coliform bacteria, and biological impairment in selected waterbodies of the Middle Ohio River North and Middle Ohio River South watersheds. The TMDLs were developed to address impairments of water quality as identified in West Virginia's 2010 Section 303(d) list of impaired waters. The West Virginia Department of Environmental Protection (WVDEP) submitted the report, *Total Maximum Daily Loads for Selected Streams in the Middle Ohio River North and Middle Ohio River South Watersheds, West Virginia*, to EPA on September 5, 2012. EPA's rationale is based on the determination that the TMDLs meet the following seven regulatory conditions pursuant to 40 CFR Part 130.

1. The TMDLs are designed to implement applicable water quality standards.
2. The TMDLs include a total allowable load as well as individual wasteload allocations (WLAs) and load allocations (LAs).
3. The TMDLs consider the impacts of background pollutant contributions.
4. The TMDLs consider critical environmental conditions.
5. The TMDLs consider seasonal environmental variations.
6. The TMDLs include a margin of safety.
7. The TMDLs have been subject to public participation.

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

From this point forward, all references in this rationale are found in West Virginia's TMDL Report, *Total Maximum Daily Loads for Selected Streams in the Middle Ohio River North and Middle Ohio River South Watersheds, West Virginia*, unless otherwise noted.

II. Summary

Tables 3-3 and 3-4 present the waterbodies and impairments for which TMDLs have been developed for the Middle Ohio River South and North watersheds, respectively. WVDEP conducted extensive water quality monitoring throughout the Middle Ohio River North and

Middle Ohio River South watersheds from July 2008 through June 2009. The results of this monitoring were used to confirm the impairments of waterbodies identified on previous Section 303(d) lists and to identify other waterbodies that were not previously listed. West Virginia identified a total of 326 impaired waterbodies contained within 30 TMDL watersheds in the Middle Ohio River North (166 impaired waterbodies) and Middle Ohio River South (160 impaired waterbodies) watersheds as impaired due to exceedances of some combination of the numeric water quality criteria for total iron and fecal coliform bacteria. In addition, certain waters in the Middle Ohio River North and Middle Ohio River South watersheds were listed as biologically impaired based on the narrative water quality criteria of 47 CSR §2-3.2.i, which prohibits the presence of wastes in State waters that cause or contribute to significant adverse impacts on the chemical, physical, hydrologic, and biological components of aquatic ecosystems. The TMDL report presents the development of 477 TMDLs for iron and/or fecal coliform bacteria including 76 TMDLs addressing biological impairments within both the Middle Ohio River North and Middle Ohio River South Watersheds.

A stressor identification process was used to determine the pollutants for which TMDLs must be developed to address biological impairments in the Middle Ohio River North and Middle Ohio River South watersheds. Stressor identification entails reviewing available information, forming and analyzing possible stressor scenarios and implicating causative stressors. The primary dataset used for the stressor identification was generated through pre-TMDL monitoring (Technical Report, Appendix B). Organic enrichment and/or sedimentation were identified as the causative stressors for the biologically impaired streams addressed in the Middle Ohio North and Middle Ohio South watersheds. TMDLs were established for the pollutants required to address the sources of impairment within the watershed.

Section 9 presents the TMDLs developed for the Middle Ohio River North and Middle Ohio River South watersheds. The TMDLs are also represented in Microsoft Excel spreadsheets (submitted by West Virginia via compact disc) that provide detailed source allocations associated with successful TMDL scenarios. A Technical report was included by West Virginia to describe the detailed technical approaches used during TMDL development and to display the data upon which the TMDLs were based. West Virginia also provided an ArcView GIS project (and shapefiles) that explores the spatial relationships among the pollutant sources in the watershed. The TMDLs in the Middle Ohio River North and Middle Ohio River South watersheds were presented as average daily loads because they were developed to meet TMDL endpoints under a range of conditions observed throughout the year. To appropriately address critical conditions, the TMDLs were developed using continuous simulation modeling over a period of several years that captured precipitation extremes, which inherently considers seasonal hydrologic and source loading variability.

Attachment 1 of this Decision Rationale presents the impaired waterbodies of the Middle Ohio River North and Middle Ohio River South watersheds.

III. Background

The Middle Ohio River North watershed (U.S. Geological Survey [USGS] 8-digit hydrologic unit code 05030201) encompasses 1,800 square miles (849 square miles modeled)

along the Ohio River on the West Virginia-Ohio border (Figure 3-2). This watershed is comprised of the drainage area of tributary streams joining the Ohio River between Fish Creek and the Little Kanawha River. The watershed lies in Pleasants, Tyler, Doddridge, and Wetzel Counties, along with a small portion of Marshall County. The major tributaries within the watershed are Middle Island Creek and Fishing Creek. Cities and towns in the vicinity of the area of study are New Martinsville, West Union and St. Marys. The total population living in the Middle Ohio North watershed is estimated to be 38,000 people.

The Middle Ohio River South watershed (USGS 8-digit hydrologic unit code 05030202) encompasses 1,390 square miles (625 square miles modeled) along the Ohio River on the West Virginia-Ohio border (Figure 3-1). This watershed is comprised of the drainage area of tributary streams joining the Ohio River between the Little Kanawha River and the Kanawha River. The watershed lies in Mason, Jackson and Wood Counties, along with small portions of Wirt and Roane Counties. The Ohio River mainstem meanders between West Virginia and Ohio in a generally southwestward direction. The major tributaries within the watershed are Oldtown Creek, Mill Creek and Sandy Creek. Cities and towns in the vicinity of the area of study are Point Pleasant, Ripley, Ravenswood, Parkersburg, and Vienna. The total population living in the Middle Ohio South watersheds is estimated to be 62,000 people.

The dominant landuse in both watersheds is forest, which constitutes 90.2 and 74.9 percent of the total land use area of the North and South watersheds, respectively. Other important modeled landuse types are grassland (3.7 and 11.9 percent, respectively); urban/residential (3.4 and 5.5 percent, respectively); and agriculture (2.3 and 7.3 percent, respectively) shown in Table 3-1. Individually, all other land cover types comprise less than one percent of the total watershed area.

The impaired streams that are the subject of this TMDL are included on West Virginia's 2010 Section 303(d) List. Documented impairments are related to numeric water quality criteria for total iron and fecal coliform bacteria. Certain waters are also biologically impaired based on the narrative water quality criterion of 47 CSR 2–3.2.i. West Virginia utilized a stressor identification process to determine the primary causes of biological impairment in the Middle Ohio River North and Middle Ohio River South watersheds. Stressor identification was followed by stream-specific determinations of the pollutants for which TMDLs must be developed. Organic enrichment and/or sedimentation were identified as the causative stressors for the biologically impaired streams addressed in this effort.

For the organic enrichment impairment identified in the watershed, data indicated violations of the fecal coliform criteria. It was determined that the implementation of fecal coliform TMDLs would require the elimination of the majority of existing fecal coliform sources and thereby reduce the organic loading causing the biological impairment in the Middle Ohio River North and Middle Ohio River South watersheds. Where sedimentation was identified as a significant stressor, sediment TMDLs were initially developed. However, for all these waters, a strong, positive correlation between iron and total suspended solids (TSS) was identified and iron TMDLs were presented. It was universally determined that the sediment reductions necessary for the attainment of the iron water quality criteria exceeded those necessary to address biological stress from sedimentation. Therefore, iron TMDLs would be an appropriate surrogate

for sediment TMDLs in the Middle Ohio River North and Middle Ohio River South watersheds.

