UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
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Decision Rationale
Total Maximum Daily Loads for the
Upper Guyandotte River Watershed, West Virginia

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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 effluent limits and other pollution controls do not provide for the attainment of water quality standards. A TMDL establishes a target for the total load of a particular pollutant that a water body can assimilate and divides that load into wasteload allocations (WLA), given to point sources, load allocations (LAs), given to nonpoint sources and natural background, and a margin of safety (MOS), which takes into account any uncertainty. Mathematically, a TMDL is commonly expressed as an equation, shown below.

$$TMDL = \sum WLAs + \sum LAs + MOS$$

This document sets forth the U.S. Environmental Protection Agency, Region III's (EPA's) rationale for approving 380 TMDLs submitted by the West Virginia Department of Environmental Protection (WVDEP) for total iron, total selenium, and/or fecal coliform bacteria in the Upper Guyandotte River Watershed. The TMDLs were developed to address impairments of water quality standards as identified on West Virginia's section 303(d) list of water quality-limited segments. WVDEP electronically submitted the TMDLs in its report titled *Total Maximum Daily Loads for the Upper Guyandotte River Watershed West Virginia* (February 2021) (hereinafter referred to as the "TMDL Report"), to EPA for final review and action on February 26, 2021. EPA's decision is based upon its administrative record, which includes the TMDL Report and information in supporting files provided to EPA by WVDEP. EPA has reviewed and determined that the TMDL meets the requirements of section 303(d) of the Clean Water Act and its implementing regulations at 40 CFR Part 130 including but not limited to:

1. TMDLs are designed to implement applicable water quality standards.
2. TMDLs include wasteload allocations and load allocations.
3. TMDLs consider natural background sources.
4. TMDLs consider critical conditions.
5. TMDLs consider seasonal variations.
6. TMDLs include a margin of safety.
7. TMDLs have been subject to public participation.

In addition, EPA has considered and finds acceptable the reasonable assurances set forth in the TMDL Report.

From this point forward, all references in this rationale can be found in West Virginia's TMDL Report, *Total Maximum Daily Loads for the Upper Guyandotte River Watershed, West Virginia* (February 2021), unless otherwise noted.

II. Section 303(d) Listing Information

Table 3-3 of the TMDL document presents the waterbodies and impairments for which TMDLs have been developed in the Upper Guyandotte River Watershed. West Virginia identified 257 streams in the Upper Guyandotte Watershed as impaired due to exceedances of the numeric water quality criteria for total iron, total selenium, and/or fecal coliform bacteria. In addition, as set forth below, the iron and fecal coliform TMDLs address the causes of biological impairment in certain waters in the Upper Guyandotte River Watershed that were listed as biologically impaired based on the narrative water quality criteria of 47 CSR §2-3.2.i. EPA notes the 2016 list remains the operative list until West Virginia's 2018/2020/2022 Section 303(d) list(s) is/are approved. Nevertheless, it is appropriate for TMDLs to be established for waters in which an impairment is first identified in the course of pre-TMDL monitoring. It is also appropriate for no TMDL to be developed where pre-TMDL monitoring demonstrates a lack of impairment. In the latter instance, the pre-TMDL monitoring may be used as a basis for removing a previously listed impairment from a future Section 303(d) list. Attachment 1 of this Decision Rationale presents the impaired waterbodies in the Upper Guyandotte River Watershed for which TMDLs have been established.

Located within the Central Appalachian ecoregion, the Upper Guyandotte River is a tributary of the Ohio River that joins the Mississippi River, which flows to the Gulf of Mexico. The Upper Guyandotte River is approximately 88.2 miles (142 km) long, and its watershed encompasses 939.1 square miles (2,432.3 km^2) from the headwaters in Raleigh County to its confluence with Island Creek in Logan, WV where it becomes the Lower Guyandotte River. The Upper Guyandotte River has been dammed to create R.D. Bailey Lake near the community of Justice in Wyoming County. For TMDL purposes, the lake is considered its own water body separate from the river. The lake is not considered impaired for iron or fecal coliform bacteria and did not receive TMDL allocations. Flow and pollutant loads from the R.D. Bailey Lake were included in the modeling effort for TMDL development for the Upper Guyandotte River below the lake.

The Upper Guyandotte River Watershed lies within southwestern West Virginia, and occupies all of Wyoming County, approximately half of Logan County, and portions of Mingo and Raleigh Counties. Cities and towns in the vicinity of the area of study are Logan, Man, Gilbert, Oceana, Mullens, and Pineville. The dominant landuse is forest, which constitutes 70.86 percent of the total landuse area. Other important modeled landuse types are mining (11.59 percent), grassland (7.51 percent), urban/residential (3.98 percent), forestry (3.43 percent) and burned forest (1.00 percent). Individually, all other land cover types compose less than one percent of the total watershed area each. Major tributaries of the Upper Guyandotte River include Island Creek, Buffalo Creek, Huff Creek, Clear Fork, Indian Creek, Pinnacle Creek, and Stonecoal Creek. The total population living in the subject watersheds of this report is estimated to be 40,000 people.

III. TMDL Overview

WVDEP developed TMDLs for total iron, total selenium and/or fecal coliform bacteria to address 257 streams in the Upper Guyandotte River Watershed identified as impaired because they are not achieving West Virginia's numeric water quality criterion for those parameters. Section 8.0 presents the TMDLs as daily loads in pounds per day for total iron and total selenium, and number of colonies in counts per day for fecal coliform bacteria. The TMDLs for total iron, total selenium and fecal coliform bacteria are also represented in Microsoft Excel allocation spreadsheets which provide detailed source allocations and TMDL scenarios. These allocation spreadsheets also present the TMDLs as annual loads because they were developed to meet TMDL endpoints under a range of conditions observed throughout the year. The loads are expressed in pounds per year for iron and selenium or counts per year for fecal coliform bacteria, which may be divided by 365 days per year to provide a daily load expression in pounds per day or counts per day. A technical report was included by West Virginia to describe the detailed technical approaches that were used during TMDL development and to display the data upon which the TMDLs were based. West Virginia provided an ArcGIS Viewer Project and ESRI StoryMap that explore the spatial relationships among the pollutant sources in the watershed.

