2004 Integrated Water Quality Monitoring And Assessment Report

Division of Water and Waste Management
West Virginia Department of Environmental Protection

A NOTE FROM THE DIRECTOR

Dear fellow West Virginia residents:

Thank you for taking time to read and review the inaugural "Integrated Water Quality Monitoring and Assessment Report." This report reflects the hard work and dedication that goes into monitoring our state's waters by concerned citizens, our academic institutions, industry leaders, and state and federal agencies.

We often forget that each and every one of us uses water on a daily basis, whether it is for industrial, recreational, or personal use. We should all remind ourselves that we use, rely on, and impact this vital resource every day, and that we all have a part in protecting West Virginia's streams, lakes and rivers.

The state has come a long way in cleaning up our waters, but this integrated report is a reminder that our goals and objectives have not yet been attained. I am optimistic that someday this report will place all waters in "Category I," meaning that all of West Virginia's waters meet water quality standards. The DEP has advanced resources, technologies and policies to monitor and regulate our waterways, but cannot turn this goal into a reality without the assistance and cooperation of the citizens of the Mountain State.

I want to encourage all West Virginians to continue their efforts in gathering data, monitoring their waterways, and applying sound conservation methods to make West Virginia an even more beautiful place to live.

Allyn G. Turner

Director, Division of Water and Waste Management
Department of Environmental Protection

Cover Photo of Gauley River
in Nicholas County
by Mike Sovic 0105

WEST VIRGINIA

INTEGRATED WATER QUALITY MONITORING AND ASSESSMENT REPORT

2004

prepared to fulfill the requirements of Sections 303(d) and 305(b) of the federal Clean Water Act for the period July, 2001 through June, 2003

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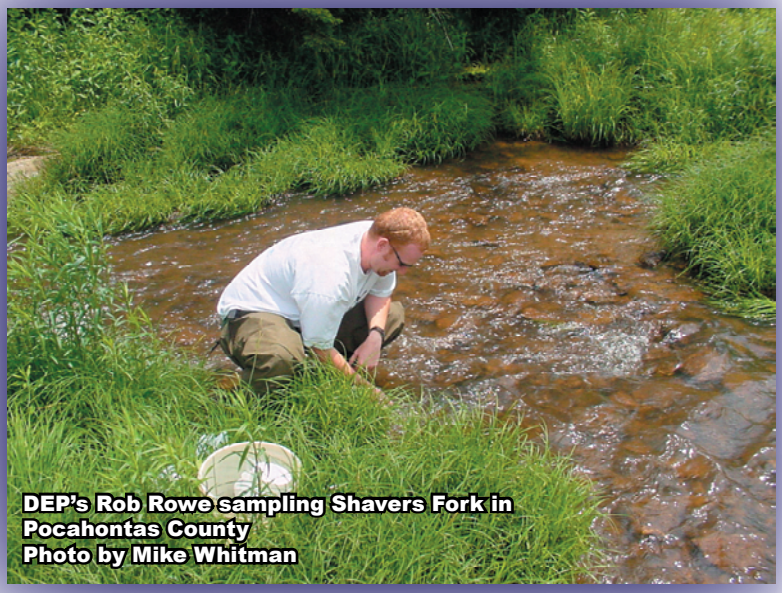
"promoting a healthy environment"

ACKNOWLEDGMENTS

Numerous private individuals, businesses, organizations, state and federal agencies contributed information used in this report. Without all the hard work and dedication from each and every one of you, this report would not be as concise and thorough.



DEP's Rob Rowe sampling Shavers Fork in Pocahontas County
Photo by Mike Whitman

DEP's Margaret Montali conducting a kick sample on Spring Run in Hardy County
Photo by Mike Whitman

From everyone at the Division of Water and Waste Management, thank you for the time and effort you have provided to make this report a success.

DEP's Karen Maes samples Surveyor Creek in Raleigh County
Photo by Jeff Bailey

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INTRODUCTION

This report is written to fulfill requirements of Section 303(d) for impaired streams and Section 305(b) for water quality assessment of the federal Clean Water Act for the 2004 cycle. Recent guidance from the U.S. Environmental Protection Agency (EPA) encourages states to prepare an integrated 305(b) water quality inventory and 303(d) list of impaired waterbodies. The West Virginia Department of Environmental Protection (DEP), Division of Water and Waste Management (DWWM), Watershed Branch has compiled, evaluated and summarized water quality data for the state's 32 major watersheds (Figure 1). The 2004 Integrated Report includes data collected and analyzed up to June 30, 2003.

The integrated reporting system provides a consistent way for states to categorize the water quality of streams and lakes across the nation. The EPA has developed five main categories and three subcategories for an overall rating of each segment or assessment unit. All stream segments or assessment units fall into one the following categories:

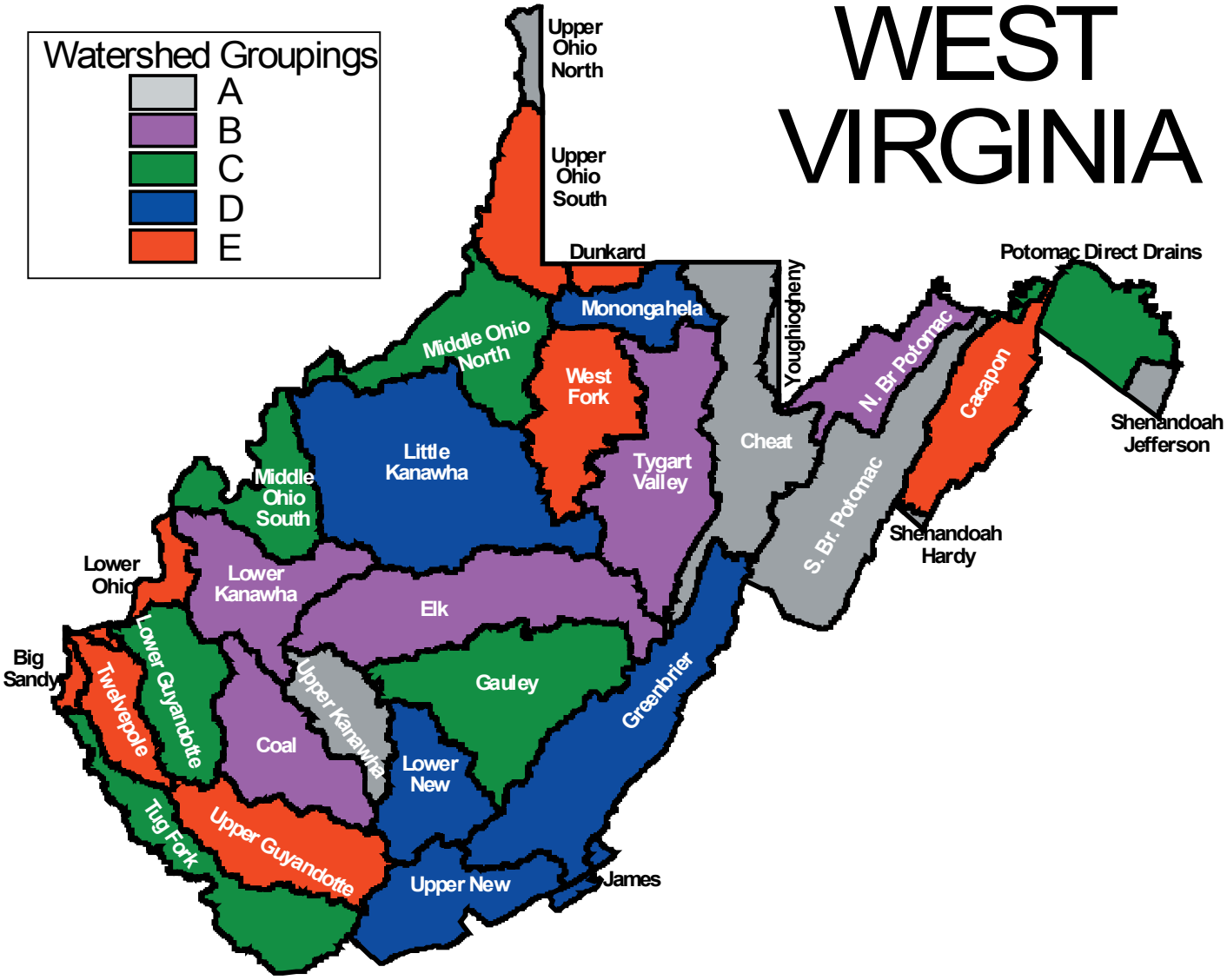
- Category 1- fully supporting all designated uses
- Category 2- fully supporting some designated uses, but no or insufficient information exists to assess the other designated uses
- Category 3- insufficient or no information exists to determine if any of the uses are being met
- Category 4- waters that are impaired or threatened but do not need a Total Maximum Daily Load (TMDL)
  - ☑ Category 4a- waters that already have an approved TMDL but are still not meeting standards
  - ☑ Category 4b- waters that have other control mechanisms in place which are reasonably expected to return the water to meeting designated uses
  - ☑ Category 4c- waters that have been determined to be impaired by pollution or other natural factors
- Category 5- waters that have been assessed as impaired and are expected to need a TMDL

With the introduction of the integrated report concept, significant changes have occurred in the report format and the assessment methodology at both the state and federal level. Many of these differences are reflected where the data is captured and how it is assessed for reporting purposes.

The primary purpose of this Integrated Report is to provide summary information on the state's water quality. The report also contains information on water pollution control programs, the assessment methodology and decision criteria, the TMDL development process, data used for assessment, special state concerns, the impaired streams list, and supplemental lists. The supplemental lists include streams previously listed but no TMDL needed (delists), streams previously listed with TMDLs developed and streams previously listed with TMDLs developed and water quality meeting criteria.