Sections 5, 6 and 7 discuss the metals, fecal coliform, and sediment source assessments in the Middle Ohio River North and Middle Ohio River South watersheds. The sources of metals and sediment in the watershed include: mining permits, non-mining permits such as process wastewater discharges and industrial stormwater discharges, Municipal Separate Storm Sewers (MS4s), construction stormwater permits, and unpermitted sources of mine drainage from abandoned mine lands (AMLs) and Surface Mining Control and Reclamation Act Bond forfeiture sites; as well as sediment sources including forestry, oil and gas, roads, agriculture, land disturbance activities, non-MS4 stormwater runoff, and streambank erosion. The fecal coliform bacteria sources in the watershed include: wastewater treatment plants, combined sewer overflows (CSOs), MS4s, general sewage permits, unpermitted sources (including on-site treatment systems), stormwater runoff, agriculture, and natural background (wildlife). The Technical report has expanded details of the source assessment in the Middle Ohio River North and Middle Ohio River South watersheds.

Computational Procedures

The Mining Data Analysis System (MDAS) was developed specifically for TMDL application in West Virginia to facilitate large scale, data intensive watershed modeling applications. The MDAS is a system designed to support TMDL development for areas affected by nonpoint and point sources. The MDAS component most critical to TMDL development is the dynamic watershed model because it provides the linkage between source contributions and instream response. The MDAS is used to simulate watershed hydrology and pollutant transport as well as stream hydraulics and instream water quality. It is capable of simulating different flow regimes and pollutant loading variations. MDAS was used to represent the source-response linkage in the Middle Ohio River North and Middle Ohio River South watersheds TMDL for total iron, sediment, and fecal coliform bacteria.

Configuration of the MDAS model involved subdividing the TMDL watershed into subwatershed modeling units connected by stream reaches. In the Middle Ohio River North, nine TMDL watersheds were broken into 434 separate subwatershed units (Figure 8-2). In the Middle Ohio River South, 21 TMDL watersheds were broken into 486 separate subwatershed units (Figure 8-1). The TMDL watersheds were divided to allow for the evaluation of water quality and flow at pre-TMDL monitoring stations. The subdivision process also ensures a proper stream network configuration within the basin. The physical characteristics of the subwatersheds, weather data, land use information, continuous discharges, and stream data were used as input for the MDAS model. Flow and water quality were continuously simulated into the model on an hourly time-step. Model setup consisted of configuring the MDAS model into two separate models for iron/sediment and fecal coliform bacteria.

The calibrated model provides the basis for performing the allocation analysis. Hydrology and water quality calibration were performed in sequence because water quality modeling is dependent on an accurate hydrology simulation. Hydrology calibration was based on observed data from that station and the land uses present in the watersheds from

January 1, 2003 to October 31, 2006. Key considerations for hydrology calibration included the overall water balance, the high- and low-flow distribution, storm flows, and seasonal variation. The hydrology was validated for the time period of January 1, 1999 to November 30, 2008. Final adjustments to model hydrology were based on flow measurements obtained during WVDEP's pre-TMDL monitoring in the Middle Ohio River North and Middle Ohio River South watersheds. A detailed description of the hydrology calibration and a summary of the results and validation are presented in the Technical report to the TMDL.

After the model was configured and calibrated for hydrology, the next step was to perform water quality calibration for the subject pollutants. The goal of water quality calibration was to refine model parameter values to reflect the unique characteristics of the watershed so that model output would predict field conditions as closely as possible. Both spatial and temporal aspects were evaluated through the calibration process. The water quality was calibrated by comparing modeled versus observed pollutant concentrations. The water quality calibration consisted of executing the MDAS model, comparing the model results to available observations, and adjusting water quality parameters within reasonable ranges. Sediment calibration consisted of adjusting the soil erodibility and sediment transport parameters by land use, and the coefficient of scour for bank-erosion. Initial values for these parameters were based on available land use-specific storm-sampling monitoring data. Initial values were adjusted so that the model's suspended solids output closely matched observed instream data in watersheds with predominately one type of source.

Predicted instream concentrations were compared directly with the TMDL endpoints. This comparison allowed for the evaluation of the magnitude and frequency of exceedances under a range of hydrologic and environmental conditions including wet, dry and average periods. The MDAS model provided allocations for iron and fecal coliform bacteria in the 326 impaired waterbodies of the Middle Ohio River North and Middle Ohio River South watersheds. The TMDLs are shown in Section 9 and are presented as average daily loads, in pounds per day (iron) and counts per day (fecal coliform). EPA has determined that these TMDLs are consistent with statutory and regulatory requirements and EPA's policy and guidance. EPA's rationale for establishing these TMDLs is set forth according to the regulatory requirements listed below.

1. The TMDLs are designed to implement the applicable water quality standards.

The applicable numeric water quality criteria for the Middle Ohio River North and Middle Ohio River South watersheds are shown in Table 2-1. The applicable designated uses in the watersheds include: propagation and maintenance of aquatic life in warm water fisheries and trout waters, water contact recreation, and public water supply. In various streams in the Middle Ohio River North and Middle Ohio River South watersheds, warm water fishery aquatic life use impairments have been determined pursuant to exceedances of iron numeric water quality criteria. Water contact recreation and/or public water supply use impairments have also been determined in various waters pursuant to exceedances of numeric water quality criteria for fecal coliform bacteria and total iron.

The following table summarizes the applicable water quality criteria for this TMDL:

Water Quality Criterion	Designated Use	Criterion Value
Total Iron	Aquatic Life, warmwater fisheries	1.5 mg/L (4-day average)
Fecal Coliform	Water Contact Recreation and Public Water Supply	200 counts/100 ml (monthly geometric mean
Fecal Coliform	Water Contact Recreation and Public Water Supply	400 counts/100 ml (Daily, 10% exceedance)

All West Virginia waters are also subject to the narrative criteria in Section 3 of the Standards. That section, titled *Conditions Not Allowed in State Waters*, contains various provisions relative to water quality. The TMDLs presented in Section 9 are based upon the water quality criteria that are currently effective. If the West Virginia Legislature adopts Water Quality Standard revisions that alter the basis upon which the TMDLs are developed, then the TMDLs and allocations may be modified as warranted. Any future Water Quality Standard revision and/or TMDL Modification must receive EPA approval prior to implementation.

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

A TMDL is the amount of a pollutant that can be assimilated by receiving waters while still achieving water quality standards. TMDLs can be expressed in terms of mass per time or by other appropriate measures. TMDLs are comprised of the sum of individual WLAs for point sources, LAs for nonpoint sources, and natural background levels. In addition, TMDLs must include a MOS, either implicitly or explicitly, that accounts for the uncertainty in the relationship between pollutant loads and the quality of the receiving stream. Nonpoint source reductions did not result in allocated loadings less than natural conditions. Permitted source reductions did not result in allocated loadings to a permittee that would be more stringent than water quality criteria. Permits for existing facilities in the Middle Ohio River North and Middle Ohio South watersheds will begin to be processed in July 2012 for non-mining facilities (permits will be pending until TMDL is final) and reissued for mining facilities beginning in January 2013.

Total Iron TMDLs

WLAs were developed for all point sources permitted to discharge iron under a National Pollutant Discharge Elimination System (NPDES) permit. Because of the established relationship between iron and TSS, iron WLAs are also provided for facilities with stormwater discharges that are regulated under NPDES permits that contain TSS and/or iron effluent limitations or benchmark values, MS4 facilities, and facilities registered under the General NPDES permit for construction stormwater. WLAs are provided for all existing outlets of NPDES permits for mining activities, except those where reclamation has progressed to the point where existing limitations are based upon the Post-Mining Area provisions of Subpart E of 40 CFR Part 434. Specific WLAs are not provided for "post-mining" outlets because programmatic reclamation was assumed to have returned disturbed areas to conditions that approach background.