In addition to the TMDLs above, the TMDL Report includes TMDLs addressing the causes of biological impairment in 26 streams within the watershed. As described in Section 4.0, West Virginia utilized a stressor identification process to determine the primary causes of impairment in the 109 streams listed as biologically impaired within the Upper Guyandotte River Watershed based on the narrative water quality criterion of 47 CSR 2–3.2.i. Stressor identification entails reviewing available information, forming and analyzing possible stressor scenarios and implicating causative stressors associated with benthic macroinvertebrate community impact. The primary data set used for the stressor identification was generated through pre-TMDL monitoring (Technical Report, Appendix K). Stressor identification was followed by stream-specific determinations of the pollutants for which TMDLs must be developed to address biological impairment. If that analysis demonstrated that impacts on the benthic macroinvertebrate community were caused by exceedance of numeric water quality criteria and could be resolved through attainment of numeric water quality criteria, then TMDLs were developed for those numeric water quality criteria (i.e. if the significant stressors were pH toxicity and aluminum toxicity, then pH and aluminum TMDLs were developed), eliminating any need for biological TMDL development in the future.

Table 4-1 lists the 26 waters where the stressor identification process demonstrated that biological impairment caused by sedimentation and fecal coliform bacteria stressors will be resolved through the attainment of total iron and/or the fecal coliform bacteria numeric water quality criteria. The predominant sources of both organic enrichment and fecal coliform bacteria in this watershed are inadequately treated sewage and runoff from agricultural land uses. For the organic enrichment impairment identified in the watershed, it was determined that the implementation of fecal coliform TMDLs would require the elimination of the majority of existing fecal coliform sources and thereby resolve organic enrichment stress. Therefore, fecal coliform TMDLs will serve as a surrogate where organic enrichment was identified as a stressor. For the sediment impairments identified in the watershed, it was determined that the sediment reductions necessary to ensure the attainment of iron water-quality criteria exceed those that would be needed to address the biological impairment in the Upper Guyandotte River

Watershed. As such, iron TMDLs are acceptable surrogates for the sediment impairment in the watershed.[1]

Sections 5.0 and 6.0 discuss the metals (total iron and total selenium) and fecal coliform bacteria source assessments in the Upper Guyandotte River Watershed, respectively. The technical report has expanded details of the source assessment in the Upper Guyandotte River Watershed. The sources of metals and sediment in the watershed include mining permits, bond forfeiture sites, non-mining point sources for process wastewater discharges from wastewater treatment plants and industrial manufacturing operations and stormwater discharges associated with industrial and construction activity and unpermitted sources of mine drainage from abandoned mine lands (AMLs); as well as sediment sources including forestry, oil and gas operations, roads, agriculture, streambank erosion, and other land disturbance activities. As discussed above, iron TMDLs are appropriate surrogates for biological impairments caused by sediment.

The fecal coliform bacteria sources in the watershed include publicly owned treatment works (POTWs), combined sewer overflows (CSOs), general sewage permits, unpermitted sources, including on-site treatment systems, direct discharges of untreated sewage, stormwater runoff, agriculture, and natural background (wildlife). As discussed above, fecal coliform bacteria TMDLs are appropriate surrogates for biological impairments caused by organic enrichment.

Finally, Buffalo Creek and several of its tributaries were identified as impaired for total iron as determined through monitoring, permittee reported monthly discharge reports, or by modeling. Table 3-4 of the TMDL Report presents total iron impairments for streams in the Buffalo Creek Watershed. The designated use for Buffalo Creek is warm water fishery, however, the existing use of the stream is being investigated because the streams are regularly stocked for trout. Until the streams' existing use can be determined, no TMDLs are being presented for total iron for the Buffalo Creek Watershed. The watershed and pollutant loads are included in this TMDL project for the purposes of prescribing load reductions needed to attain downstream water quality in the Upper Guyandotte River.

Computational Procedures

The Mining Data Analysis System (MDAS) was used to represent the source-response linkage in the Upper Guyandotte River Watershed TMDL for iron, selenium and fecal coliform bacteria. MDAS was developed to facilitate large scale, data intensive watershed modeling applications. The model is used to simulate watershed hydrology and pollutant transport as well as stream hydraulics and instream water quality. MDAS is capable of simulating different flow regimes and pollutant variations. A key advantage of the MDAS development framework is that

[1] For 83 biologically impaired streams, the stressor identification process did not indicate that TMDLs designed to achieve the numeric water quality criterion for fecal coliform or iron would resolve the biological impacts (Appendix K). West Virginia is deferring TMDL development for biological impairments and will retain those waters on the Section 303(d) list for future TMDL development. West Virginia has provided an explanation as to why it chose not to develop TMDLs for these waters at this time (Section 4.0). Because WVDEP has indicated that it is retaining these waters on the Section 303(d) list for future TMDL development, EPA considers WVDEP's explanation to be informational and not part of WVDEP's submission of 380 TMDLs for approval.

it has no inherent limitations in terms of modeling size or upper limit model operations. In addition, the MDAS model allows for seamless integration with modern-day, widely available software such as Microsoft Access and Excel. Section 7.0 of the TMDL Report discusses the modeling process.

Configuration of the MDAS model involved subdividing the TMDL watershed into subwatershed modeling units connected by stream reaches. The 47 TMDL watersheds were broken into 595 separate subwatershed units, based on the groupings of impaired streams shown in Figure 3-2 of the TMDL Report. The TMDL watershed was 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 three separate MDAS models: iron/sediment, selenium and fecal coliform bacteria.

The calibrated model provides the basis for performing the allocation analysis. The first step is to simulate baseline conditions, which represent existing nonpoint source loadings and point source loadings at permit limits. Baseline conditions allow for an evaluation of instream water quality under the highest expected loading conditions. The MDAS model was run for baseline conditions using hourly precipitation data for a representative six-year simulation period (January 1, 2011 through December 31, 2016). The precipitation experienced over this period was applied to the land uses and pollutant sources as they existed at the time of TMDL development. 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.

The MDAS model provided allocations for total iron, total selenium and fecal coliform bacteria in the 255 impaired streams of the Upper Guyandotte River Watershed. The TMDLs are shown in Section 8.0 and are presented as daily loads, in pounds per day, or counts per day. 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.

IV. Discussion of Regulatory Requirements

1) TMDLs are designed to meet the applicable water quality standards.

EPA regulations at 40 CFR 130.7(c)(1) states that TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical WQS. Water quality standards are state regulations that define the water quality goals of a waterbody. Water quality standards are comprised of three components: (1) designated uses, (2) criteria (numeric or narrative) necessary to protect those uses, and (3) antidegradation provisions that prevent the degradation of water quality.