The results of the assessment reveal that almost 27 percent of West Virginia's streams are in either Category 1 or 2. Category 3 makes up 43.3 percent, the largest percentage of the five categories. However, that number is somewhat deceiving. The streams with no data are typically small unnamed tributaries, which usually contribute to the larger waterbodies which have been assessed. All major waterways in the state, such as the Kanawha, Monongahela and Little Kanawha rivers, have data and have been assessed and placed into one of the other four categories. Fewer than one-third of West Virginia's streams are impaired and fall into either Category 4 or 5.

Figure 1 – West Virginia Major Watersheds and Watershed Groupings

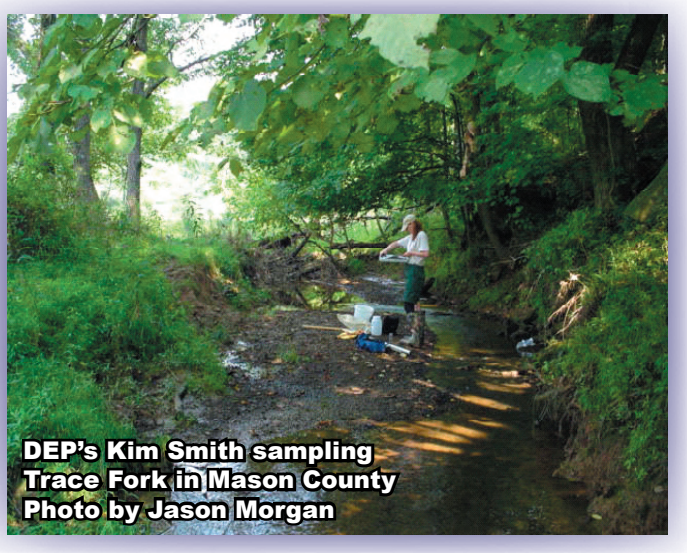


CAD,
WVDEP-DWWM

The 2004 Integrated Report process began in August 2003, when the DEP requested all readily available water quality data for West Virginia's waters. Significant efforts were taken to obtain data from external sources (See the Data Management section).

All data received was evaluated for quantity and quality. All acceptable data was placed into a database for assessment. Information was reviewed following the protocols described in the Assessment Methodology section of this report. Waterbodies initially determined to be impaired were published in a provisional draft 303(d) document. This publication was sent to the EPA's Region III office for comment. The provisional draft also was made available to the TMDL stakeholder committee members for their review.

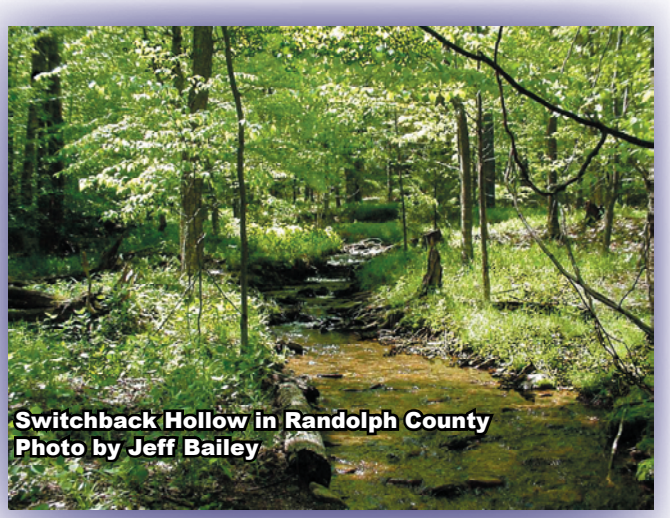
Comments from the initial distribution were evaluated and the resulting revisions were reflected in the draft released for public comment. The draft document was advertised for public comment from March 22, 2004 through April 30, 2004. Notices of the availability of the draft document were placed in newspapers statewide including advertisement of the public comment period. The draft document also was promoted by e-mail and the internet. At the conclusion of the public comment period, all comments were considered and adjustments were made to the list where appropriate. A Responsiveness Summary section was written to address all issues raised pursuant to the draft 303(d) document. The Responsiveness Summary includes a summary of comments received, and the DEP's responses to those comments.



DEP's Kim Smith sampling
Trace Fork in Mason County
Photo by Jason Morgan

While the list of impaired streams (Category 5) was released for public comment, the remaining streams with data were reviewed to determine if their uses were fully supporting (Category 1) or if more information was needed (Category 2).

Water quality standards are the backbone of the 303(d) and 305(b) processes of the federal Clean Water Act. Instream data are compared with water quality standards to determine the use attainment status of the streams and lakes. In West Virginia, the water quality standards are codified as 46 CSR 1 – Legislative Rule of the Environmental Quality Board – Requirements Governing Water Quality Standards, and at 60 CSR 5 – Legislative Rule of the Department of Environmental Protection – Antidegradation Implementation Procedures. The 46 CSR 1 version used to develop the 2004 Section 303(d) list went into effect June 25, 2003. All water quality standards contained in this version have received the EPA's approval and are currently considered effective for Clean Water Act purposes. The exception to the rule is for manganese, found in Section 6.2.d. of 46 CSR 1.


Switchback Hollow in Randolph County
Photo by Jeff Bailey

A waterbody is considered impaired if it violates quality standards or does not meet its designated uses. It is then placed on the 303(d) list and scheduled for TMDL development. Use attainment is determined by the comparison of the instream values of various water quality parameters to the numeric or narrative criteria specified for the designated use (See the Assessment Methodology section for more information on use attainment determination).

Some examples of designated uses are water contact recreation, propagation and maintenance of fish and other aquatic life, and public water supply. Designated uses are described in detail in Section 6.2 of 46 CSR 1 and are summarized in Table 1. Each of the designated uses has associated criteria that describe specific conditions that must be met to ensure that the water can support that use. For example, the "propagation and maintenance of fish and other aquatic life" use requires that the pH remain within the range of 6.0 to 9.0 standard units at all times. This is an example of a numeric criterion. Numeric criteria are provided in Appendix E of the water quality standards.

Numeric criteria consist of a concentration value, exposure duration and an allowable exceedance frequency. The water quality standards prescribe numeric criteria for the "propagation of fish and other aquatic life" use in two forms; acute criteria that are designed to prevent lethality, and chronic criteria that prevent retardation of growth and reproduction. The numeric criteria for acute aquatic life protection are specified as one-hour average concentrations that are not to be exceeded more than once in a three-year period. The criteria for chronic aquatic life protection are specified as four-day average concentrations that are not to be exceeded more than once in a three-year period. The exposure time criterion for human health protection is unspecified but there are no allowable exceedances.

West Virginia Environmental Quality Board

One function of the West Virginia Environmental Quality Board is issuing rules that set the water quality standards for West Virginia. The board also has the authority to hear appeals of regulatory decisions related to the state's Water Pollution Control Act.

For the current standards, visit **www.wveqb.org**

Water quality criteria also can be written in a narrative form. For example, the water quality standards contain a provision which states that wastes, present in any waters of the state, shall not adversely alter the integrity of the waters or cause significant adverse impact to the chemical, physical, hydrologic, or biological components of aquatic ecosystems. Narrative criteria are contained in Section 3 of 46 CSR 1.

Table 1 – West Virginia Designated Uses

Designated Use			Description
Human Health	A	Public Water	Waters, which after conventional treatment, are used for human consumption.
Aquatic Life	B1	Warm Water Fishery	Propagation and maintenance of fish and other aquatic life in streams or stream segments that contain populations composed of all warm water aquatic life.
Aquatic Life	B2	Trout Waters	Propagation and maintenance of fish and other aquatic life in streams or stream segments that sustain year-round trout populations. Excluded are those streams or stream segments which receive annual stockings of trout but which do not support year-round trout populations.
Aquatic Life	B4	Wetlands	Propagation and maintenance of fish and other aquatic life in wetlands. Wetlands generally include swamps, marshes, bogs and similar areas.
Human Health	C	Water Contact Recreation	Swimming, fishing, water skiing and certain types of pleasure boating, such as sailing in very small craft and outboard motor boats.
Other	D	Agriculture and Wildlife	*(These are combined into one use in the EPA's Assessment Database*).
	D1	Irrigation	All stream segments used for irrigation.
	D2	Livestock Watering	All stream segments used for livestock watering.
	D3	Wildlife	All stream segments and wetlands used by wildlife.
Other	E	Water Supply Industrial, Water Transport, Cooling and Power	*(These are combined into one use in the EPA's Assessment Database).*
	E1	Water Transport	All stream segments modified for water transport and having permanently maintained navigation aides.
	E2	Cooling Water	All stream segments having one or more users for industrial cooling.
	E3	Power Production	All stream segments extending from a point 500 feet upstream from the intake to a point one-half mile below the wastewater discharge point.
	E4	Industrial	All stream segments with one or more industrial uses. It does not include water for cooling.

Aluminum Criteria Change

Since the last reporting cycle, there were few changes in criteria. One change that had a significant impact occurred in April 2003, when the EPA approved changes to West Virginia's aluminum aquatic life protection criteria from total recoverable to dissolved aluminum. The previous and current standards are summarized in Table 2.