The metals impaired watersheds of the Middle Ohio River North and Middle Ohio River

South include four mining permits and 48 non-mining permits. Thirty-nine of the non-mining permits regulate stormwater associated with industrial activity, highways, or municipalities and implement stormwater benchmark values of 100 mg/L TSS and/or 1.0 mg/L total iron. Five additional individual industrial permits represent stormwater or discharges. The remaining non-mining permits are for three wastewater plants and one solid waste landfill. There are 59 active construction sites with a total disturbed acreage of 623 acres registered under the Construction Stormwater General Permit (WV0115924). In the Middle Ohio South watershed, the three Cities of Parkersburg, Vienna and Williamstown, and the West Virginia Division of Highways (DOH) own and operate MS4s. A complete list of the permits and outlets in the Middle Ohio River North and Middle Ohio River South watersheds is provided in Appendix F of the Technical Report.

Total iron LAs were allocated to the predominant nonpoint sources of iron in the watershed, including: loadings from AML, sediment contributions from barren lands, harvested forest, oil and gas operations, agricultural land uses, residential/urban/road land uses and streambank erosion; in addition to background sources, including loadings from undisturbed forest and grasslands. Streambank erosion was determined to be a significant sediment source across the watersheds. WVDEP conducted a special bank erosion pin study that formed the foundation for representation of the baseline streambank sediment and iron loadings.

Fecal Coliform Bacteria TMDLs

WLAs were developed for sewage treatment plant effluents, CSO discharges and MS4s, where applicable. In the Middle Ohio River North and Middle Ohio River South watersheds, there are eight individually permitted publicly owned treatment works that discharge treated effluent at nine outlets. Two additional privately owned sewage treatment plants operating under an individual NPDES permit discharges treated effluent at two outlets. These sources are regulated by NPDES permits that require effluent disinfection and compliance with strict fecal coliform effluent limitations (200 counts/100 ml (geometric mean monthly) and 400 counts/100 ml (maximum daily)).

In the Middle Ohio South watershed, the three cities of Parkersburg, Vienna and Williamstown, and the West Virginia DOH own and operate MS4s. MS4 source representation was based upon precipitation and runoff from land uses determined from the modified National Land Cover Database 2001 land use data, the jurisdictional boundary of the cities, and the transportation-related drainage area for which WVDOH has MS4 responsibility. The MS4s in the watershed will be subject to the requirements of general permit, WV0116025, which is based upon national guidance and proposes best management practices to be implemented.

In the Middle Ohio North watershed, there are 10 CSO outlets associated with POTWs operated by the Town of West Union (5), and the City of New Martinsville (5). Upon review of existing source data, no sanitary sewer overflow discharges were noted within the TMDL watersheds.

General sewage permits are designed to cover like discharges from numerous individual owners and facilities throughout the state. General Permit, WV0103110, regulates small,

privately owned sewage treatment plants (package plants) that have a design flow of 50,000 gallons per day (gpd) or less. General Permit, WV0107000, regulates home aeration units (HAUs). HAUs are small sewage treatment plants primarily used by individual residences where site considerations preclude typical septic tank and leach field installation. Both general permits contain fecal coliform effluent limitations identical to those in individual NPDES permits for sewage treatment facilities. In the areas draining to streams for which fecal coliform TMDLs have been developed, 38 facilities are registered under the package plant general permit and 165 are registered under the HAU general permit.

Fecal coliform LAs were assigned to: pasture/cropland, on-site sewage systems, including failing septic systems and straight pipes, residential loading associated with urban/residential runoff from non-MS4 areas, and background loadings associated with wildlife sources. Failing on-site sewage systems are a significant source of fecal coliform bacteria in the Middle Ohio River North and Middle Ohio River South watersheds. There are 27,226 homes in the watersheds that are not served by a centralized collection and treatment system. To calculate failing sewage systems, the TMDL watershed was divided into four septic failure zones, and septic failure zones were delineated by soil characteristics.

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

The TMDL considers the impact of background pollutant contributions by considering loadings from background sources like forest and wildlife. MDAS also considers background pollutant contributions by modeling all land uses.

4. The TMDLs consider critical environmental conditions.

According to EPA's regulation 40 CFR §130.7 (c)(1), TMDLs are required to take into account critical conditions for stream flow, loading, and water quality parameters. The intent of this requirement is to ensure that the water quality of the impaired waterbody is protected during times when it is most vulnerable.

Critical conditions are important because they describe the factors that combine to cause a violation of water quality standards and will help in identifying the actions that may have to be undertaken to meet water quality standards. Critical conditions for waters impacted by land-based sources generally occur during periods of wet weather and high surface runoff. In contrast, critical conditions for non-land-based point source dominated systems generally occur during low-flow and low dilution conditions.

Both high-flow and low-flow periods were taken into account during TMDL development for the Middle Ohio River North and Middle Ohio River South watersheds by using a long period of weather data that represented wet, dry, and average flow periods.

5. The TMDLs consider seasonal environmental variations.

Seasonal variations were considered in the formulation of the MDAS modeling analysis. Continuous simulation (modeling over a period of several years that captured precipitation

extremes) inherently considered seasonal hydrological and source loading variability. Additionally, the metals and fecal coliform concentrations were simulated on a daily time-step by MDAS and were compared with TMDL endpoints.

6. The TMDLs include a Margin of Safety.

The CWA and Federal regulations require TMDLs to include a MOS to take into account any lack of knowledge concerning the relationship between effluent limitations and water quality. EPA guidance suggests two approaches to satisfy the MOS requirement. First, it can be met implicitly by using conservative model assumptions to develop the allocations. Alternately, it can be met explicitly by allocating a portion of the allowable load to the MOS. In the TMDLs developed for the Middle Ohio River North and Middle Ohio River South watersheds, a five percent explicit MOS was used to account for uncertainty in the pollutant loads developed for the total iron and fecal coliform bacteria impairments in the watershed. Also, an explicit MOS was not applied for total iron TMDLs in certain subwatersheds where mining point sources create an effluent dominated scenario and/or the regulated mining activity encompasses a large percentage of the watershed area. Within these scenarios, WLAs are established at the value of the iron criterion and little uncertainty is associated with the source-water quality linkage.

7. The TMDLs have been subject to public participation.

West Virginia held informational public meetings for the draft TMDLs on May 27, 2008, and May 29, 2008, at St Mary's High School and Ravenswood High School, respectively. The 2008 meetings occurred prior to pre-TMDL stream monitoring and pollutant source tracking and included a general TMDL overview and a presentation of planned monitoring and data gathering activities. Prior to the allocation of pollutant loads, additional public meetings were held on August 30, 2011, and August 31, 2011, to provide a description of the status of TMDL development.

West Virginia held public meetings to present the Draft TMDLs on August 6, 2012, at the Pleasants County Library, in St. Mary, West Virginia. This meeting provided information to stakeholders that was intended to facilitate comments on the draft Middle Ohio River North watershed TMDLs. A second meeting was held to provide information and facilitate comments on the draft Middle Ohio River South watershed on August 9, 2012, at the Ripley City Hall in Ripley, West Virginia. The availability of the draft TMDLs was advertised in local newspapers between July 23 and July 27, 2012. Interested parties were invited to submit comments on the draft TMDLs during the public comment period, which began on July 25, 2012, and ended on August 25, 2012. West Virginia did not receive any comments on the Draft TMDLs.