The applicable numeric water quality criteria for iron, selenium and fecal coliform bacteria are discussed in Section 2.2 and shown in Table 2-1 of the TMDL Report, and Table 7-1 shows the TMDL endpoints used to attain water quality standards. Designated uses in the Upper Guyandotte River Watershed include: propagation and maintenance of aquatic life in warmwater fisheries and trout waters, water contact recreation, and public water supply. In various streams in the Upper Guyandotte River Watershed, warmwater fishery and trout waters aquatic life use impairments have been determined pursuant to exceedances of total iron and total selenium 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.

All West Virginia waters are subject to the narrative criteria in Section 3 of the West Virginia Water Quality Standards. That section, titled *Conditions Not Allowed in State Waters*, contains various general provisions related to water quality. The TMDLs presented in Section 8.0 are based upon the water quality criteria that are currently developed. Where there is an applicable numeric criterion for a particular pollutant and uses, it is reasonable to use that criterion as the quantitative implementation of the narrative standard and designated uses. If the West Virginia Legislature adopts water quality standard revisions that alter the basis upon which the TMDL is developed, then the TMDL and allocations may be modified as warranted. Any future water quality standard revision and/or TMDL modification must receive EPA approval prior to implementation. Based on the foregoing, EPA finds the TMDL is designed to meet the applicable water quality standards.

2) TMDLs include wasteload allocations and load allocations.

EPA regulations at 40 CFR §130.2(i) define total maximum daily load (TMDL) as the sum of the wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background. The development of the WLAs and LAs is further discussed below.

Wasteload Allocations

According to Federal regulations at 40 CFR §130.2(h), a WLA is the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs were developed and assigned[2] for all facilities permitted to discharge iron, selenium or fecal coliform bacteria as described in Sections 5.0 and 6.0.

There are 347 permitted point sources (219 mining permits; 24 reclamation permits; 102 non-ming permits; and 2 general permits for stormwater) that discharge iron and/or selenium into the watershed, and there are 22 permitted point sources (6 POTWs; 1 WWTP; 13 mining bathhouses; and 2 general permits) that discharge fecal coliform bacteria into the watershed. This requirement is addressed in sections 5.1, 5.3, 7.7.1 and 7.7.2 of the TMDL Report for iron and selenium, and in sections 6.1 and 7.7.3 of the TMDL Report for fecal coliform bacteria.

[2] The fact that the TMDL does not assign WLAs to any other sources in the watershed should not be construed as a determination by either EPA or WVDEP that there are no additional sources in the watershed that are subject to the NPDES program.

Tables 8-1, 8-2 and 8-3 of the TMDL Report provide the iron, selenium and fecal coliform bacteria WLAs, respectively, for the Upper Guyandotte River Watershed with detailed WLAs shown in the allocation spreadsheets. Daily loads are based on the annual load divided by 365 days/year. Based on the foregoing, EPA finds that both annual and daily WLAs included in the TMDL satisfy the regulations at 40 CFR Part 130.

WVDEP is authorized to administer the National Pollutant Discharge Elimination System (NPDES) Program, which, among other duties, includes issuing NPDES permits to existing or futures point sources subject to the NPDES program. The effluent limitations in any new or revised NPDES permits must be consistent with "the assumptions and requirements of any available [WLA]" in an approved TMDL pursuant to 40 CFR §122.44 (d)(1)(vii)(B). EPA has authority to object to the issuance of an NPDES permit that is inconsistent with the assumptions and requirements of WLAs established for that point source. It is expected that WVDEP will require periodic monitoring of the point source(s), through the NPDES permit process, in order to monitor and determine compliance with the TMDL's WLAs.

Load Allocations

According to Federal regulations at 40 CFR §130.2(g), a LA is the portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. This requirement is addressed in Sections 5.2, 5.3, 7.7.1 and 7.7.2 of the TMDL Report for iron and selenium, and in Sections 6.2 and 7.7.3 of the TMDL Report for fecal coliform bacteria[3].

Total iron LAs were provided for the dominant nonpoint sources of iron in the watershed, including: abandoned mine lands, background loadings associated with undisturbed forests and grasslands, and sediment contributions from barren lands, harvested forest, oil and gas well operations, agricultural land uses, urban residential land uses, roads, and streambank erosion. Streambank erosion has been determined to be a significant sediment source across the watershed. Total selenium LAs were assigned to abandoned mine lands, legacy mines, and background contributions from undisturbed forest and grasslands.

Fecal coliform LAs were assigned to: pasture/cropland, on-site sewage systems including failing septic systems, residential loadings associated with urban/residential runoff from non-MS4 areas, and background loadings associated with wildlife sources. Discharges of sewage from the approximately 13,500 homes in the watershed that are not served by a centralized collection and treatment system and are within 100 meters of a stream are a significant nonpoint source of fecal coliform bacteria in the Upper Guyandotte River Watershed.

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[3] EPA's approval of this TMDL does not mean that EPA has determined there are no point sources within the land use categories that are assigned load allocations in the TMDL. EPA's review and approval of this TMDL does not represent a determination whether some of the sources discussed in the TMDL, under appropriate conditions, might be subject to the NPDES program.

Tables 8-1.8-2 and 8-3 of the TMDL Report provide the iron, selenium and fecal coliform bacteria LAs, respectively, for the Upper Guyandotte River Watershed with detailed LAs shown in the allocation spreadsheets. Daily loads are based on the annual load divided by 365 days/year. Based on the foregoing, EPA finds that both annual and daily LAs included in the TMDL satisfy the regulations at 40 CFR Part 130.

3) TMDLs consider natural background sources.

According to Federal regulations at 40 CFR §130.2(g & i), natural background sources of pollutants are part of the LA and, wherever possible, natural and nonpoint source loads should be distinguished. The Upper Guyandotte River Watershed TMDLs consider the impact of natural background pollutant contributions by evaluating loadings from background sources like undisturbed forest and grasslands and wildlife. MDAS also considers background pollutant contributions by modeling all land uses. Section 6.2.4 of the TMDL Report states that on the basis of the low fecal accumulation rates for forested areas, storm water sampling results, and model simulations, wildlife is not considered to be a significant nonpoint source of fecal coliform bacteria in the watershed. In addition, Sections 7.7.1, 7.7.2 and 7.7.3 of the TMDL Report state that loading associated with undisturbed forest and grassland and wildlife sources are included in the LA. Based on the foregoing, EPA finds the TMDL accounts for natural background sources consistent with the regulations at 40 CFR §130.2(g & i).