Table 2 - Aluminum Water Quality Criteria

	Acute	Chronic
(Previously-applicable) **Total Recoverable Aluminum (µg/l)**	750	-
(Currently-applicable) **Dissolved Aluminum (µg/l)**	750	87

The criteria change has significantly altered the West Virginia waters identified as impaired relative to aluminum in the 2004 Section 303(d) list. Some waters that were identified as impaired on the 2002 list (relative to the previously-applicable total recoverable aluminum criterion) are included on the 2004 list because available dissolved aluminum water quality data also indicated impairment. Others have been delisted because the dissolved aluminum water quality data did not indicate impairment. The 2004 list also contains waters that are newly identified as impaired relative to dissolved aluminum. Decisions on placing a water on the 2004 list relative to an aluminum impairment were based upon the review of dissolved aluminum water quality data and the decision methodologies presented in the Assessment Methodology section. For some previously listed waters, there is not readily available water quality data of sufficient quality and/or quantity to make stream-specific impairment decisions regarding dissolved aluminum. In waters where both total recoverable and dissolved aluminum water quality data exists, it does not support a universal conclusion that waters impaired pursuant to the total recoverable aluminum criteria are also impaired pursuant to the dissolved criteria. In the absence of data, the DEP is unable to demonstrate a sound scientific basis for impairment, as encouraged by the EPA's recent 2004 Integrated Report guidance. Therefore, unless dissolved aluminum water quality data is available and indicates impairment, waters previously listed for total aluminum have been delisted.

The DEP will not forsake aluminum impairment assessment and/or TMDL development for delisted legacy waters. Nearly all of the legacy mine drainage impaired streams have multiple impairments (i.e. additional impairments relative to iron, manganese, and/or pH numeric criteria.). The DEP has initiated TMDL development in Hydrologic Groups A, B and C. All legacy mine drainage impaired waters in those Hydrologic Groups have been targeted and all pre-TMDL monitoring plans include a comprehensive assessment of total and dissolved aluminum. As such, the DEP will have recent and robust water quality data to make impairment decisions and support dissolved aluminum TMDL development where necessary. Pre-TMDL monitoring plans for mine drainage impaired waters in Hydrologic Group D and E will also include aluminum monitoring, regardless of the water's 303(d) listing status at the time that those watersheds are monitored. If dissolved aluminum impairment is indicated, then TMDL development will be immediately directed, in conjunction with TMDLs for other pollutant parameters, as appropriate.

The 2004 Section 303(d) list includes 166 waters, comprising 2,090 stream miles, that are impaired pursuant to the new dissolved aluminum criteria.

Ohio River Criteria

For the Ohio River, both Ohio River Valley Water Sanitation Commission (ORSANCO) and West Virginia water quality criteria were considered as required by the ORSANCO compact. Where both ORSANCO and West Virginia standards contain a criterion for a particular parameter, instream values were compared against the more stringent criterion. The DEP supports ORSANCO's efforts to promote consistent decisions by the various jurisdictions with authority to develop 305(b) reports and 303(d) lists for the Ohio River (See the Interstate Water Coordination section).

The EPA's Integrated Report guidelines request states identify all waters that will be monitored in the next two years and to describe any significant changes to their overall monitoring strategy. Since this is West Virginia's first integrated report, an overview of the DWWM's water quality monitoring efforts is included. The Watershed Branch of the DWWM collects much of the state's water quality data.

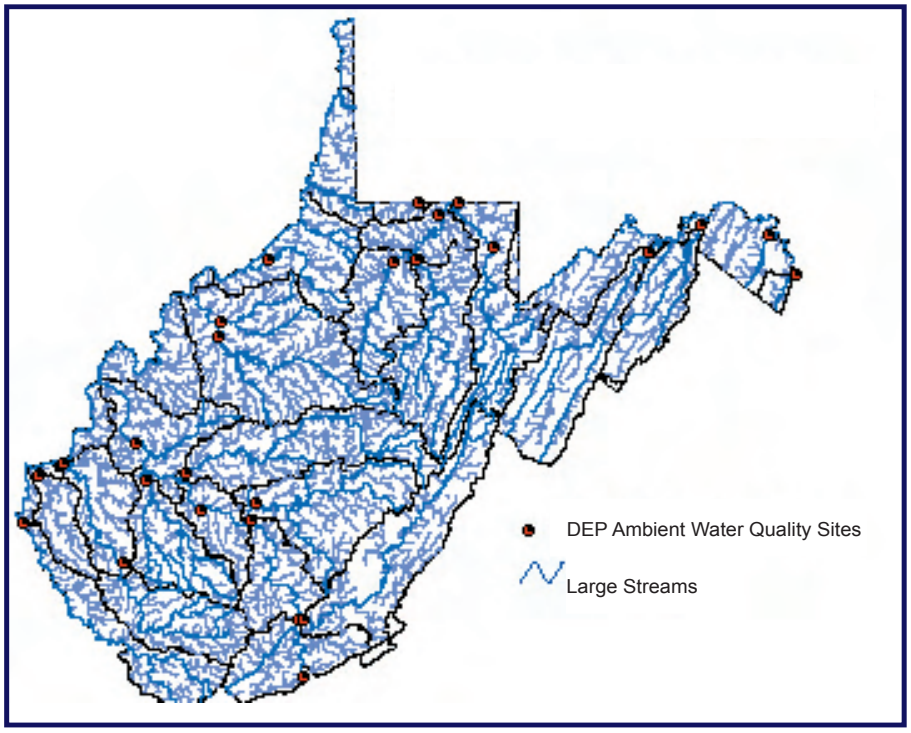
Streams and Rivers

West Virginia has a comprehensive strategy for monitoring the flowing waters of the state. Flowing waters are by far the most prevalent surface waterbody type in the state. The Watershed Branch utilizes a tiered approach, collecting data from long-term monitoring stations; targeted sites within watersheds on a rotating basin schedule; randomly selected sites; and sites chosen to further define impaired stream segments in support of TMDL development. The following paragraphs present these approaches in further detail.

The Ambient Water Quality Monitoring Network

The Ambient Water Quality Monitoring Network was established in the 1960s. The network currently consists of 25 fixed stations (Figure 2) which are sampled four times a year. Sampling stations are located at the mouths of the state's larger rivers and additional sites are situated to isolate the impacts from major industrial complexes and other potential sources of impairment. The data provides information for trend analyses, general water quality assessments, pollutant loading calculations, and many other valuable uses.

Figure 2 – West Virginia Ambient Water Quality Stations



Probabilistic (random) Sampling

Probabilistic sampling began in 1997. This program utilizes sites that are selected randomly by the EPA's facility in Corvallis, Ore. The data collected at these sites can be subjected to statistical analysis to provide an overall characterization of a watershed. This analysis can then be used to predict the probability of a condition occurring within a watershed. The initial probabilistic sampling cycle, which concluded in 2001, was conducted in accordance with the five-year framework cycle. Thirty sites were sampled within 25 watersheds or watershed groupings. The watershed organization mirrored the West Virginia's 8-digit HUC watersheds, except that certain smaller watersheds were combined with larger ones as follows:

- Shenandoah (Jefferson County) and Potomac Direct Drains
- Shenandoah (Hardy County) and Cacapon
- Youghiogheny and Cheat
- James and Upper New
- Lower Ohio and Big Sandy
- Dunkard Creek and Monongahela

A second round of probabilistic sampling, initiated in 2002, modified the framework cycle to the statewide approach. The objective this time is to collect 30 samples from each watershed group over a five-year period (six sites are collected from each watershed group annually). At the end of the five-year cycle, each watershed group will still be able to be independently characterized. Departure from the framework cycle will minimize the effects of extreme conditions, such as periodic droughts and flooding, and will allow for annual updates of statewide stream conditions. Data collection protocols are similar to those applied to watershed assessment sampling. However, probabilistic sampling includes more rigorous water quality and habitat analysis. In addition to benthos, periphyton also is collected for biological community analysis. Results from the initial probabilistic sampling cycle are discussed in the Probabilistic Results section.

Targeted Sampling

Targeted sampling has been a component of West Virginia's assessment toolbox since the Watershed Assessment Section's (formerly the Watershed Assessment Program) inception in late 1995.

Streams are sampled according to a five-year rotating basin approach (See Figure 1). Sites are selected from the watersheds targeted for each particular year. Each site is subjected to a one-time evaluation of riparian and instream habitat, basic water quality parameters, and benthic macroinvertebrate communities.

Sites are selected to meet a variety of the stakeholders' needs and include the following classifications:

- Impaired streams
- Reference (minimally impacted) streams
- Spatial trends (multiple sites on streams exceeding 15 miles in length)
- Areas of concern as identified by the public and stakeholders
- Previously unassessed streams

Pre-TMDL Development Sampling

As the DEP assumed the TMDL development responsibility from the EPA, the need for more and newer data in developing useful TMDLs was obvious. The objective of this effort is to collect sufficient data for TMDL modelers to develop stream restoration plans. Pre-TMDL sampling follows the framework cycle. For example, impaired streams from watersheds in Hydrologic Group A will be sampled in the same year as the targeted sampling.

The 303(d) list is the basis for initial site selection and additional sites are added to allow identification of the suspected sources of impairment. Benthic macroinvertebrate sampling is conducted in 303(d) listed streams having aquatic life impairments. Assessment of water quality impaired streams is more intensive and consists of monthly sampling for parameters of concern. This method captures data under a broad variety of weather conditions and flow regimes. Pre-TMDL sampling also includes an effort to locate the specific sources of impairment, with particular focus on identifying nonpoint landuse stressors as well as any permitted facilities that may not be meeting their requirements (See the TMDL Development Process).

Biological Indicators

Benthic macroinvertebrates are collected from riffle substrate in wadeable streams and identified to genus level. This assemblage of aquatic life organisms provides a direct means of assessing the aquatic life use support and can be collected and identified fairly easily. It has the advantage over one-time water quality samples in that the benthic community is affected by and provides indications of past water quality conditions. The DEP currently uses the West Virginia Stream Condition Index (WVSCI), a family level multimetric index developed specifically for use in West Virginia. This is the primary means of assessing attainment of the aquatic life use. The DEP has applied for funding to help develop a genus level index and a predictive model.