IV. Discussion of Reasonable Assurance

Reasonable assurance for maintenance and improvement of water quality in the Middle Ohio River North and Middle Ohio River South watersheds rests primarily with two programs: the NPDES permitting program and the West Virginia Watershed Network. The NPDES permitting program is implemented by WVDEP to control point source discharges. The West Virginia Watershed Network is a cooperative nonpoint source control effort involving many state

and federal agencies, whose task is the protection and/or restoration of water quality.

WVDEP's Division of Water and Waste Management (DWWM) is responsible for issuing non-mining permits with the State. WVDEP's Division of Mining and Reclamation developed NPDES permits for mining activities. As part of the permit review process, permit writers have the responsibility to incorporate the required TMDL WLAs into new or reissued permits. The permits will contain self-monitoring and reporting requirements that are periodically reviewed by WVDEP. WVDEP also inspects treatment facilities and independently monitors NPDES discharges. The combination of these efforts will ensure implementation of the TMDL WLAs. New facilities will be permitted in accordance with future growth provisions described in Section 10.

The Watershed Management Framework coordinates efforts of state and federal agencies with the goal of developing and implementing watershed management strategies through a cooperative, long-range planning effort. The principal area of focus of watershed management through the Framework process is correcting problems related to nonpoint source pollution. Network partners have placed a greater emphasis on identification and correction of nonpoint source pollution. The combined resources of the partners are used to address all different types of nonpoint source pollution through both public education and on-the-ground projects. Currently, there are no active watershed associations in the Middle Ohio River North and Middle Ohio River South watersheds. Additional information regarding upcoming Network activities can be obtained from the Nonpoint Source Program Basin Coordinator, Jennifer Pauer (Jennifer.Pauer@wv.gov).

All nonpoint source restoration projects should include a monitoring component specifically designed to document resultant local improvements in water quality. These data may also be used to predict expected pollutant reductions from similar future projects:

Public Sewer Projects

Within WVDEP's DWWM, the Engineering and Permitting Branch's Engineering Section will be charged with the responsibility of evaluating sewer projects and providing funding. For information on upcoming projects, a list of funded and pending water and wastewater projects in West Virginia can be found at: http://www.wvinfrastructure.com/projects/index.php.

AML Projects

Within WVDEP, the Office of Abandoned Mine Lands and Reclamation manages the reclamation of lands and waters affected by mining prior to the passage of the Surface Mining Control and Reclamation Act in 1977. Funding for reclamation activities is derived from fees placed on coal mines, which are placed in a fund to distribute to state and federal agencies. In AML impacted areas, funds will be used to maximize restoration in fisheries.

Attachment 1

Impaired Waterbodies Addressed in the Middle Ohio River North and Middle Ohio River South Watersheds TMDL.

Watershed	Stream Name	WV National Hydrologic Dataset Code	WV 2010 Section 303(d) List Code
Middle Ohio River North	Middle Island Creek	WV-OMN-13	WVOMI
Middle Ohio River North	Allen Run	WV-OMN-13-AI	WVOMI-13
Middle Ohio River North	Sheets Run	WV-OMN-13-AN	WVOMI-14
Middle Ohio River North	Buffalo Run	WV-OMN-13-AP	WVOMI-15
Middle Ohio River North	UNT/Buffalo Run RM 0.99	WV-OMN-13-AP-2	WVOMI-15-0.3A
Middle Ohio River North	UNT/UNT RM 1.63/Buffalo Run RM 0.99	WV-OMN-13-AP-2-E	WVOMI-15-0.3A-5
Middle Ohio River North	Buffalo Run (OMN-13-AT)	WV-OMN-13-AT	WVOMI-17
Middle Ohio River North	Shrivers Run	WV-OMN-13-AX	WVOMI-18
Middle Ohio River North	Allen Run	WV-OMN-13-BA	WVOMI-19
Middle Ohio River North	Sancho Creek	WV-OMN-13-BF	WVOMI-21
Middle Ohio River North	Little Sancho Creek	WV-OMN-13-BF-3	WVOMI-21-A
Middle Ohio River North	Point Pleasant Creek	WV-OMN-13-BK	WVOMI-23
Middle Ohio River North	Willow Fork	WV-OMN-13-BK-15	WVOMI-23-E
Middle Ohio River North	Buck Run	WV-OMN-13-BK-15-B	WVOMI-23-E-1
Middle Ohio River North	Peach Fork	WV-OMN-13-BK-21	WVOMI-23-G
Middle Ohio River North	UNT/Peach Fork RM 0.42	WV-OMN-13-BK-21-A	WVOMI-23-G-0.5
Middle Ohio River North	Pursley Creek	WV-OMN-13-BK-4	WVOMI-23-A
Middle Ohio River North	Badger Run	WV-OMN-13-BK-4-J	WVOMI-23-A-2
Middle Ohio River North	Elk Fork	WV-OMN-13-BK-5	WVOMI-23-B
Middle Ohio River North	Big Run (OMN-13-BK-5-F)	WV-OMN-13-BK-5-F	WVOMI-23-B-1
Middle Ohio River North	Mudlick Run	WV-OMN-13-BK-5-L	WVOMI-23-B-3
Middle Ohio River North	Middle Fork/Mudlick Run	WV-OMN-13-BK-5-L-1	WVOMI-23-B-3-A
Middle Ohio River North	Coallick Run	WV-OMN-13-BK-6	WVOMI-23-C
Middle Ohio River North	Tenmile Run	WV-OMN-13-BK-8	WVOMI-23-D
Middle Ohio River North	Wolfpen Run (OMN-13-BK-8-B)	WV-OMN-13-BK-8-B	WVOMI-23-D-1
Middle Ohio River North	Gorrell Run	WV-OMN-13-BM	WVOMI-24
Middle Ohio River North	Broad Run (OMN-13-C)	WV-OMN-13-C	WVOMI-1
Middle Ohio River North	Muddy Creek	WV-OMN-13-CA	WVOMI-26
Middle Ohio River North	Indian Creek	WV-OMN-13-CG	WVOMI-29
Middle Ohio River North	Walnut Fork	WV-OMN-13-CG-10	WVOMI-29-E
Middle Ohio River North	Big Run	WV-OMN-13-CG-2	WVOMI-29-A
Middle Ohio River North	Stackpole Run	WV-OMN-13-CG-20	WVOMI-29-H
Middle Ohio River North	McElroy Creek	WV-OMN-13-CH	WVOMI-30
Middle Ohio River North	Pratt Run	WV-OMN-13-CH-10	WVOMI-30-C