4) TMDLs consider critical 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. West Virginia's TMDL Report explains that a critical condition represents a scenario where water quality criteria are most susceptible to violation. Analysis of water quality data for the impaired streams addressed in the Upper Guyandotte River Watershed shows high pollutant concentrations during both high- and low-flow thereby precluding selection of a single critical condition. Both high-flow and low-flow periods were taken into account during TMDL development by using a long period of weather data that represented wet, dry, and average flow periods included in a representative six-year simulation period (January 1, 2011 through December 31, 2016). Figure 7-3 of the TMDL Report presents the range of precipitation conditions and the years that were used for TMDL development. The TMDL Report addresses this requirement in section 7.7.5. Based on the foregoing, EPA finds that the TMDL accounts for critical conditions consistent with the regulations at 40 CFR §130.7(c)(1).

5) TMDLs consider seasonal variations.

EPA regulations at 40 CFR §130.7(c)(1) require TMDLs to consider seasonal variations. Seasonal variation was considered in the formulation of the modeling analysis. Continuous simulation (modeling over a period of several years that captured precipitation extremes) inherently considers seasonal hydrologic and source loading variability. The pollutant concentrations simulated on a daily time step by the model were compared with TMDL endpoints. Allocations that met these endpoints throughout the modeling period were developed.

The TMDL Report addresses this requirement in section 7.7.4. Based on the foregoing, EPA finds the TMDL has been established at levels necessary to attain and maintain the applicable water quality standards with seasonal variations consistent with the regulations at 40 CFR §130.7(c)(1).

6) TMDLs include a margin of safety.

EPA regulations at 40 CFR §130.7(c)(1) require TMDLs to include a margin of safety (MOS). The MOS is an accounting of uncertainty about the relationship between pollutant loads and receiving water quality. It can be provided implicitly through analytical assumptions or explicitly by reserving a portion of loading capacity. In the Upper Guyandotte River Watershed TMDLs, an explicit five percent MOS was included to counter uncertainty in the modeling process. Long-term water quality monitoring data were used for model calibration. Although these data represented actual conditions, they were not of a continuous time series and might not have captured the full range of instream conditions that occurred during the simulation period. Section 7.6.1 discusses the explicit MOS used in these TMDLs. Based on the foregoing, EPA finds that WVDEP has incorporated a MOS into the TMDL consistent with the regulations at 40 CFR §130.7(c)(1).

7) TMDLs have been subject to public participation.

EPA regulations at 40 CFR §130.7(c)(1)(ii) requires TMDLs to be subject to public review and the State implements a process for involving the public in development of TMDLs. This requirement is addressed in section 10.0 of the TMDL Report. Based on the foregoing, EPA finds that the TMDL has been subject to WVDEP's public participation process.

V. Discussion of Reasonable Assurance

The CWA section 303(d) requires that a TMDL be "established at a level necessary to implement the applicable water quality standard." Documenting adequate reasonable assurance increases the probability that regulatory and voluntary mechanisms will be applied such that the pollution reduction levels specified in the TMDL are achieved and, therefore, applicable water quality standards are attained.

Where a TMDL is developed for waters impaired by both point and nonpoint sources, in EPA's best professional judgment, determinations of reasonable assurance that the TMDL's LAs will be achieved could include whether practices capable of reducing the specified pollutant load: (1) exist; (2) are technically feasible at a level required to meet allocations; and (3) are likely to be implemented. Where there is a demonstration that nonpoint source load reductions can and will be achieved, a TMDL writer can determine that reasonable assurance exists and, on the basis of that reasonable assurance, allocate greater loadings to point sources.

Reasonable assurance is addressed in section 11.0 of the TMDL Report. Based on the foregoing, EPA finds acceptable the reasonable assurances set forth in the TMDL Report.

Attachment 1

Waterbodies and Impairments Addressed in the Upper Guyandotte River Watershed TMDL

TMDL Watershed	NHD Code	Stream Name	WV Code	Trout	Fe	Se	FC
Guyandotte River (Upper)	WV-OGU	Guyandotte River (Upper)	WVOG-Up		X		X
Island Creek	WV-OGU-1	Island Creek	WVOG-65		M		X
Island Creek	WV-OGU-1-A	Coal Branch	WVOG-65-A		M		X
Island Creek	WV-OGU-1-B	Copperas Mine Fork	WVOG-65-B		X		X
Island Creek	WV-OGU-1-B-1	Mud Fork	WVOG-65-B-1		X		X
Island Creek	WV-OGU-1-B-1-C	Lower Dempsey Branch	WVOG-65-B-1-A		X		X
Island Creek	WV-OGU-1-B-1-D	Ellis Branch	WVOG-65-B-1-B		M		X
Island Creek	WV-OGU-1-B-1-G	Upper Dempsey Branch	WVOG-65-B-1-E		M		X
Island Creek	WV-OGU-1-B-1-H	Rockhouse Branch	WVOG-65-B-1-F		M		X
Island Creek	WV-OGU-1-B-1-L	UNT/Mud Fork RM 6.12			M		
Island Creek	WV-OGU-1-B-3	Whitman Creek	WVOG-65-B-2		M		X
Island Creek	WV-OGU-1-B-3-B	Left Fork/Whitman Creek	WVOG-65-B-2-A		M		X
Island Creek	WV-OGU-1-B-3-B-2	Poleroad Fork	WVOG-65-B-2-A-1		M		
Island Creek	WV-OGU-1-B-3-E	UNT/Whitman Creek RM 3.83 (Skifus Branch)	WVOG-65-B-2-C			X	
Island Creek	WV-OGU-1-B-3-G	Pine Gap Branch	WVOG-65-B-2-D		M		
Island Creek	WV-OGU-1-B-4	Aldrich Branch	WVOG-65-B-3		M		
Island Creek	WV-OGU-1-B-6	Trace Fork	WVOG-65-B-4		M		X
Island Creek	WV-OGU-1-B-6-E	UNT/Trace Fork RM 2.95	WVOG-65-B-4-G		M		
Island Creek	WV-OGU-1-B-8	Curry Branch	WVOG-65-B-5		X		X
Island Creek	WV-OGU-1-B-15	Dingess Fork	WVOG-65-B-8		M		
Island Creek	WV-OGU-1-H	Mill Creek	WVOG-65-C				X
Island Creek	WV-OGU-1-N	Steele Branch	WVOG-65-E		M		X
Island Creek	WV-OGU-1-Q	Middle Fork/Island Creek	WVOG-65-G		X		X
Island Creek	WV-OGU-1-T	Pine Creek	WVOG-65-H		X DMR	X	X
Island Creek	WV-OGU-1-T-6	Right Fork/Pine Creek	WVOG-65-H-1		M	X	