Citizen Monitoring

The fourth stream assessment project is the West Virginia Save Our Streams (SOS) volunteer monitoring program. Initiated in 1989, this program encourages citizens to become involved in the improvement and protection of the state's streams. The focus is largely on nonpoint source pollution abatement. SOS has two objectives. First, to provide the state with enhanced ability to monitor and protect its surface waters through increased water quality and benthos data collection. Second, to improve water quality through educational outreach to the state's citizens. After citizens are actively involved in stream monitoring and restoration activities, they can initiate improvement projects within their own watersheds. Training workshops are conducted annually to provide quality assurance. All data collected is submitted to the SOS program coordinator. Data is then assessed and problem areas are identified for more extensive evaluation by the Watershed Assessment Section. The program also prepares annual "State of Our Streams" reports.

Lakes and Reservoirs

West Virginia does not make a distinction between lakes and reservoirs. By state definition, a publicly owned lake is any lake, reservoir, or pond that meets the definition of "waters of the State," is owned by a government agency or public utility, and is managed as a recreational resource for the general public.

The DEP conducted lake water quality assessments from 1989 through 1996. This program was funded by the federal Clean Lakes Program, which was phased out in 1995. Without a federal funding source, the DEP has not been able to perform water quality monitoring on the state's public reservoirs since that time. Provided that no new data from external sources became available, the lake assessments that resulted from the initial work effort were retained in this report. However, beginning in July 2004, the DEP resumed limited lakes monitoring in support of nutrient criteria development. In partnership with the Department of Agriculture and the Environmental Quality Board, 13 lakes will be sampled monthly for a variety of nutrient related parameters.

Lakes Being Sampled

Lake Name	County
Bear Lake	Ohio
Beech Fork Lake	Wayne
Charles Fork	Roane
Cheat Lake	Monongalia
Coopers Rock	Monongalia
Curtisville	Marion
Elk Fork	Jackson
Moncove	Monroe
Rock Cliff	Hardy
Spruce Knob	Randolph
Summit	Greenbrier
Sutton	Braxton
Tomlinson Run	Hancock

Additionally, West Virginia's largest reservoirs are sampled by the U.S. Army Corps of Engineers. Although the Corps primary mission is to manage structures to provide navigation and flood control, the agency also is committed to water quality management. The water quality data generated by the Corps has always been used for assessment purposes.

Additional lake information is available from the DNR. The DNR, one of the signatory agencies in the Partnership for Statewide Watershed Management, conducts fish community surveys on many of the state's reservoirs.

Wetlands

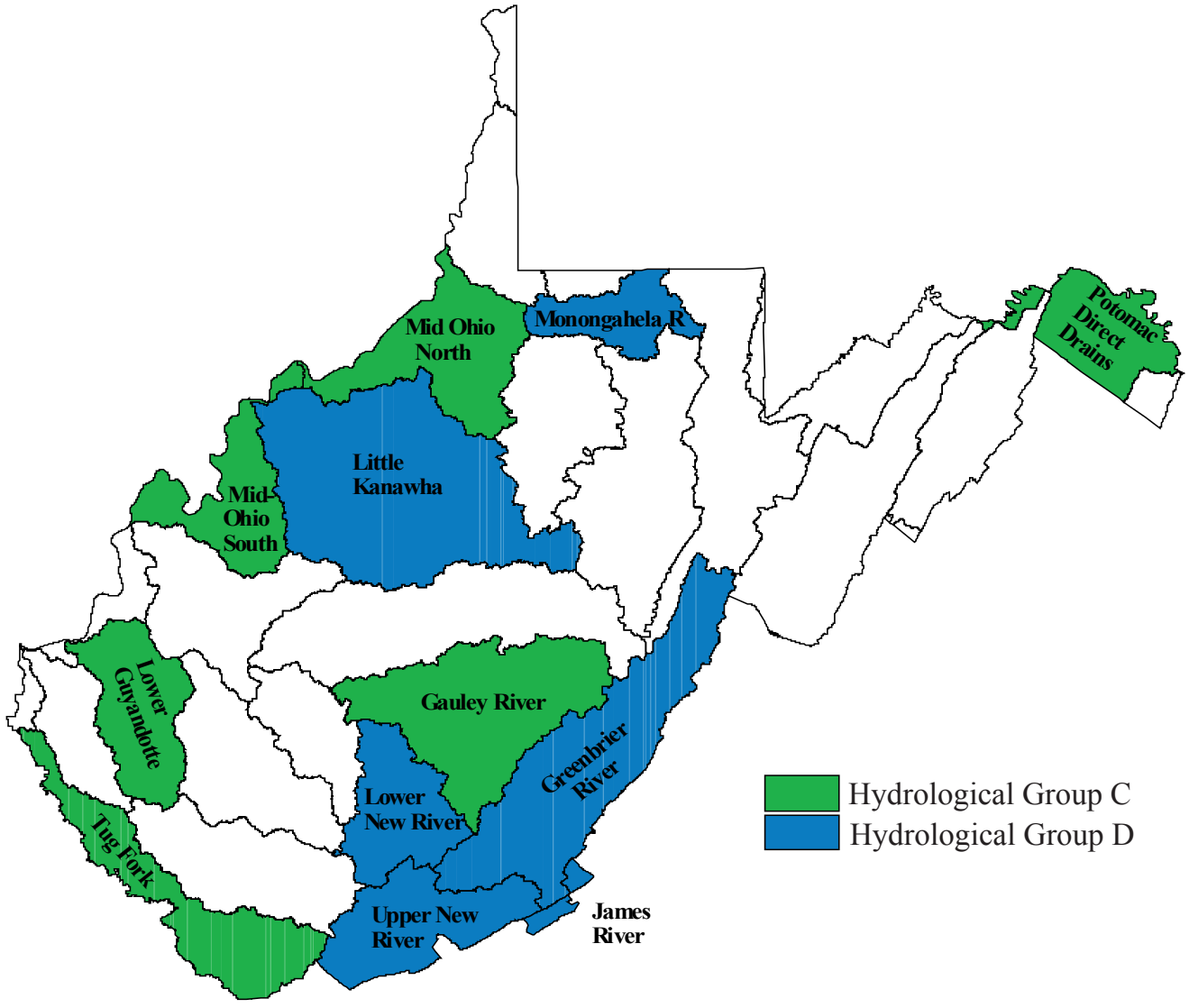
The DNR is pursuing funding to develop a standard wetland data collection and analysis protocol that incorporates water and soil quality, habitat, and biological measures. It is anticipated that the DEP and DNR may begin assessing wetlands as early as 2006. Personnel from the DEP and DNR are participating in the Mid-Atlantic Wetlands Workgroup to gain insight from existing programs in surrounding states.

Waters Monitored From Fiscal Years 2004 through 2005

- 25 ambient sites will be monitored quarterly from July 1, 2003 through June 30, 2005.
- Approximately 150 probabilistic sites will be sampled across the state during this same period. (When the second phase of probabilistic sampling is completed more than 750 sites will have been sampled).

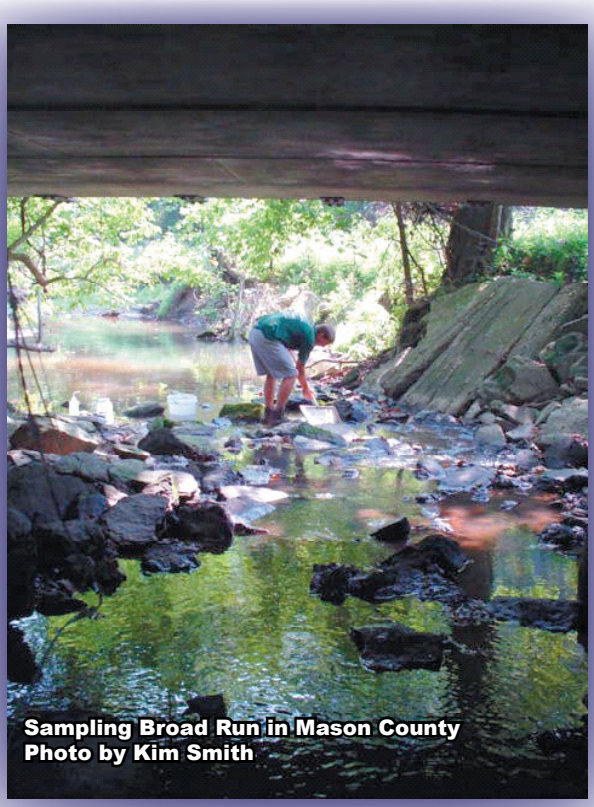
- TMDL development for Group C
  - ☑ 261 sites on 174 streams in the Gauley River Watershed and the Potomac Direct Drains Watershed that will have been monitored monthly from July 2003 through June 2004.
- TMDL development for Group D
  - ☑ Approximately 375 sites on 202 streams will be sampled in the Greenbrier, Upper New, Lower New and Little Kanawha rivers watersheds.
- Group C Targeted Sampling
  - ☑ Approximately 310 targeted sites will have been assessed during the 2003 summer sampling season from Hydrologic Group C watersheds — Gauley River, Potomac Direct Drains, Tug Fork, and the Mid-Ohio North and South watersheds.
- Group D Targeted Sampling
  - ☑ Watersheds will be sampled in 2004. These are the Greenbrier River, Upper New River, Lower New River, Monongahela River, and the Little Kanawha River watersheds. Again, the goal will be to collect approximately 300 samples from these watersheds.
- Lakes
  - ☑ 13 Lakes will be sampled monthly from July 2004 through October 2004.

Watersheds Sampled in Fiscal Year 2004 and 2005



Assessed Data

All readily available data was used during the evaluation process. In preparation for the development of the integrated reporting requirements, the agency sought water quality information from various state and federal agencies, colleges and universities, private individuals, businesses, organizations and others. News releases and public notices were published in state newspapers and letters were sent to state colleges and universities soliciting data for the list. Specific requests for data were made to state and federal agencies known by the DEP to be generators of water quality data. Table 3 identifies the entities that contributed water quality data. The DWWM's staff reviewed data from external sources to ensure that collection and analytical methods, quality assurance and quality control and method detection levels were consistent with approved procedures.