Watershed	Stream Name	WV National Hydrologic Dataset Code	WV 2010 Section 303(d) List Code
Middle Ohio River North	Sandy Run	WV-OMN-13-CH-13	WVOMI-30-E
Middle Ohio River North	Flint Run	WV-OMN-13-CH-16	WVOMI-30-H
Middle Ohio River North	Little Flint Run	WV-OMN-13-CH-16-B	WVOMI-30-H-1
Middle Ohio River North	UNT/Little Flint Run RM 1.96	WV-OMN-13-CH-16-B-4	WVOMI-30-H-1-D
Middle Ohio River North	Israel Fork	WV-OMN-13-CH-16-K	WVOMI-30-H-3
Middle Ohio River North	Neds Run	WV-OMN-13-CH-16-M	WVOMI-30-H-4
Middle Ohio River North	East Run	WV-OMN-13-CH-16-V	WVOMI-30-H-6
Middle Ohio River North	Elklick Run	WV-OMN-13-CH-19	WVOMI-30-I
Middle Ohio River North	Riggins Run	WV-OMN-13-CH-22	WVOMI-30-K
Middle Ohio River North	Talkington Fork	WV-OMN-13-CH-33	WVOMI-30-N
Middle Ohio River North	Robinson Fork	WV-OMN-13-CH-34	WVOMI-30-O
Middle Ohio River North	Little Battle Run (OMN-13-CH-34-A)	WV-OMN-13-CH-34-A	WVOMI-30-O-1
Middle Ohio River North	Big Battle Run	WV-OMN-13-CH-34-B	WVOMI-30-O-2
Middle Ohio River North	Little Battle Run (OMN-13-CH-34-B-4)	WV-OMN-13-CH-34-B-4	WVOMI-30-O-2-A
Middle Ohio River North	Skelton Run	WV-OMN-13-CH-34-L	WVOMI-30-O-5
Middle Ohio River North	Pike Fork	WV-OMN-13-CH-35	WVOMI-30-P
Middle Ohio River North	Sycamore Fork	WV-OMN-13-CH-35-B	WVOMI-30-P-1
Middle Ohio River North	Wheeler Run	WV-OMN-13-CI	WVOMI-31
Middle Ohio River North	Jefferson Run	WV-OMN-13-CM	WVOMI-34
Middle Ohio River North	Purgatory Run	WV-OMN-13-CO	WVOMI-33
Middle Ohio River North	Camp Mistake Run	WV-OMN-13-CZ	WVOMI-39
Middle Ohio River North	UNT/Camp Mistake Run RM 0.96	WV-OMN-13-CZ-3	
Middle Ohio River North	Arnold Creek	WV-OMN-13-DA	WVOMI-40
Middle Ohio River North	Short Run	WV-OMN-13-DA-1	WVOMI-40-A
Middle Ohio River North	Wilhelm Run	WV-OMN-13-DA-12	WVOMI-40-E
Middle Ohio River North	Claylick Run	WV-OMN-13-DA-16	WVOMI-40-F
Middle Ohio River North	Middle Run	WV-OMN-13-DA-18	WVOMI-40-H
Middle Ohio River North	Left Fork/Arnold Creek	WV-OMN-13-DA-19	WVOMI-40-J
Middle Ohio River North	Right Fork/Arnold Creek	WV-OMN-13-DA-20	WVOMI-40-I
Middle Ohio River North	Long Run	WV-OMN-13-DA-4	WVOMI-40-B
Middle Ohio River North	Nutter Fork	WV-OMN-13-DD	WVOMI-41
Middle Ohio River North	Wolfpen Run (OMN-13-DD-3)	WV-OMN-13-DD-3	WVOMI-41-B
Middle Ohio River North	UNT/Middle Island Creek RM 67.32	WV-OMN-13-DG	WVOMI-41.5
Middle Ohio River North	Bluestone Creek	WV-OMN-13-DO	WVOMI-43
Middle Ohio River North	Jockeycamp Run	WV-OMN-13-DS	WVOMI-45

Watershed	Stream Name	WV National Hydrologic Dataset Code	WV 2010 Section 303(d) List Code
Middle Ohio River North	Meathouse Fork	WV-OMN-13-DV	WVOMI-46
Middle Ohio River North	Toms Fork	WV-OMN-13-DV-13	WVOMI-46-E
Middle Ohio River North	Little Toms Fork	WV-OMN-13-DV-13-C	WVOMI-46-E-1
Middle Ohio River North	Webley Fork	WV-OMN-13-DV-13-C-1	WVOMI-46-E-1-A
Middle Ohio River North	Redlick Run	WV-OMN-13-DV-15	WVOMI-46-G
Middle Ohio River North	Brushy Fork	WV-OMN-13-DV-16	WVOMI-46-H
Middle Ohio River North	Snake Run	WV-OMN-13-DV-17	WVOMI-46-I
Middle Ohio River North	Indian Fork	WV-OMN-13-DV-19	WVOMI-46-J
Middle Ohio River North	Little Indian Fork	WV-OMN-13-DV-19-D	WVOMI-46-J-1
Middle Ohio River North	Beech Lick	WV-OMN-13-DV-21	WVOMI-46-L
Middle Ohio River North	Laurel Run (OMN-13-DV-30)	WV-OMN-13-DV-30	WVOMI-46-Q
Middle Ohio River North	Big Isaac Creek	WV-OMN-13-DV-31	WVOMI-46-R
Middle Ohio River North	Georgescamp Run	WV-OMN-13-DV-4	WVOMI-46-0.8A
Middle Ohio River North	Lick Run	WV-OMN-13-DV-9	WVOMI-46-B
Middle Ohio River North	Buckeye Creek	WV-OMN-13-DW	WVOMI-47
Middle Ohio River North	Buffalo Calf Fork	WV-OMN-13-DW-17	WVOMI-47-E
Middle Ohio River North	Greenbrier Creek	WV-OMN-13-DW-21	WVOMI-47-G
Middle Ohio River North	Morgans Run (OMN-13-DW-4)	WV-OMN-13-DW-4	WVOMI-47-B
Middle Ohio River North	Buckeye Run	WV-OMN-13-DW-9	WVOMI-47-C
Middle Ohio River North	UNT/Buckeye Run RM 3.35	WV-OMN-13-DW-9-H	WVOMI-47-C-2.6
Middle Ohio River North	Fishpot Run	WV-OMN-13-G	WVOMI-2
Middle Ohio River North	Willow Island Creek	WV-OMN-13-H	WVOMI-3
Middle Ohio River North	McKim Creek	WV-OMN-13-L	WVOMI-4
Middle Ohio River North	Panther Run	WV-OMN-13-L-11	WVOMI-4-C
Middle Ohio River North	Rock Run	WV-OMN-13-L-15	WVOMI-4-D
Middle Ohio River North	Josephs Fork	WV-OMN-13-L-31	WVOMI-4-I
Middle Ohio River North	Shawnee Run	WV-OMN-13-L-7	WVOMI-4-A
Middle Ohio River North	Wolf Run (OMN-13-N)	WV-OMN-13-N	WVOMI-5
Middle Ohio River North	Bogart Run	WV-OMN-13-R	WVOMI-6
Middle Ohio River North	Sugar Creek	WV-OMN-13-V	WVOMI-9
Middle Ohio River North	Walnut Run	WV-OMN-13-V-20	WVOMI-9-C
Middle Ohio River North	South Fork/Sugar Creek	WV-OMN-13-V-23	WVOMI-9-E
Middle Ohio River North	Sugarcamp Run	WV-OMN-25	WVO-63
Middle Ohio River North	Cow Hollow Run	WV-OMN-36	WVO-66
Middle Ohio River North	Fishing Creek	WV-OMN-45	WVO-69
Middle Ohio River North	Doolin Run	WV-OMN-45-A	WVO-69-A
Middle Ohio River North	Crow Run	WV-OMN-45-AA	WVO-69-J