Island Creek	WV-OGU-1-T-6-A	Little Right Fork	WVOG-65-H-1-A		**M**		
Island Creek	WV-OGU-1-T-6-I	Laurel Fork	WVOG-65-H-1-B		**M**		
Island Creek	WV-OGU-1-T-6-J	Tin Branch	WVOG-65-H-1-C		**M**		
Island Creek	WV-OGU-1-T-8	Twin Branch	WVOG-65-H-2		**M**	X	
Island Creek	WV-OGU-1-T-10	Left Fork/Pine Creek	WVOG-65-H-3		**M**	X	
Island Creek	WV-OGU-1-U	Rockhouse Branch	WVOG-65-I		**M**	X	
Island Creek	WV-OGU-1-V	Cow Creek	WVOG-65-J		**M**	X DMR	X
Island Creek	WV-OGU-1-V-4	Left Fork/Cow Creek	WVOG-65-J-3		**M**		X
Island Creek	WV-OGU-1-V-8	UNT/Cow Creek RM 5.35			**M**		
Island Creek	WV-OGU-1-X	Littles Creek	WVOG-65-K		**M**		
Island Creek	WV-OGU-1-Y	Conley Branch	WVOG-65-L		**M**		
Island Creek	WV-OGU-1-AA	Left Fork/Island Creek	WVOG-65-M		**M**		
Island Creek	WV-OGU-1-AC	Upper Dempsey Branch	WVOG-65-O		**M**		
Dingess Run	WV-OGU-4	Dingess Run	WVOG-68		**M**	X	X
Dingess Run	WV-OGU-4-A	Bandmill Hollow	WVOG-68-A		**X DMR**	X	
Dingess Run	WV-OGU-4-A-4	UNT/Bandmill Hollow RM 1.84	WVOG-68-A-4			X	
Dingess Run	WV-OGU-4-B	Fort Branch	WVOG-68-B		**M**		
Dingess Run	WV-OGU-4-E	Ethel Hollow	WVOG-68-E		**M**		
Dingess Run	WV-OGU-4-E-3	Big Dark Hollow			**M**		
Dingess Run	WV-OGU-4-E-4	Little Dark Hollow			**M**		
Dingess Run	WV-OGU-4-G	Freeze Fork	WVOG-68-G		**X**	X	X
Dingess Run	WV-OGU-4-G-1	UNT/Freeze Fork RM 1.05	WVOG-68-G-1		**M**	X	
Dingess Run	WV-OGU-4-J	Georges Creek	WVOG-68-H		**M**	X	
Dingess Run	WV-OGU-4-J-1	UNT/Georges Creek RM 1.07	WVOG-68-H-1		**M**	X	

Dingess Run	WV-OGU-4-J-2	UNT/Georges Creek RM 1.50	WVOG-68-H-2		**M**	X DMR	
Guyandotte River (Upper)	WV-OGU-8	Beech Branch	WVOG-69		**M**		
Rum Creek	WV-OGU-10	Rum Creek	WVOG-70		**M**	X	X
Rum Creek	WV-OGU-10-B	Right Hand Fork/Rum Creek	WVOG-70-A		**M**	X	
Rum Creek	WV-OGU-10-B-2	Burgess Branch	WVOG-70-A-1		**M**		
Rum Creek	WV-OGU-10-C	UNT/Rum Creek RM 1.83	WVOG-70-A.2		**X DMR**	X DMR	
Rum Creek	WV-OGU-10-D	Slab Fork	WVOG-70-B		**M**	X	
Rum Creek	WV-OGU-10-I	Cub Branch	WVOG-70-D		**M**		
Rum Creek	WV-OGU-10-J	Big Lick Branch	WVOG-70-E		**M**	X	
Guyandotte River (Upper)	WV-OGU-16	Camp Branch	WVOG-71.5		**M**		
Madison Branch	WV-OGU-17	Madison Branch	WVOG-72		**X**		X
Madison Branch	WV-OGU-17-A	UNT/Madison Branch RM 0.68	WVOG-72-A		**X**	X	X
Rich Creek	WV-OGU-18	Rich Creek	WVOG-73		**M**		
Rich Creek	WV-OGU-18-A	Left Fork/Rich Creek	WVOG-73-A		**M**	X DMR	
Rich Creek	WV-OGU-18-A-1	UNT/Left Fork rm 1.02/Rich Creek	WVOG-73-A-1		**M**	X DMR	
Rich Creek	WV-OGU-18-G	Laurel Branch	WVOG-73-D		**M**	X DMR	
Guyandotte River (Upper)	WV-OGU-21	Pine Branch	WVOG-73.5		**M**		
Guyandotte River (Upper)	WV-OGU-24	Henry Hollow	WVOG-74		**M**		
Buffalo Creek	WV-OGU-27	Buffalo Creek	WVOG-75				X
Buffalo Creek	WV-OGU-27-B	Bingo Hollow					
Buffalo Creek	WV-OGU-27-E	Right Fork/Buffalo Creek	WVOG-75-A				X
Buffalo Creek	WV-OGU-27-E-1	Perry Branch	WVOG-75-A-1			X	
Buffalo Creek	WV-OGU-27-F	Ruffner Hollow	WVOG-75-B			X DMR	