Sampling Broad Run in Mason County
Photo by Kim Smith

Analytical methodology is normally limited to the procedures contained in the federal regulations of 40 CFR 136. In limited instances, where 40 CFR 136 does not include sampling or analytical techniques for a particular pollutant, or where 40 CFR 136 techniques cannot effectively characterize water quality, results obtained from alternative, scientifically-defensible analytical methodologies have been accepted.

Assessment decisions are made using the most accurate and recent data available to the agency. For the stream quality assessment, the DEP generally used water quality data generated between July 1998 and June 2003. The use of data more than five years old is intentionally limited. In the absence of new information, previous assessments are carried forward even if the data becomes older than five years. Additionally, if a water quality criteria change is approved which affects an older assessment, the new assessment will only reflect the current criteria.

Waters are not deemed impaired based upon water quality data collected when stream flow conditions are less than 7Q10 flow (the seven consecutive day average low flow that recurs at a 10 year interval) or within regulatory mixing zones. Further, waters are not deemed impaired based upon "not-detected" analytical results from methodologies that have detection limits that are not sensitive enough to confirm criteria compliance.

Water Analysis Database - WapBase

The DWWM has generated the majority of the available water quality data. Currently all targeted, probabilistic, and pre-TMDL development monitoring data is managed in an access database that was developed in-house and is based largely on the Ecological Data Application System format developed by Tetra Tech, Inc. WapBase houses most water quality, habitat, watershed characteristics, macroinvertebrate data (both raw data and calculated metrics) and supporting information collected by the Watershed Assessment Section.

External Data Providers

Data submitted from sources outside of the Watershed Assessment Section was considered in the development of this report. This includes data from other DEP programs. Table 3 lists the external data providers.

Once data was submitted, the DEP performed the following:

- Determined quality and quantity
- Formatted data for evaluation
- Determined stream codes and mile points (sample site locations)
- Used qualified data from external sources to make assessment decisions

Table 3 - Data Providers for the 2004 303(d) List and Integrated Report

Allegheny Energy Supply	Koppers, Inc.	United States Geological Survey
Cacapon Institute	National Park Service	United States Environmental Protection Agency
Friends of the Cacapon River	ORSANCO	West Virginia Department of Agriculture
Friends of Deckers Creek	Penn Virginia Operating Company, LLC	West Virginia Department of Environmental Protection
Guardians of West Fork Watershed	Plateau Action Network	West Virginia Division of Natural Resources
Heizer/Manila Watershed Organization	Tetra Tech, Inc.	West Virginia Wesleyan College
Indian Ridge Watershed		

EPA's Assessment Database

The EPA's 305(b) Assessment Database software was developed as a tool for state environmental agencies to track water quality assessment data, including use attainment, and causes and sources of impairment. The first version of the database was developed to use for storing assessment information generated under Section 305(b) of the Clean Water Act. The software was developed to ease the burden of state reporting and encourage standardization of reporting between states. The software was designed to store assessment information in a way that was consistent with the EPA's guidance on generating 305(b) reports.

The EPA is encouraging states to integrate the reporting requirements of Sections 305(b) and 303(d) of the Clean Water Act (EPA 2001). In order to support this effort, the database underwent dramatic revisions to accommodate and facilitate the integration of the two programs. The most significant aspect of the Version 2 database is the ability to produce attainment category reports based on the assessment information. The application determines what category an assessment unit falls into based on the results. Additionally, TMDL information is now included.

The Assessment Database supports three primary functions:

- Improves the quality and consistency of water quality reporting
- Reduces the burden of preparing reports under Sections 305(b), 303(d), 314, and 319 of the Clean Water Act
- Improves water quality data analysis

For the 2004 Integrated Report, the EPA's guidance calls for states to place each stream segment into one of five available assessment categories. Prior to placing a stream segment into a category, each applicable designated use for the stream segment must be evaluated.


Upper Two Spring Run in Randolph County Photo by Jeff Bailey

Since the process is somewhat complicated, keep the following basic concepts in mind. If all uses are being attained (no numeric or narrative criteria violations for any designated use) the water is unimpaired and placed in Category 1, fully supporting all uses. At the other extreme lie Category 5 waters. Category 5 waters are impaired by a pollutant and are in need of Total Maximum Daily Load (TMDL) development. Categories 2 through 4 contain waters which either have insufficient data to make use assessments, no data, or TMDLs have already been completed or are not required.

Category Determination

As mentioned above, all stream segments or assessment units fall into one of the following categories:

- Category 1- fully supporting all designated uses
- Category 2- fully supporting some designated uses, but insufficient or no information exists to assess the other designated uses
- Category 3- insufficient or no information exists to determine if any of the uses are being met
- Category 4- waters that are impaired (not meeting one or more designated uses) or threatened but do not need a TMDL
  - ☑ Category 4a- waters that already have an approved TMDL but remain impaired
  - ☑ Category 4b- waters that have other control mechanisms in place which are reasonably expected to resolve the impairment
  - ☑ Category 4c- waters that have been determined to be impaired, but not by a pollutant
- Category 5- waters that have been assessed as impaired (not meeting one or more designated uses) and are expected to need a TMDL. Waters in Category 5 are the same as those contained on the Section 303(d) list. To determine which category a stream segment falls into, the use attainment for all designated uses must be determined. Attainment status choices for each use are:
  - ☑ Not Supporting
  - ☑ Fully Supporting
  - ☑ Insufficient Information
  - ☑ Not Assessed

Use Attainment Determination

Use attainment is determined by the comparison of the instream values of various water quality parameters to the numeric or narrative criteria specified for the designated use (See the Water Quality Standards section for descriptions). Data evaluated for this report was collected between July 1, 1998 and June 30, 2003.

Not Supporting

This section describes protocols used by the DEP to determine stream segments that do not support their designated uses. Stream segments that are not supporting one or more designated uses will fall into either Category 4 or 5. Stream segments are listed as impaired and placed in Category 5 if:

- The segment appeared on the 2002 Section 303(d) list and no new data is available, or new data does not support any changes, or
- Available water quality data for the segment exceeds the impairment thresholds as summarized below in Table 4, or
- Available information demonstrates impairment pursuant to narrative water quality criteria as described later in this section

Table 4 – Numeric Water Quality Decision Criteria for Listing of Impaired Waters

Water Quality Criteria	Impairment Thresholds	Exceptions
Acute Aquatic Life Protection	The water is impaired if two exceedances of acute aquatic life protection numeric criteria occur within any three-year period.	If, in the most recent three-year period, no exceedances of criteria are evidenced and at least 12 monitoring results are available, then the water is not considered impaired.
Chronic Aquatic Life Protection Human Health Protection	The water is impaired if a greater than 10 percent frequency of exceedance is demonstrated in an ample dataset (20 or more available observations). The water is impaired if three exceedances of criteria occur with less than 20 available monitoring results. The water is impaired if a greater than 10 percent frequency of exceedance is demonstrated with less than 20 available observations, if the data being evaluated is of high assessment quality (> two violations).	If, for waters with regularly scheduled monitoring, in the most recent two-year period, no exceedances of criteria are evidenced and at least eight observations are available, then the water is not considered impaired.

A stream segment remains in Category 5 until TMDLs are developed for all pollutants causing impairment or until new information demonstrating use support becomes available.

Stream segments with an unsupported designated use will fall into Category 4 if:

- A TMDL has been developed for the impairment (Category 4a),
- Other regulatory controls are expected to resolve the impairment (Category 4b), or
- The waters are not impaired by a pollutant (Category 4c)

Listing Decision Criteria for Numeric Water Quality Criteria

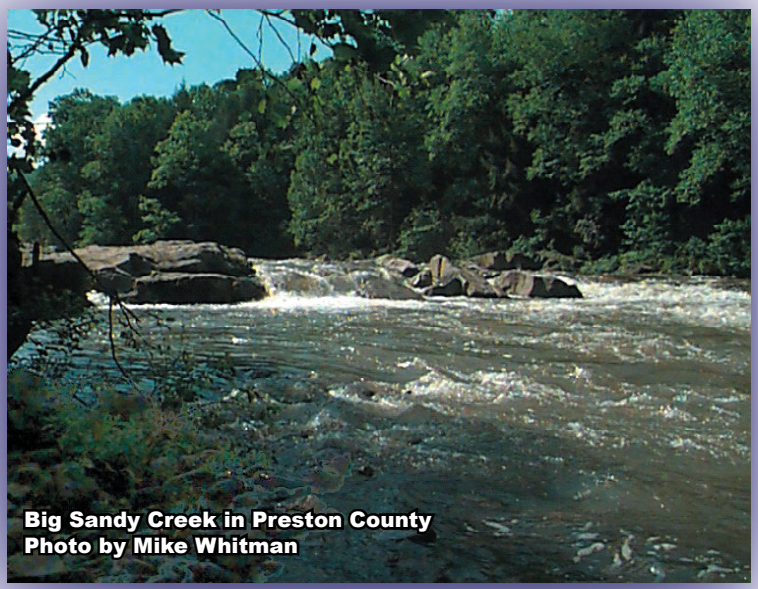
The EPA's most recent guidance for assessment and listing encourages decision criteria commensurate with the implementation provisions of a state's water quality standards (i.e. the concentration value, exposure duration and allowable exceedance frequency as described in the Water Quality Standards section). Previously, the EPA has encouraged 303(d) listing decisions relative to numeric water quality criteria to be based primarily upon the

frequency of exceedance of the value of numeric criteria and the "10-percent rule." Usually, if 10 percent of the observed values exceeded the concentration value of an applicable numeric criterion, then the water was considered impaired and placed on the 303(d) list. West Virginia's 2004 Section 303(d) list complies with the two guidelines with the following exceptions described below.