Watershed	Stream Name	WV National Hydrologic Dataset Code	WV 2010 Section 303(d) List Code
Middle Ohio River North	Piney Fork	WV-OMN-45-AC	WVO-69-K
Middle Ohio River North	Fluharty Fork	WV-OMN-45-AC-10	WVO-69-K-1
Middle Ohio River North	UNT/Piney Fork RM 5.40	WV-OMN-45-AC-13	WVO-69-K-1.7
Middle Ohio River North	Shenango Creek	WV-OMN-45-AE	WVO-69-M
Middle Ohio River North	South Fork/Fishing Creek	WV-OMN-45-AG	WVO-69-N
Middle Ohio River North	Arches Fork	WV-OMN-45-AG-15	WVO-69-N-7
Middle Ohio River North	Slabcamp Run	WV-OMN-45-AG-15-I	WVO-69-N-7-A
Middle Ohio River North	Fallen Timber Run	WV-OMN-45-AG-16	WVO-69-N-8
Middle Ohio River North	Price Run	WV-OMN-45-AG-19	WVO-69-N-9
Middle Ohio River North	Buck Run	WV-OMN-45-AG-19-F	WVO-69-N-9-B
Middle Ohio River North	Pickenpaw Run	WV-OMN-45-AG-19-G	WVO-69-N-9-C
Middle Ohio River North	Tenmile Run	WV-OMN-45-AG-19-I	WVO-69-N-9-D
Middle Ohio River North	Glade Fork	WV-OMN-45-AG-19-J	WVO-69-N-9-E
Middle Ohio River North	Morgan Run	WV-OMN-45-AG-22	WVO-69-N-10
Middle Ohio River North	Stout Run	WV-OMN-45-AG-23	WVO-69-N-11
Middle Ohio River North	Trader Fork	WV-OMN-45-AG-27	WVO-69-N-12
Middle Ohio River North	Upper Run	WV-OMN-45-AG-5	WVO-69-N-3
Middle Ohio River North	Buffalo Run	WV-OMN-45-AG-7	WVO-69-N-5
Middle Ohio River North	Richwood Run	WV-OMN-45-AG-8	WVO-69-N-6
Middle Ohio River North	North Fork/Fishing Creek	WV-OMN-45-AH	WVO-69-O
Middle Ohio River North	Fourmile Run	WV-OMN-45-AH-10	WVO-69-O-5
Middle Ohio River North	Willey Fork	WV-OMN-45-AH-14	WVO-69-O-6
Middle Ohio River North	Big Run (OMN-45-AH-14-B)	WV-OMN-45-AH-14-B	WVO-69-O-6-A
Middle Ohio River North	Rockcamp Run	WV-OMN-45-AH-14-C	WVO-69-O-6-B
Middle Ohio River North	Morgan Run	WV-OMN-45-AH-14-N	WVO-69-O-6-E
Middle Ohio River North	Barker Run	WV-OMN-45-AH-2	WVO-69-O-1
Middle Ohio River North	Mobley Run	WV-OMN-45-AH-25	WVO-69-O-6.7
Middle Ohio River North	Wiley Fork (OMN-45-AH-29)	WV-OMN-45-AH-29	WVO-69-O-7
Middle Ohio River North	Betsy Run	WV-OMN-45-AH-6	WVO-69-O-2
Middle Ohio River North	Maud Run	WV-OMN-45-AH-8	WVO-69-O-3
Middle Ohio River North	Little Fishing Creek	WV-OMN-45-H	WVO-69-C
Middle Ohio River North	Scheidler Run	WV-OMN-45-H-20	WVO-69-C-5
Middle Ohio River North	Rush Run	WV-OMN-45-H-24	WVO-69-C-7
Middle Ohio River North	Honey Run	WV-OMN-45-H-32	WVO-69-C-10
Middle Ohio River North	Hupp Run	WV-OMN-45-O	WVO-69-D
Middle Ohio River North	State Run	WV-OMN-45-U	WVO-69-F
Middle Ohio River North	Money Run	WV-OMN-45-V	WVO-69-G
Middle Ohio River North	Brush Run	WV-OMN-45-Y	WVO-69-H
Middle Ohio River North	Williams Run	WV-OMN-47	WVO-70

Watershed	Stream Name	WV National Hydrologic Dataset Code	WV 2010 Section 303(d) List Code
Middle Ohio River North	Proctor Creek	WV-OMN-49	WVO-72
Middle Ohio River North	UNT/Proctor Creek RM 5.96	WV-OMN-49-L	WVO-72-A.9
Middle Ohio River North	Mud Run (OMN-49-O)	WV-OMN-49-O	WVO-72-D
Middle Ohio River North	Atward Run	WV-OMN-4-K	WVO-53-H
Middle Ohio River North	Cow Creek	WV-OMN-6	WVO-55
Middle Ohio River North	Sled Run	WV-OMN-6-C	WVO-55-C
Middle Ohio River North	Limestone Run	WV-OMN-6-F	WVO-55-F
Middle Ohio River North	Sharps Run	WV-OMN-6-K	WVO-55-G
Middle Ohio River North	French Creek	WV-OMN-9	WVO-57
Middle Ohio River North	Henry Camp Run	WV-OMN-9-D	WVO-57-A
Middle Ohio River North	Long Run (OMN-9-I)	WV-OMN-9-I	WVO-57-B
Middle Ohio River North	Alum Cave Run	WV-OMN-9-K	WVO-57-C
Middle Ohio River North	Schultz Run	WV-OMN-9-N	WVO-57-D
Middle Ohio River North	Left Fork/French Creek	WV-OMN-9-Q	WVO-57-F
Middle Ohio River North	Right Fork/French Creek	WV-OMN-9-R	WVO-57-E
Middle Ohio River South	Crooked Creek	WV-OMS-1	WVO-20.5
Middle Ohio River South	Sliding Hill Creek	WV-OMS-11	WVO-24
Middle Ohio River South	UNT/Sliding Hill Creek RM 1.25	WV-OMS-11-A	WVO-24-A
Middle Ohio River South	UNT/UNT RM 1.12/Sliding Hill Creek RM 1.35	WV-OMS-11-A-1	
Middle Ohio River South	UNT/UNT RM 3.75/Sliding Hill Creek RM 1.35	WV-OMS-11-A-5	
Middle Ohio River South	Broad Run	WV-OMS-12	WVO-25
Middle Ohio River South	Seaman Run	WV-OMS-12-A	WVO-25-A
Middle Ohio River South	UNT/Broad Run RM 5.39	WV-OMS-12-G	WVO-25-G
Middle Ohio River South	UNT/Sliding Hill Creek RM 1.2	WV-OMS-12-H	
Middle Ohio River South	Little Broad Run	WV-OMS-13	WVO-26
Middle Ohio River South	West Creek	WV-OMS-14	WVO-27
Middle Ohio River South	UNT/West Creek RM 1.59	WV-OMS-14-A	
Middle Ohio River South	UNT/West Creek RM 1.69	WV-OMS-14-B	
Middle Ohio River South	UNT/West Creek RM 3.08	WV-OMS-14-E	
Middle Ohio River South	UNT/Crooked Creek RM 1.53	WV-OMS-1-A	
Middle Ohio River South	UNT/Crooked Creek RM 2.03	WV-OMS-1-B	
Middle Ohio River South	UNT/Crooked Creek RM 4.34	WV-OMS-1-C	WVO-20.5-C
Middle Ohio River South	UNT/Crooked Creek RM 6.52	WV-OMS-1-F	
Middle Ohio River South	UNT/Crooked Creek RM 8.05	WV-OMS-1-G	
Middle Ohio River South	Oldtown Creek	WV-OMS-2	WVO-21
Middle Ohio River South	Little Mill Creek	WV-OMS-23	WVO-31