Buffalo Creek	WV-OGU-27-I	Proctor Hollow (Mudlick Branch)	WVOG-75-C.5				
Buffalo Creek	WV-OGU-27-I-1	UNT/Proctor Hollow RM 0.54	WVOG-75-C.5-1			X DMR	
Buffalo Creek	WV-OGU-27-J	Robinette Branch	WVOG-75-D				X
Buffalo Creek	WV-OGU-27-R	Dingess Branch	WVOG-75-H			X	
Buffalo Creek	WV-OGU-27-T	Davy Branch	WVOG-75-I				
Buffalo Creek	WV-OGU-27-U	Toney Fork	WVOG-75-J				X
Buffalo Creek	WV-OGU-27-W	Elklick Branch	WVOG-75-K				
Buffalo Creek	WV-OGU-27-W-1	UNT/Elklick Branch RM 0.89	WVOG-75-K-1				
Buffalo Creek	WV-OGU-27-Y	Lee Fork	WVOG-75-L				
Buffalo Creek	WV-OGU-27-Y-1	Middle Fork/Buffalo Creek	WVOG-75-L-1				
Huff Creek	WV-OGU-28	Huff Creek	WVOG-76		**M**		X
Huff Creek	WV-OGU-28-C	Big Springs Branch	WVOG-76-C		**M**		
Huff Creek	WV-OGU-28-G	Sandlick Branch	WVOG-76-F		**M**		
Huff Creek	WV-OGU-28-N	Beech Branch	WVOG-76-K		**M**	X DMR	X
Huff Creek	WV-OGU-28-Q	Toney Fork	WVOG-76-L		**M**		
Huff Creek	WV-OGU-28-S	Paynter Branch	WVOG-76-M		**M**		X
Huff Creek	WV-OGU-28-S-1	Elk Trace Branch	WVOG-76-M-1		**M**		
Huff Creek	WV-OGU-28-S-3	Cub Trace Branch	WVOG-76-M-2		**M**		
Huff Creek	WV-OGU-28-S-4	UNT/Paynter Branch RM 1.86	WVOG-76-M-3		**M**		
Huff Creek	WV-OGU-28-W	Road Branch	WVOG-76-O		**M**		X
Huff Creek	WV-OGU-28-W-4	UNT/Road Branch RM 1.79	WVOG-76-O-3		**M**		
Huff Creek	WV-OGU-28-Z	Sycamore Creek	WVOG-76-P		**M**		
Huff Creek	WV-OGU-28-AE	Straight Fork	WVOG-76-U		**M**		
Huff Creek	WV-OGU-28-AG	Brushy Fork	WVOG-76-W		**M**		

Rockhouse Creek	WV-OGU-29	Rockhouse Creek	WVOG-77		**X DMR**		
Rockhouse Creek	WV-OGU-29-A	Spring Branch	WVOG-77-A		**M**	X DMR	
Rockhouse Creek	WV-OGU-29-A-1	UNT/Spring Branch RM 0.56	WVOG-77-A-1		**M**	X DMR	
Rockhouse Creek	WV-OGU-29-B	Oldhouse Branch	WVOG-77-A.5		**X**		
Rockhouse Creek	WV-OGU-29-C	Lefthand Fork/Rockhouse Creek	WVOG-77-D		**X**		
Sandlick Creek	WV-OGU-31	Sandlick Creek	WVOG-78		**M**		X
Sandlick Creek	WV-OGU-31-A	Right Fork/Sandlick Creek	WVOG-78-A		**M**		
Elk Creek	WV-OGU-34	Elk Creek	WVOG-80		**M**		
Elk Creek	WV-OGU-34-F	Right Hand Fork/Elk Creek	WVOG-80-E		**M**		
Elk Creek	WV-OGU-34-M	Stonecoal Branch	WVOG-80-I		**M**		
Spice Creek	WV-OGU-36	Spice Creek	WVOG-82		**M**		X
Sylvia Branch	WV-OGU-38	Sylvia Branch	WVOG-84		**M**		X
Guyandotte River (Upper)	WV-OGU-42	Canebrake Branch	WVOG-86		**M**		
Harrys Branch	WV-OGU-45	Harrys Branch	WVOG-87		**M**		
Stafford Branch	WV-OGU-46	Stafford Branch	WVOG-88		**M**		X
Gilbert Creek	WV-OGU-47	Gilbert Creek	WVOG-89		**M**	X DMR	X
Gilbert Creek	WV-OGU-47-A	Skillet Creek	WVOG-89-A		**M**		X
Gilbert Creek	WV-OGU-47-B	Horsepen Creek	WVOG-89-B		**M**	X DMR	X
Gilbert Creek	WV-OGU-47-B-3	Browning Fork	WVOG-89-B-1		**M**		X
Gilbert Creek	WV-OGU-47-B-3-E	Right Fork/Browning Fork	WVOG-89-B-1-B		**M**		
Gilbert Creek	WV-OGU-47-B-1	Lower Pete Branch	WVOG-89-B-0.3		**M**	X DMR	
Gilbert Creek	WV-OGU-47-B-12	Donaldson Branch	WVOG-89-B-6		**M**		
Gilbert Creek	WV-OGU-47-F	Adams Fork	WVOG-89-C.3		**M**	X DMR	
Gilbert Creek	WV-OGU-47-K	Lefthand Fork/Gilbert Creek	WVOG-89-F		**M**		

Neds Branch	WV-OGU-48	Neds Branch	WVOG-90		**M**		X
Little Huff Creek	WV-OGU-54	Little Huff Creek	WVOG-92		**X**		X
Little Huff Creek	WV-OGU-54-C	Little Cub Creek	WVOG-92-B		**M**		X
Little Huff Creek	WV-OGU-54-C-5	Trace Fork	WVOG-92-B-1		**M**		
Little Huff Creek	WV-OGU-54-D	Lizard Creek	WVOG-92-C		**X**		X
Little Huff Creek	WV-OGU-54-I	Nelson Branch	WVOG-92-G		**M**		
Little Huff Creek	WV-OGU-54-K	Muzzle Creek	WVOG-92-I		**M**		X
Little Huff Creek	WV-OGU-54-K-1	Right Fork/Muzzle Creek	WVOG-92-I-1		**M**		
Little Huff Creek	WV-OGU-54-M	Buffalo Creek	WVOG-92-K		**X**		X
Little Huff Creek	WV-OGU-54-M-3	Kezee Fork	WVOG-92-K-1		**X**		
Little Huff Creek	WV-OGU-54-O	Suke Creek	WVOG-92-M		**X**		X
Little Huff Creek	WV-OGU-54-T	Pad Fork	WVOG-92-Q		**M**		X
Little Huff Creek	WV-OGU-54-T-5	Righthand Fork/Pad Fork	WVOG-92-Q-1		**M**		
Big Cub Creek	WV-OGU-62	Big Cub Creek	WVOG-96		**M**		X
Big Cub Creek	WV-OGU-62-C	Sturgeon Branch	WVOG-96-A		**M**		
Big Cub Creek	WV-OGU-62-G	Road Branch	WVOG-96-B		**M**	X	X
Big Cub Creek	WV-OGU-62-G-2	UNT/Road Branch RM 1.13	WVOG-96-B-2		**M**		X
Big Cub Creek	WV-OGU-62-H	Elk Trace Branch	WVOG-96-C		**M**		
Big Cub Creek	WV-OGU-62-O	Toler Hollow	WVOG-96-F		**M**	X	X
Big Cub Creek	WV-OGU-62-S	McDonald Fork	WVOG-96-H		**M**		
Long Branch	WV-OGU-65	Long Branch	WVOG-97		**M**		X
Reedy Branch	WV-OGU-68	Reedy Branch	WVOG-99		**M**	X	X
Clear Fork	WV-OGU-70	Clear Fork	WVOGC		**M**		X
Clear Fork	WV-OGU-70-E	Cedar Creek	WVOGC-4		**M**		
Clear Fork	WV-OGU-70-F	Laurel Branch	WVOGC-5		**M**		