Typically, if an ample dataset exists and exceedances of chronic aquatic life protection and/or human health protection criteria occur more than 10 percent of the time, the water is considered to be impaired. If the rate of exceedance demonstrated is less than or equal to 10 percent, then the water is considered to be meeting the designated use under evaluation. Ample datasets are considered to include 20 or more distinct observations. If fewer than 20 samples per station or representative area exist and three or more values exceed a criterion value, then the water also is considered to be impaired. For this scenario (three observed violations), if additional non-exceeding monitoring results were available that would increase the dataset size to 20 observations, a greater than 10 percent exceedance frequency would still be demonstrated.

In West Virginia Water Quality Standards, acute aquatic life protection criteria have associated exposure durations of one hour and may be exceeded once every three years. The normal practice of "grab-sampling" ambient waters is generally consistent with the one-hour exposure duration specified in the standards. Therefore, a direct application of the allowable exceedance frequency provided in the standards is made when assessing impairment relative to acute aquatic life protection criteria. If two or more exceedances of acute criteria are observed in any three-year period, the water is considered to be impaired.

If the data being evaluated is generated as part of a comprehensive network being monitored for a specific purpose, the data may be assigned a higher level of assessment quality, and the "10-percent rule" may be applied with confidence to datasets containing less than 20 observations per station. The primary example of an intensified monitoring program that generates higher assessment quality data is that which is conducted by the DEP to support TMDL development. The pre-TMDL monitoring format includes flow measurement and monthly water quality monitoring for one year at multiple locations throughout a watershed. Information is generated over a range of stream flow conditions and in all seasons. Habitat assessment and biological monitoring is performed in conjunction with water quality monitoring. The information generated under this format is among the most comprehensive available for assessing water quality. Upon conclusion of monitoring, it is necessary for agency personnel to make a definitive judgment relative to impairment. In most instances, application of the "10-percent rule" to the pre-TMDL monitoring datasets result in the classification of waters as impaired if two or more exceedances of a criterion are demonstrated.


Big Sandy Creek in Preston County
Photo by Mike Whitman

Some streams have water quality data available at multiple locations. Segmentation of these streams is necessary to determine its impairments by applying the decision criteria to the available water quality data at each monitoring station. If available data at a particular station indicates impairment, the water is considered impaired both

upstream and downstream until a station with available data indicates a nonimpaired condition. In limited circumstances, deviation from that segmentation approach has occurred through the application of professional judgment. Assessment of streams with monitoring information from multiple locations, multiple data sources and/or which have had variations in the timing of water quality monitoring can become difficult. In these cases, available information may not allow distinction of impairment for specific segments. In these limited instances, assessments have been made based on a more integrated waterbody assessment.

Additionally, the DEP does not intend to interpret the impacts of a single pollution event as representative of the current condition of a water if it is known that the problems have been abated. For example, certain waters in the Upper Kanawha Watershed were not identified as impaired for fecal coliform because the demonstrated criteria exceedances were after a significant flood event that damaged sewage treatment plant collection systems, which have since been repaired. Similarly, the DEP does not intend to interpret the results of clustered monitoring of a single event as being representative of water quality conditions for longer time periods. Datasets are screened for excessive clustering of monitoring, in space or time, to avoid misinterpretation.

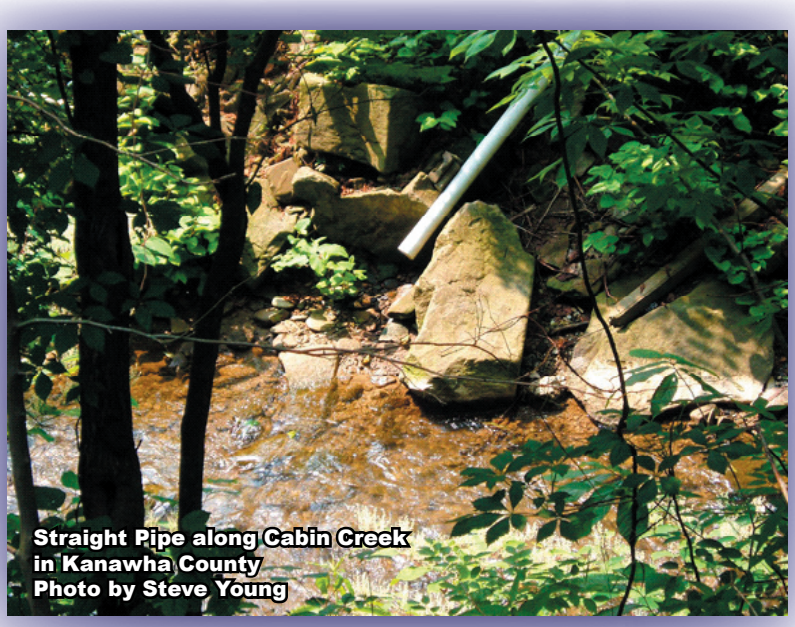
Evaluation of Fecal Coliform Numeric Criteria

Fecal coliform assessments were based on the previously described decision criteria for numeric water quality criteria. Given the complexity of this particular criteria, most assessments are performed by comparing observations to the "maximum daily" criterion value of 400 counts/100ml. Evaluation of the monthly geometric mean fecal coliform criterion (200 counts/100ml) occurs only where five or more individual sample results are available within a calendar month.

Numeric fecal coliform water quality criteria are applicable to the Water Contact Recreation and Public Water Supply designated uses. Section 8.12 of Appendix E of the West Virginia Water Quality Standards states:

> *Maximum allowable level of fecal coliform content for Primary Contact Recreation shall not exceed 200/100ml as a monthly geometric mean based on not less than five samples per month; nor to exceed 400/100ml in more than 10 percent of all samples taken during the month.*

A practical difficulty exists in accurate assessment of criteria compliance due to the DEP's lack of resources to perform monitoring at a sufficient frequency to make determinations using the geometric mean criteria, since the monthly geometric mean criterion is conditioned upon the availability of at least five distinct sample results in a month. The "maximum daily" criterion is not conditioned by a minimum sample set requirement, but practical use of the apparent 10 percent exceedance allowance would involve at least 10 samples per month.



Straight Pipe along Cabin Creek in Kanawha County
Photo by Steve Young

The most frequent and regular fecal coliform water quality monitoring conducted by the Watershed Assessment Section is once per month. That monitoring frequency precludes assessment of the monthly geometric mean criterion and hampers accurate assessment of the maximum daily criterion. Due to limited resources, more

frequent fecal coliform monitoring could only be accomplished by significantly reducing the number of West Virginia streams and/or stations where water quality assessments are performed. The DEP does not consider that to be a reasonable alternative.

The DEP uses the following protocols when making assessments relative to fecal coliform numeric criteria:

- No assessments will be based upon the monthly geometric mean criterion (200 counts/100ml) unless an available dataset includes monitoring at five per month or greater frequency. If such datasets become available, the listing decision criteria for numeric water quality criteria will be applied, considering each monthly geometric mean as an available monitoring result.
- The listing decision criteria will be applied to the maximum daily criterion (400 counts/100ml) and available individual monitoring results, but without the monthly prejudice. For example, if twice per month monitoring was conducted for a year and two results in two separate months were greater than 400, the stream would be assessed as fully supporting (2/24 - 8.3 percent rate of exceedance) rather than insufficient data (two months per 12 months exceedance).
- The availability of data at a frequency sufficient to assess the geometric mean criterion will not alter the protocol for maximum daily criterion assessment. For example, if five samples per month monitoring is conducted for one year and four daily results greater than 400 were measured in four different months, the stream would be assessed as fully supporting (4/60 – 6.7 percent rate of exceedance) rather than nonsupporting (four months per 12 months exceedance).

The decision criteria does not provide for 303(d) listing of waters with severely limited datasets and exceedances (i.e., one sample in a five-year period > 400 counts/100ml). Such waters would be classified as having insufficient data available for use assessment. The DEP will target these "fecal one-hit" waters for additional monitoring by incorporating them into the pre-TMDL monitoring plans at the next opportunity for TMDL development in their watershed. Where the intensified pre-TMDL monitoring (monthly sampling for one year) indicates impairment, TMDL development will be immediately initiated, even though the water may not be included in Category 5 of the current Integrated Report.

Evaluation of pH Numeric Water Quality Criteria

For the 2004 Integrated Report, the DEP evaluated all recent (July 1998 – June 2003) pH water quality data under the previously described listing criteria for numeric water quality criteria. Waters were identified as impaired pursuant to the pH criterion if recent data exceeded listing criteria or if the water was previously listed and insufficient new data were available to reassess the water. The impaired lengths of certain streams were adjusted to recognize ongoing limestone treatment operations that have resulted in the attainment of the pH criterion in the treated segments. Please reference Page 27 for additional information regarding low pH impairment and atmospheric deposition.

Narrative Water Quality Criteria - Biological Impairment

The narrative water quality criterion of 46 CSR 1 - 3.2.i. prohibits the presence of wastes in state waters that cause or contribute to significant adverse impact to the chemical, physical, hydrologic and biological components of aquatic ecosystems. Streams are listed as biologically impaired based on a survey of their benthic macroinvertebrate community. Benthic macroinvertebrate communities are rated using a multimetric index developed for use in wadeable streams of West Virginia. The West Virginia Stream Condition Index (WVSCI) is composed of six metrics that were selected to maximize discrimination between streams with known impairments and reference streams. Streams with WVSCI scores of 60.6 or less are considered biologically impaired and included on the 303(d) list. Benthic macroinvertebrates are collected with a 500 μm mesh rectangular dip net. The kick sample is collected from the 2.0 m^2 of substrate. Identifications are completed for a 200-organism subsample.

The WVSCI was developed from data using these methods. Streams are listed as being biologically impaired only if the data was comparable (i.e., collected utilizing the same methods used to develop the WVSCI, adequate flow in riffle/run habitat, and within the current index period of April through October).