Watershed	Stream Name	WV National Hydrologic Dataset Code	WV 2010 Section 303(d) List Code
Middle Ohio River South	UNT/Little Mill Creek RM 5.93	WV-OMS-23-K	
Middle Ohio River South	Right Fork/Little Mill Creek	WV-OMS-23-L	WVO-31-A
Middle Ohio River South	Mill Creek	WV-OMS-24	WVO-32
Middle Ohio River South	Lick Run (OMS-24-A)	WV-OMS-24-A	WVO-32-A
Middle Ohio River South	UNT/Lick Run RM 4.74	WV-OMS-24-A-10	
Middle Ohio River South	Parchment Creek	WV-OMS-24-AF	WVO-32-H
Middle Ohio River South	Grass Run	WV-OMS-24-AF-11	WVO-32-H-4
Middle Ohio River South	Cox Fork	WV-OMS-24-AF-17	WVO-32-H-6
Middle Ohio River South	UNT/Cox Fork RM 0.86	WV-OMS-24-AF-17-A	WVO-32-H-6-0.5A
Middle Ohio River South	Kessel Run (OMS-24-AF-24)	WV-OMS-24-AF-24	WVO-32-H-7.5
Middle Ohio River South	Wolfe Creek	WV-OMS-24-AF-27	WVO-32-H-8
Middle Ohio River South	Johns Run	WV-OMS-24-AF-6	WVO-32-H-1
Middle Ohio River South	Bull Run	WV-OMS-24-AF-9	WVO-32-H-3
Middle Ohio River South	Sycamore Creek	WV-OMS-24-AN	WVO-32-K
Middle Ohio River South	Left Fork/Sycamore Creek	WV-OMS-24-AN-1	WVO-32-K-1
Middle Ohio River South	UNT/Sycamore Creek RM 4.14	WV-OMS-24-AN-12	
Middle Ohio River South	UNT/Left Fork RM 1.54/Sycamore Creek	WV-OMS-24-AN-1-E	WVO-32-K-1-E
Middle Ohio River South	UNT/Left Fork RM 2.53/Sycamore Creek	WV-OMS-24-AN-1-H	
Middle Ohio River South	Tug Fork	WV-OMS-24-BA	WVO-32-L
Middle Ohio River South	Bear Fork	WV-OMS-24-BA-13	WVO-32-L-4.5
Middle Ohio River South	Grasslick Creek	WV-OMS-24-BA-20	WVO-32-L-7
Middle Ohio River South	Stonelick Creek	WV-OMS-24-BA-20-D	WVO-32-L-7-B
Middle Ohio River South	Grasslick Run	WV-OMS-24-BA-20-H	WVO-32-L-7-C
Middle Ohio River South	Bear Fork	WV-OMS-24-BA-21	WVO-32-L-8
Middle Ohio River South	Laurel Run	WV-OMS-24-BA-21-B	WVO-32-L-8-B
Middle Ohio River South	Laurel Fork	WV-OMS-24-BA-21-D	WVO-32-L-8-D
Middle Ohio River South	Buffalolick Run	WV-OMS-24-BA-9	WVO-32-L-2
Middle Ohio River South	Straight Run	WV-OMS-24-BF	WVO-32-L.5
Middle Ohio River South	Elk Fork	WV-OMS-24-BH	WVO-32-M
Middle Ohio River South	Little Mill Creek	WV-OMS-24-BI	WVO-32-N
Middle Ohio River South	Stationcamp Run	WV-OMS-24-BI-1	WVO-32-N-1
Middle Ohio River South	Big Run	WV-OMS-24-BI-10	WVO-32-N-4
Middle Ohio River South	Right Fork/Big Run	WV-OMS-24-BI-10-C	WVO-32-N-4-B
Middle Ohio River South	Left Fork/Big Run	WV-OMS-24-BI-10-D	WVO-32-N-4-C
Middle Ohio River South	Little Creek	WV-OMS-24-BI-12	WVO-32-N-5
Middle Ohio River South	Poplar Fork	WV-OMS-24-BI-12-H	WVO-32-N-5-B
Middle Ohio River South	Buffalo Creek	WV-OMS-24-BI-17	WVO-32-N-6

Watershed	Stream Name	WV National Hydrologic Dataset Code	WV 2010 Section 303(d) List Code
Middle Ohio River South	UNT/Buffalo Creek RM 1.53	WV-OMS-24-BI-17-E	
Middle Ohio River South	Joes Run	WV-OMS-24-BI-3	WVO-32-N-2
Middle Ohio River South	Right Fork/Joes Run	WV-OMS-24-BI-3-C	WVO-32-N-2-A
Middle Ohio River South	Left Fork/Joes Run	WV-OMS-24-BI-3-D	WVO-32-N-2-B
Middle Ohio River South	Frozencamp Creek	WV-OMS-24-BI-9	WVO-32-N-3
Middle Ohio River South	UNT/Mill Creek RM 2.36	WV-OMS-24-D	
Middle Ohio River South	Falls Run	WV-OMS-24-K	WVO-32-B
Middle Ohio River South	Bar Run	WV-OMS-24-P	WVO-32-C
Middle Ohio River South	UNT/Bar Run RM 0.78	WV-OMS-24-P-4	
Middle Ohio River South	Cow Run	WV-OMS-24-U	WVO-32-D
Middle Ohio River South	UNT/Cow Run RM 1.17	WV-OMS-24-U-5	
Middle Ohio River South	Right Fork/Cow Run	WV-OMS-24-U-7	WVO-32-D-1
Middle Ohio River South	Grass Run (OMS-24-U-7-C)	WV-OMS-24-U-7-C	WVO-32-D-1-A
Middle Ohio River South	Left Fork/Cow Run	WV-OMS-24-U-8	WVO-32-D-2
Middle Ohio River South	UNT/Left Fork RM 2.51/Cow Run	WV-OMS-24-U-8-E	WVO-32-D-2-E
Middle Ohio River South	Spring Creek	WV-OMS-25	WVO-33
Middle Ohio River South	UNT/Spring Creek RM 2.21	WV-OMS-25-B	
Middle Ohio River South	Cedar Run	WV-OMS-28	WVO-34
Middle Ohio River South	Stedman Run	WV-OMS-28-D	WVO-34-B
Middle Ohio River South	UNT/Cedar Run RM 2.11	WV-OMS-28-F	
Middle Ohio River South	UNT/Oldtown Creek RM 2.00	WV-OMS-2-A	
Middle Ohio River South	Turkey Run	WV-OMS-2-D	WVO-21-0.5A
Middle Ohio River South	Potter Creek	WV-OMS-2-F	WVO-21-A
Middle Ohio River South	Robinson Run	WV-OMS-2-G	WVO-21-B
Middle Ohio River South	UNT/Robinson Run RM 2.42	WV-OMS-2-G-1	WVO-21-B-0.9
Middle Ohio River South	UNT/Robinson Run RM 3.33	WV-OMS-2-G-3	WVO-21-B-2
Middle Ohio River South	UNT/Oldtown Creek RM 11.50	WV-OMS-2-I	
Middle Ohio River South	Rayburn Creek	WV-OMS-2-J	WVO-21-B.5
Middle Ohio River South	UNT/Oldtown Creek RM 13.95	WV-OMS-2-K	
Middle Ohio River South	Trace Fork	WV-OMS-2-M	WVO-21-C
Middle Ohio River South	UNT/Trace Fork RM 0.72	WV-OMS-2-M-1	
Middle Ohio River South	UNT/Trace Fork RM 1.59	WV-OMS-2-M-2	
Middle Ohio River South	UNT/Trace Fork RM 2.97	WV-OMS-2-M-4	WVO-21-C-4
Middle Ohio River South	Fallentimber Branch	WV-OMS-2-N	WVO-21-D
Middle Ohio River South	UNT/Oldtown Creek RM 18.16	WV-OMS-2-O	
Middle Ohio River South	UNT/Oldtown Creek RM 19.38	WV-OMS-2-R	