Reedy Branch	WV-OGU-70-L	Reedy Branch	WVOGC-8		**M**		
Clear Fork	WV-OGU-70-N	McDonald Mill Creek	WVOGC-10		**M**		
Lower Road Branch	WV-OGU-70-S	Lower Road Branch	WVOGC-12		**M**		
Clear Fork	WV-OGU-70-W	Dry Branch			**M**		
Laurel Fork	WV-OGU-70-X	Laurel Fork	WVOGC-16		**M**		X
Laurel Fork	WV-OGU-70-X-6	Coon Branch	WVOGC-16-B		**M**		X
Laurel Fork	WV-OGU-70-X-6-C	Chestnut Flats Branch	WVOGC-16-B-1		**M**		X
Laurel Fork	WV-OGU-70-X-10	Cabin Branch	WVOGC-16-C		**M**		X
Laurel Fork	WV-OGU-70-X-13	Acord Branch	WVOGC-15		**M**		
Laurel Fork	WV-OGU-70-X-19	Glen Fork	WVOGC-16-J				X
Laurel Fork	WV-OGU-70-X-19-A	Tom Bailey Branch	WVOGC-16-J-1		**M**		X
Laurel Fork	WV-OGU-70-X-23	Laurel Branch	WVOGC-16-K		**X**		X
Laurel Fork	WV-OGU-70-X-27	Milam Fork	WVOGC-16-M		**M**		X
Laurel Fork	WV-OGU-70-X-32	White Oak Branch	WVOGC-16-N		**M**		
Laurel Fork	WV-OGU-70-X-36	Trough Fork	WVOGC-16-P		**M**		
Laurel Fork	WV-OGU-70-X-47	Franks Fork	WVOGC-16-U		**M**		X
Toney Fork	WV-OGU-70-AC	Toney Fork	WVOGC-19		**M**		X
Crane Fork	WV-OGU-70-AM	Crane Fork	WVOGC-26		**M**		
Crane Fork	WV-OGU-70-AW	Knob Fork	WVOGC-28		**M**		
Guyandotte River (Upper)	WV-OGU-73	Brickle Branch	WVOG-102		**M**		
Horse Creek	WV-OGU-77	Horse Creek	WVOG-105		**M**		
Horse Creek	WV-OGU-77-B	Hound Fork	WVOG-105-B		**M**		
Little Cub Creek	WV-OGU-81	Little Cub Creek	WVOG-108		**M**		X
Indian Creek	WV-OGU-84	Indian Creek	WVOG-110		**M**		X
Indian Creek	WV-OGU-84-D	Brier Creek	WVOG-110-A		**X**		X

Indian Creek	WV-OGU-84-D-2	Trace Fork	WVOG-110-A-1		**M**		
Indian Creek	WV-OGU-84-D-6	Marsh Fork	WVOG-110-A-2		**X**		X
Indian Creek	WV-OGU-84-F	Shop Branch	WVOG-110-B		**M**		
Indian Creek	WV-OGU-84-P	Wolf Pen Branch	WVOG-110-G		**M**		X
Indian Creek	WV-OGU-84-Q	Lick Branch	WVOG-110-H		**M**		
Indian Creek	WV-OGU-84-R	Turkeywallow Branch	WVOG-110-I		**M**		
Indian Creek	WV-OGU-84-U	Nancy Fork	WVOG-110-J		**M**		
Indian Creek	WV-OGU-84-U-7	Stanley Fork	WVOG-110-J-1		**M**		
Indian Creek	WV-OGU-84-X	UNT/Indian Creek RM 11.15	WVOG-110-K.3		**M**		
Indian Creek	WV-OGU-84-AC	White Oak Branch	WVOG-110-M		**M**		
Indian Creek	WV-OGU-84-AI	Fort Branch	WVOG-110-O		**M**		
Guyandotte River (Upper)	WV-OGU-88	Doublecamp Branch	WVOG-113		**M**		
Guyandotte River (Upper)	WV-OGU-93	Shannon Mill Creek	WVOG-116		**M**		
Turkey Creek	WV-OGU-94	Turkey Creek	WVOG-118		**X**		X
Turkey Creek	WV-OGU-94-B	Right Fork/Turkey Creek	WVOG-118-A		**M**		
Skin Fork	WV-OGU-95	Skin Fork	WVOG-119		**X**		X
Skin Fork	WV-OGU-95-A	Left Fork/Skin Fork	WVOG-119-A		**M**		
Big Branch	WV-OGU-97	Big Branch	WVOG-120		**M**		
Big Branch	WV-OGU-97-C	UNT/Big Branch RM 1.54	WVOG-120-C		**M**		
Rockcastle Creek	WV-OGU-107	Rockcastle Creek	WVOG-123		**M**		X
Rockcastle Creek	WV-OGU-107-A	Bearhole Fork	WVOG-123-A		**X**		X
Rockcastle Creek	WV-OGU-107-A-1	Bird Branch	WVOG-123-A-1		**M**		X
Pinnacle Creek	WV-OGU-108	Pinnacle Creek	WVOG-124	X	**X**		X
Pinnacle Creek	WV-OGU-108-B	Baldwin Branch	WVOG-124-A		**M**		