Streams with low biological scores are listed as having an unknown cause of impairment on the 303(d) list and most are listed, by default, for their entire length. It is doubtful that the entire length of every stream is impaired, but without further data, the exact length of impairment is unknown. Each listed stream will be revisited prior to TMDL development. The additional assessments performed in the pre-TMDL monitoring effort will better define the impaired length. The causative stressor(s) of the impairment and the contributing sources of pollution also will be identified in the TMDL development process. If the stressor identification process demonstrates that the biological impairment is not caused by a pollutant, then no TMDL will be developed.

Certain biologically impaired streams have been evaluated but they were not immediately placed on the 303(d) list or in Category 5. The impairment source for these streams has been linked to a pollutant for which a TMDL has already been developed. An example scenario would be a low biological score on a stream that has a TMDL developed for mine drainage. If the pollutant reductions specified by the TMDL are achieved, the biological community would likely restore itself. In these cases, after careful evaluation, the stream was not listed or placed in Category 5 because the full implementation of an existing TMDL is expected to correct the problem. If implementation of the TMDL resolves the pollutant specific impairment but biological scores remain low, then the biological impairment would be listed and the stream would return to Category 5.

WV Stream Condition Index (WVSCI)

The WVSCI consists of six benthic community metrics combined into a single multimetric index. The WVSCI was developed in 2000 by Tetra Tech Inc. using the DEP's & the EPA's data collected from riffle habitats in wadeable streams.

WVSCI Scoring Criteria
> 68.0 Unimpaired
> 60.6 to 68 "Gray Zone"
≤ 60.6 Impaired

In general terms, all metric values were converted to a standard 0 (worst) to 100 (best) point scale. The six standardized metric scores were then averaged for each benthic sample site to come up with a final index score ranging from 0.0 to 100. Using the distribution of scores from all sites that are considered reference sites, an impairment threshold of 68.0 was established. If a stream site received a WVSCI score greater than 68.0, it was considered to be unimpaired. Initially, a site that received a WVSCI score equal to or less than 68.0 was considered impaired. However, because the final WVSCI score can be affected by a number of factors (collector, micro-habitat variables, subsampling, etc.), agency personnel sampled sites in duplicate to determine the precision of the scoring.

Following an analysis of the duplicate data, agency personnel determined the precision estimate to be 7.4 WVSCI points for a single sample. This value (7.4) was then subtracted from the impaired threshold score of 68.0 and generated what is termed the "gray zone" that ranges from 60.6 to 68.0. If a site had a WVSCI score within the gray zone, a single kick sample was considered insufficient for classifying it as impaired. If a site received a WVSCI score less than 60.6, the agency was highly confident that the site was truly biologically impaired based on that benthic macroinvertebrate sample.

Narrative Water Quality Criteria – Fish Consumption Advisories

The narrative water quality criterion of 46 CSR 1 - 3.2.e prohibits the presence of materials in concentrations that are harmful, hazardous or toxic to man, animal or aquatic life in state waters. In the absence of specific body-burden criteria, the presence of contaminants in fish tissue in amounts that warrant a public health agency to recommend limiting the ingestion of fish is considered sufficient evidence of impairment.

Fish consumption advisories are used to inform the public about potential health risks associated with eating fish from West Virginia's streams. The DEP, DNR, and the West Virginia Bureau for Public Health have collaborated on fish contamination issues since the 1980s. An executive order by the governor in 2000 mandated a formal collaborative process to issue fish consumption advisories. Fish consumption advisories are developed and issued

in accordance with an interagency agreement. There are currently fish consumption advisories on eight state streams for a variety of fish species and contaminants.

Most West Virginia streams with fish consumption advisories are considered impaired and have had a TMDL completed for the causative pollutant. A unique situation exists relative to fish tissue mercury concentrations. West Virginia water quality standards contain a numeric body-burden criterion for methylmercury in fish tissue. The criteria is 0.5 μg/g to protect the public water supply and water contact recreation designated uses. In the Ohio River, the applicable ORSANCO body-burden criterion is 0.3 μg/g. Where body-burden mercury fish tissue data is available, impairment decisions are based upon a direct comparison of observations to the criteria.

Fish Advisories

Scientists in West Virginia and across the nation have long suspected that fish contaminated with certain chemicals may pose health risks to those who frequently consume these fish.

For a current listing of fish advisories, visit **www.wvdhhr.org/fish/**

Risk-based principles are used to determine whether fish consumption advisories are necessary. These advisories are used as a public education tool to help citizens make informed decisions about eating fish caught in state streams. The risk-based approach estimates the probability of adverse health effects and provides a statement on the health risk facing the angler and high-risk groups including women of childbearing age and children. West Virginia's fish consumption advisories include guidelines on the number of meals to eat and information on proper fish preparation to further minimize risk.

Fully Supporting

Stream segments that support all designated uses are placed in Category 1. This section describes the guidelines used by the DEP to demonstrate use-support for each designated use.

> *Special Notes: Not all parameters with applicable numeric criteria must be monitored. A fully supporting assessment is made if the mandatory parameters have been monitored and the monitoring results demonstrate compliance with criteria.*

If monitoring results are available for "non-mandatory" parameters, they also must indicate compliance with the criteria for those parameters if a fully supporting assessment is made. For limited datasets (less than 20 samples per station), no criteria exceedances can be evident. If 20 samples per station or more are available then compliance would be determined by application of the listing criteria (i.e., less than 10 percent exceedance rate for chronic aquatic life and human health criteria, less than two violations of acute criteria in a three-year period, no violations in the most recent two- or three-year period, as applicable).

Category B (Aquatic Life) Designated Uses

For a water to be determined fully supporting, biomonitoring must have been performed and results must show a WVSCI score > 68.0. Also, there must not be any exceedance of any other aquatic life protection water quality criteria (less than 20 samples per station) or any exceedance of listing criteria (20 samples per station or more).

The WVSCI methodology can be applied only to wadeable streams. Most nonwadeable streams are part of the Ambient Water Quality Monitoring Network and are sampled quarterly for a variety of pollutant parameters. If no exceedance of listing criteria (for aquatic life criteria) is demonstrated and no other information demonstrates adverse impact to aquatic ecosystems, then these streams are considered "fully supporting."

Category A (Public Water Supply) and C (Contact Recreation) Designated Uses

For a water to be determined fully supporting, at least one fecal coliform monitoring result less than 400 counts/

100ml must be available. Also, there must not be any exceedance of any other human health protection water quality criteria (less than 20 samples per station) or any exceedance of listing criteria (20 samples per station or more) for the water to be considered fully supporting.

Category D (Agriculture and Wildlife) and E (Water Supply Industrial, Water Transport, Cooling and Power) Designated Uses

For a water to be determined fully supporting, pH and Dissolved Oxygen must have been monitored and results must indicate compliance with criteria. Also, there must not be any exceedance of any other Category D and E water quality criteria (less than 20 samples per station) or any exceedance of listing criteria (20 samples per station or more) for the water to be considered "fully supporting."


An unnamed tributary of the New River in Summers County
Photo by Jason Morgan

Insufficient Data and Not Assessed

Stream segments without sufficient data to determine use support or impairment may be placed in either Category 2 or 3. Category 2 houses waters with some uses deemed fully supporting, but lacking sufficient information to assess other uses. Waters are placed in Category 3 if insufficient or no information exists to determine if any of the uses are being met.

The use is considered insufficient data when there is some water quality data available, but not enough to conclude that the use is fully supporting or not supporting. The following situations produce an insufficient data designation:

- Instream monitoring results demonstrated criteria exceedances, but at a frequency insufficient to deem the use impaired (see Table 4)
- Water quality data is available for some parameters but is not available for mandatory parameters
- Biological assessment returned a gray result (WVSCI score between 60.6 and 68.0)

A use is not assessed if a stream has not been sampled within the last 15 years for any parameter that has an applicable water quality criteria for the use being evaluated.

This section contains the results from all the data (Table 5) that has been assessed for West Virginia waterbodies. The results reveal that about 27 percent of West Virginia's streams are in either Category 1 or 2 (fully supporting all assessed uses). Category 3, streams with no data available, makes up 43.3 percent, the largest percentage of the five categories. However, that number is somewhat deceiving. The streams with no data are typically small unnamed tributaries, which usually contribute to the larger waterbodies which have been assessed. All major waterways in the state, such as the Kanawha, Monongahela and Little Kanawha rivers, have data and have been assessed and placed into one of the other four categories. Fewer than one-third of West Virginia's streams are impaired and fall into either Category 4 or 5.

Table 5 – 2004 Category Summary Report for West Virginia

Water Type: STREAM (Units: MILES)			
Category	Total Size	%	Stream Count
1	3348	11.5	805
2	4476	15.4	1165
3	12629	43.3	6616
4A	2332	8.0	473
4B	0.0	0.0	1
4C	44	0.2	39
5	6315	21.6	880
Water Type: FRESHWATER LAKE (Units: ACRES)			
Category	Total Size	%	Lake Count
1	1330	6.8	30
2	5645	28.9	41
3	44	0.2	1
4A	193	1.0	9
4B	0	0.0	0
4C	0	0.0	0
5	12296	63.1	8

Since the lists of Category 1, Category 2 and Category 3 waters are quite large, they have not been published with this report but can be viewed on the DEP's Web site, www.wvdep.org (type in Category in the "search DEP"). Hard copies of Category 1, 2 and/or 3 lists can be obtained by contacting agency personnel at (304) 926-0495 (TTY/TDD (304) 926-0489). Category 4 and 5 waterbodies are included as supplements, located in back of this document.

Category 5 includes 880 impaired streams, covering approximately 6,315 stream miles, as identified on West Virginia's 2004 Section 303(d) list. This number has increased from 667 streams spanning 4,374 miles on the 2002 list. The rise is largely due to an increase in the DEP's monitoring of known or suspected impaired waters. This monitoring was performed in support of TMDL development.