Watershed	Stream Name	WV National Hydrologic Dataset Code	WV 2010 Section 303(d) List Code
Middle Ohio River South	UNT/Oldtown Creek RM 20.03	WV-OMS-2-S	
Middle Ohio River South	Sandy Creek	WV-OMS-30	WVO-36
Middle Ohio River South	Straight Fork	WV-OMS-30-G	WVO-36-C
Middle Ohio River South	Crooked Fork	WV-OMS-30-K	WVO-36-D
Middle Ohio River South	Cockle Run	WV-OMS-30-K-1	WVO-36-D-1
Middle Ohio River South	Cherrycamp Run	WV-OMS-30-M	WVO-36-E
Middle Ohio River South	Trace Fork	WV-OMS-30-O	WVO-36-G
Middle Ohio River South	Beatty Run	WV-OMS-30-P	WVO-36-H
Middle Ohio River South	Left Fork/Sandy Creek	WV-OMS-30-R	WVO-36-J
Middle Ohio River South	Copper Fork	WV-OMS-30-R-1	WVO-36-J-1
Middle Ohio River South	Drift Run	WV-OMS-30-R-11	WVO-36-J-4
Middle Ohio River South	Nesselroad Run	WV-OMS-30-R-15	WVO-36-J-5
Middle Ohio River South	Redbush Run	WV-OMS-30-R-15-F	WVO-36-J-5-C
Middle Ohio River South	Maulecamp Run	WV-OMS-30-R-15-L	WVO-36-J-5-E
Middle Ohio River South	McGraw Run	WV-OMS-30-R-18	WVO-36-J-6
Middle Ohio River South	Lockhart Fork	WV-OMS-30-R-29	WVO-36-J-8
Middle Ohio River South	Sarvis Fork	WV-OMS-30-R-6	WVO-36-J-2
Middle Ohio River South	Turkey Fork	WV-OMS-30-R-8	WVO-36-J-3
Middle Ohio River South	Right Fork/Sandy Creek	WV-OMS-30-S	WVO-36-I
Middle Ohio River South	Biglick Run	WV-OMS-30-S-11	WVO-36-I-4
Middle Ohio River South	Fallentimber Run	WV-OMS-30-S-22	WVO-36-I-10
Middle Ohio River South	Rush Run	WV-OMS-30-S-23	WVO-36-I-11
Middle Ohio River South	Cabin Run	WV-OMS-30-S-24	WVO-36-I-12
Middle Ohio River South	Brushy Fork (OMS-30-S-26)	WV-OMS-30-S-26	WVO-36-I-13
Middle Ohio River South	Little Sandy Creek	WV-OMS-32	WVO-38
Middle Ohio River South	Roadfork Run	WV-OMS-32-E	WVO-38-A
Middle Ohio River South	Claylick Run (OMS-32-I)	WV-OMS-32-I	WVO-38-B
Middle Ohio River South	Washington Run	WV-OMS-35	WVO-41
Middle Ohio River South	Mill Run	WV-OMS-4	WVO-22
Middle Ohio River South	Pond Creek	WV-OMS-44	WVO-43
Middle Ohio River South	Joshus Fork	WV-OMS-44-AI	WVO-43-K
Middle Ohio River South	Long Run (OMS-44-E)	WV-OMS-44-E	WVO-43-C
Middle Ohio River South	Little Pond Creek	WV-OMS-44-F	WVO-43-D
Middle Ohio River South	Jesse Run	WV-OMS-44-F-2	WVO-43-D-2
Middle Ohio River South	UNT/Jesse Run RM 0.44	WV-OMS-44-F-2-A	WVO-43-D-2-0.5A
Middle Ohio River South	Left Fork/Jesse Run	WV-OMS-44-F-2-B	WVO-43-D-2-B
Middle Ohio River South	Right Fork/Jesse Run	WV-OMS-44-F-2-C	WVO-43-D-2-A
Middle Ohio River South	Lamps Run	WV-OMS-44-F-5	WVO-43-D-3

Watershed	Stream Name	WV National Hydrologic Dataset Code	WV 2010 Section 303(d) List Code
Middle Ohio River South	Jerrys Run	WV-OMS-44-X	WVO-43-H
Middle Ohio River South	South Fork/Lee Creek	WV-OMS-46-A	WVO-44-A
Middle Ohio River South	Middle Fork/South Fork/Lee Creek	WV-OMS-46-A-1	WVO-44-A-1
Middle Ohio River South	Willow Run	WV-OMS-46-A-13	WVO-44-A-2
Middle Ohio River South	North Fork/Lee Creek	WV-OMS-46-B	WVO-44-B
Middle Ohio River South	Woodyards Run	WV-OMS-46-B-24	WVO-44-B-2
Middle Ohio River South	UNT/Woodyards Run RM 2.03	WV-OMS-46-B-24-G	
Middle Ohio River South	UNT/North Fork RM 10.17/Lee Creek	WV-OMS-46-B-25	
Middle Ohio River South	Long Run (OMS-46-B-30)	WV-OMS-46-B-30	WVO-44-B-3
Middle Ohio River South	Gunners Run	WV-OMS-46-B-31	WVO-44-B-4
Middle Ohio River South	UNT/North Fork RM 2.61/Lee Creek	WV-OMS-46-B-6	
Middle Ohio River South	UNT/Mill Run RM 1.77	WV-OMS-4-A	
Middle Ohio River South	UNT/Mill Run RM 1.81	WV-OMS-4-B	
Middle Ohio River South	UNT/Mill Run RM 2.22	WV-OMS-4-C	
Middle Ohio River South	UNT/Mill Run RM 3.13	WV-OMS-4-D	
Middle Ohio River South	Sandy Creek	WV-OMS-57	WVO-46
Middle Ohio River South	Vaughts Run	WV-OMS-57-D	WVO-46-A
Middle Ohio River South	UNT/Sandy Creek RM 3.91	WV-OMS-57-K	
Middle Ohio River South	UNT/Sandy Creek RM 4.06	WV-OMS-57-L	
Middle Ohio River South	UNT/Sandy Creek RM 4.41	WV-OMS-57-M	
Middle Ohio River South	UNT/Sandy Creek RM 4.97	WV-OMS-57-O	WVO-46-J
Middle Ohio River South	Tenmile Creek	WV-OMS-6	WVO-23
Middle Ohio River South	Pond Run	WV-OMS-65	WVO-48
Middle Ohio River South	Little Pond Run	WV-OMS-65-A	WVO-48-A
Middle Ohio River South	Briscoe Run	WV-OMS-66	WVO-49
Middle Ohio River South	Big Run	WV-OMS-69	WVO-50
Middle Ohio River South	UNT/Big Run RM 0.20	WV-OMS-69-A	
Middle Ohio River South	Williams Creek	WV-OMS-69-B	WVO-50-A
Middle Ohio River South	Plum Run	WV-OMS-69-F	WVO-50-B
Middle Ohio River South	Hogland Run	WV-OMS-69-J	WVO-50-D
Middle Ohio River South	UNT/Tenmile Creek RM 2.68	WV-OMS-6-A	
Middle Ohio River South	UNT/Tenmile Creek RM 4.13	WV-OMS-6-C	WVO-23-B.5
Middle Ohio River South	UNT/Tenmile Creek RM 5.33	WV-OMS-6-D	WVO-23-C
Middle Ohio River South	UNT/Tenmile Creek RM 8.02	WV-OMS-6-I	