Pinnacle Creek	WV-OGU-108-C	Lambert Branch	WVOG-124-B		**M**		
Pinnacle Creek	WV-OGU-108-K	Smith Branch	WVOG-124-D		**M**		
Pinnacle Creek	WV-OGU-108-M	Little White Oak Creek	WVOG-124-E		**X**		
Pinnacle Creek	WV-OGU-108-M-3	Sulphur Branch	WVOG-124-E-0.5		**X**		
Pinnacle Creek	WV-OGU-108-M-4	Jenny Branch	WVOG-124-E-1		**M**		
Pinnacle Creek	WV-OGU-108-M-4-A	UNT/Jenny Branch RM 0.67	WVOG-124-E-1-A		**M**		
Pinnacle Creek	WV-OGU-108-T	Laurel Branch/Pinnacle Creek	WVOG-124-H		**M**		
Pinnacle Creek	WV-OGU-108-U	Spider Creek	WVOG-124-I		**X**		X
Pinnacle Creek	WV-OGU-108-Z	White Oak Branch	WVOG-124-J		**M**		X
Pinnacle Creek	WV-OGU-108-Z-1	Payne Branch	WVOG-124-J-1		**X DMR**		
Pinnacle Creek	WV-OGU-108-Z-1-C	UNT/Payne Branch RM1.37	WVOG-124-J-1- C		**X DMR**		
Pinnacle Creek	WV-OGU-108-AD	Beartown Fork	WVOG-124-N		**X**		X
Pinnacle Creek	WV-OGU-108-AJ	Little Pinnacle	WVOG-124-P		**M**		
Sugar Run	WV-OGU-111	Sugar Run	WVOG-125		**M**		
Cabin Creek	WV-OGU-118	Cabin Creek	WVOG-127		**X**		X
Cabin Creek	WV-OGU-118-C	Meadow Fork	WVOG-127-B		**M**		X
Cabin Creek	WV-OGU-118-G	Marsh Fork	WVOG-127-D		**X**		X
Cabin Creek	WV-OGU-118-H	Black Fork	WVOG-127-E		**M**		
Joe Branch	WV-OGU-119	Joe Branch	WVOG-128		**M**	X	
Long Branch	WV-OGU-120	Long Branch	WVOG-129		**M**		
Long Branch	WV-OGU-124	Still Run	WVOG-130		**M**		
Long Branch	WV-OGU-124-D	UNT/Still Run RM 1.00	WVOG-130-A.2		**X**		
Barkers Creek	WV-OGU-128	Barkers Creek	WVOG-131	X	**X**		X
Barkers Creek	WV-OGU-128-E	Hickory Branch	WVOG-131-B		**M**	X	

Barkers Creek	WV-OGU-128-G	Mill Branch	WVOG-131-C				X
Barkers Creek	WV-OGU-128-K	Gooney Otter Creek	WVOG-131-F	X	**X**		X
Barkers Creek	WV-OGU-128-K-5	Jims Branch	WVOG-131-F-1		**M**		X
Barkers Creek	WV-OGU-128-K-6	Noseman Branch	WVOG-131-F-2		**M**		
Barkers Creek	WV-OGU-128-K-9	UNT/Gooney Otter Creek RM 3.64	WVOG-131-F-5		**M**		X
Barkers Creek	WV-OGU-128-O	Milam Fork	WVOG-131-I		**M**		X
Barkers Creek	WV-OGU-128-P	UNT/Barkers Creek RM 8.71	WVOG-131-J		**M**		
Barkers Creek	WV-OGU-128-Q	UNT/Barkers Creek RM 9.91			**M**		
Barkers Creek	WV-OGU-128-U	UNT/Barkers Creek RM 12.19			**M**		
Slab Fork	WV-OGU-132	Slab Fork	WVOG-134	X	**X**		X
Slab Fork	WV-OGU-132-E	Cedar Creek	WVOG-134-B		**M**		X
Slab Fork	WV-OGU-132-E-1	Right Fork/Cedar Creek	WVOG-134-B-1		**M**		
Slab Fork	WV-OGU-132-H	Marsh Fork	WVOG-134-C	X	**M**		X
Slab Fork	WV-OGU-132-J	Measle Fork	WVOG-134-D		**X**		X
Slab Fork	WV-OGU-132-L	UNT/Slab Fork RM 7.96	WVOG-134-D.5		**M**		
Slab Fork	WV-OGU-132-V	Burnt Fork	WVOG-134-H		**M**		X
Slab Fork	WV-OGU-132-V-3	Richardson Branch	WVOG-134-H-1		**M**		
Slab Fork	WV-OGU-132-Y	Low Gap Branch	WVOG-134-I		**X**		X
Allen Creek	WV-OGU-136	Allen Creek	WVOG-135		**X**		X
Allen Creek	WV-OGU-136-D	Left Fork/Allen Creek	WVOG-135-A		**X**		
Big Branch	WV-OGU-138	Big Branch	WVOG-136		**M**		X
Devils Fork	WV-OGU-140	Devils Fork	WVOG-137	X	**X**		X
Devils Fork	WV-OGU-140-C	Beetree Branch	WVOG-137-A		**X**		
Devils Fork	WV-OGU-140-K-1	UNT/Bluff Fork RM 0.17	WVOG-137-B-0.1		**X**		

Devils Fork	WV-OGU-140-J	Wiley Spring Branch	WVOG-137-C	X	**X**		
Winding Gulf	WV-OGU-142	Winding Gulf	WVOG-138	X	**X**		X
Winding Gulf	WV-OGU-142-E	Berry Branch	WVOG-138-A		**M**		X
Winding Gulf	WV-OGU-142-I	Alderson Branch	WVOG-138-D		**M**		
Winding Gulf	WV-OGU-142-K	Mullens Branch	WVOG-138-E		**X**		
Winding Gulf	WV-OGU-142-V	West Fork/Winding Gulf	WVOG-138-G		**M**		
Stonecoal Creek	WV-OGU-141	Stonecoal Creek	WVOG-139	X	**X**		X
Stonecoal Creek	WV-OGU-141-B	Tommy Creek	WVOG-139-A	X	**X**		X
Stonecoal Creek	WV-OGU-141-B-4	Bragg Branch	WVOG-139-A-1		**X**		
Stonecoal Creek	WV-OGU-141-B-8	Lefthand Fork/Tommy Creek	WVOG-139-A-3		**X**		
Stonecoal Creek	WV-OGU-141-G	Riffe Branch	WVOG-139-B	X	**X DMR**		X
Stonecoal Creek	WV-OGU-141-H	Farley Branch	WVOG-139-C		**M**		
Stonecoal Creek	WV-OGU-141-L	Pines Creek	WVOG-139-D		**M**		X

Note:

RM river mile
UNT unnamed tributary
Trout trout stream cold-water fishery
Fe iron impairment
Se selenium impairment
FC fecal coliform bacteria impairment
M impairment determined via modeling
X impairment determined via sampling
X DMR impairment determined via discharge monitoring reports provided by the Division of Mining and Reclamation.