Table 6 contains a detailed breakdown of use support specific to the use categories for West Virginia waters as set-forth in the Water Quality Standards (46 CSR 1).

The most common numeric water quality criteria impairments remain those related to mine drainage, bacterial contamination and atmospheric deposition (acid rain). Numerous listings of aquatic life impairments also are contained on the list, based on narrative water quality criteria and the biological assessments of state waters.

Mine Drainage

Mine drainage continues to impact many West Virginia waters. Mine drainage streams are impaired by low pH and/or elevated concentrations of metals, including iron, aluminum, and manganese. Many of these streams also exhibit biological impairment. The 1998 Section 303(d) list included 488 streams impacted by mine drainage and the 2002 list contained 128 specific waters. TMDLs have been developed for mine drainage impaired streams in the Cheat River, Tygart Valley River, Paint Creek, Elk River, Buckhannon River, Ten Mile Creek, Monongahela River, Dunloup Creek, Tug Fork River, West Fork River, Guyandotte River and Stony River watersheds. The remaining TMDL mine drainage impairments from the 1998 list will be addressed before March 30, 2008. The 2004 list contains 80 streams listed as impaired by mine drainage from the 1998 Section 303(d) list. Those 80 streams cover approximately 373 miles.

Table 6 – West Virginia Individual Use Support Summary

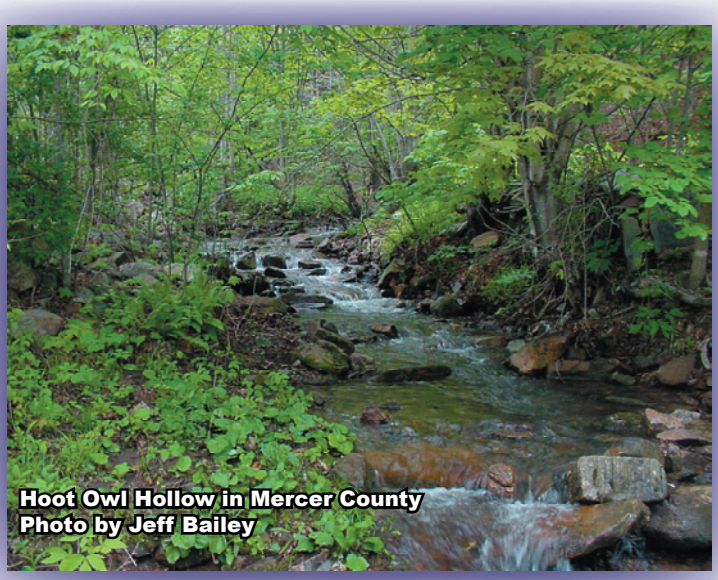
For Lakes Units are Acres						
Use	**Total Size**	**Size Fully Supporting**	**Size Fully Supporting and Threatened**	**Size Not Supporting**	**Size Not Assessed**	**Size Insufficient Information**
Agriculture and Wildlife	19508	2562	0	0	16947	0
Public Water Supply	19508	2566	0	12489	4454	0
Trout Waters	1111	986	0	0	0	125
Warm Water Fishery	18397	1365	0	193	4478	12361
Water Contact Recreation	19508	7160	0	12304	0	44
Water Supply Industrial, Water Transport, Cooling and Power	1730	0	0	0	0	1730
For Streams Units are miles						
Use	**Total Size**	**Size Fully Supporting**	**Size Fully Supporting and Threatened**	**Size Not Supporting**	**Size Not Assessed**	**Size Insufficient Information**
Agriculture and Wildlife	29145	13543	0	1767	13452	383
Public Water Supply	29134	6932	0	5353	12718	4132
Trout Waters	3148	1637	0	794	378	339
Warm Water Fishery	25997	3956	0	6910	11929	3202
Water Contact Recreation	29145	8311	0	3767	12160	4907
Water Supply Industrial, Water Transport, Cooling and Power	474	96	0	335	5	38

Bacterial Contamination

Many West Virginia waters contain elevated levels of fecal coliform bacteria. Contributors to the problem include leaking or overflowing sewage collection systems, illegal homeowner sewage discharges by straight pipes or failing septic systems, and runoff from urban or residential areas and agricultural lands. Other West Virginia waters besides those identified on the list may be impaired for fecal coliform bacteria, but those waters are not listed because there is insufficient or no data demonstrating impairment. The DEP's watershed assessment and TMDL development methodologies will subject suspect streams to intensified bacteria monitoring in the future and additional listings will be forthcoming. This targeting effort has increased the number of fecal coliform listings from 29 on the 2002 Section 303(d) list to 189 on the current list. The combined length of waters identified as impaired for fecal coliform is approximately 1,634 miles.

Atmospheric Deposition

The aquatic life communities in the headwaters of many West Virginia streams continue to be impacted by low pH. The impairment is most prevalent in watersheds with soils of low buffering capacity and most often caused by acid precipitation. The DNR implements a program to treat impacted stream segments with the addition of limestone. In many instances, the treatment projects have restored instream pH to acceptable levels and a fishery has returned or improved.



Hoot Owl Hollow in Mercer County
Photo by Jeff Bailey

In past 303(d) lists, low pH impairments that could not be attributed to mining were assumed to be caused by acid rain. The department recognized that historical mining sources which have yet to be identified might be causing or contributing to some of those impairments. The DEP also recognized that the low pH condition of some listed waters might be natural. The water quality data available for listing decisions is not sufficient to allow discrimination between streams with impairment caused by acid precipitation and those with natural low pH conditions. For these reasons, the low pH impairments that are not attributed to mining on the 2004 Section 303(d) list are not absolutely identified as acid rain impairments. In the listing, the associated cause of the impairment is indicated as "unknown." Through its pre-TMDL monitoring efforts, the DEP will generate new information to help determine if the low pH condition is from atmospheric deposition, mine drainage or natural sources. TMDL development will proceed only for impaired waters, and the cause of the impairments source will be identified through the TMDL development process. The 2004 list includes 59 streams with a low pH impairment not attributed to mining.

The West Virginia 2004 Section 303(d) List contains newly listed waters with impairments related to mercury in fish tissue. Atmospheric deposition is nationally recognized as a significant source of mercury in fish tissue and is assumed to contribute to the mercury impairment of West Virginia lakes and streams.

Biological Impairment

The 2002 Section 303(d) list had 486 listings of biologically impaired waters. Biological impairments rose to 545 listing in the 2004 list. The combined length of biologically impaired waters is approximately 2,912 miles. Decisions are based on narrative water quality criteria as determined by assessment of a wadeable stream's benthic

macroinvertebrate community. The narrative water quality criteria is provided in Section 3 and the assessment methodology and the listing decision criteria is provided in Section 5.

While it is premature to judge the cause of biological impairment at the time of listing, it is likely that many TMDLs will identify precipitation-induced sedimentation along with instream and riparian habitat alteration/ destruction as significant sources. In those cases, restoration will likely depend upon nonpoint source pollution controls and nontraditional remedies such as riparian buffer zone establishment and the application of natural stream design concepts to improve instream habitat.

Dissolved Aluminum Impairment

The 2004 Section 303(d) list includes 165 waters, comprising 2,081 stream miles, that are impaired pursuant to the new dissolved aluminum criteria. See under the Water Quality Standard section for more details on the change from total aluminum to dissolved aluminum criteria.

Major River Summaries

Guyandotte River

The Guyandotte River is divided into upper and lower sections. The confluence of Island Creek and the Guyandotte River defines the boundary between the Upper and Lower Guyandotte watersheds. A TMDL was finalized on March 30, 2004 for both the Upper and Lower Guyandotte River and selected tributaries. The upper mainstem segment has TMDLs for dissolved aluminum, fecal coliform, total iron and biological impairment. The lower mainstem segment has a TMDL for total iron and fecal coliform. Mine drainage pollutant TMDLs also have been completed for numerous Guyandotte River tributaries.

Kanawha River and Major Tributaries (Gauley, Elk, Coal, New, and Greenbrier Rivers)

The Kanawha River, like the Guyandotte, also is divided into two sections. The break occurs near the mouth of the Elk River with the upper section extending upstream to the confluence of the New and Gauley rivers. The Upper Kanawha River mainstem is impaired for dissolved aluminum. The Gauley River, from the mouth to river mile 98.0, the Lower New River, from the mouth to river mile 68.2, and the entire length of the Greenbrier River also are impaired for dissolved aluminum. The Lower New River is listed for fecal coliform impairment from river mile 1.2 upstream to river mile 58.2 (near Sandstone Falls, W.Va.) and the Bluestone River is impaired relative to fecal coliform for its entire length in West Virginia.

The Lower Kanawha River segment begins near the mouth of the Elk River and continues downstream to its confluence with the Ohio River at Point Pleasant, W.Va. The lower mainstem is impaired relative to fecal coliform as are the mainstems of the Coal and Elk rivers. Previous efforts in the Lower Kanawha Watershed resulted in a TMDL for dioxin that was completed in 2000. Elk River TMDLs were developed in 2001 to address total iron, total aluminum and dissolved lead impairments. The Elk River also is impaired for dissolved aluminum from its mouth upstream to Sutton Dam. A fecal coliform TMDL is being developed for the Coal River and is expected to be finalized by December 31, 2005.

Monongahela River and Major Tributaries (Cheat, Tygart Valley, and West Fork Rivers)

A TMDL was finalized in 2002 for the mainstem of the Monongahela River for the then applicable total aluminum criteria. TMDLs were finalized on selected tributaries for total aluminum, total iron, total manganese and pH. The entire length of the Monongahela River in West Virginia remains on the 2004 303(d) list for fecal coliform criteria violations.

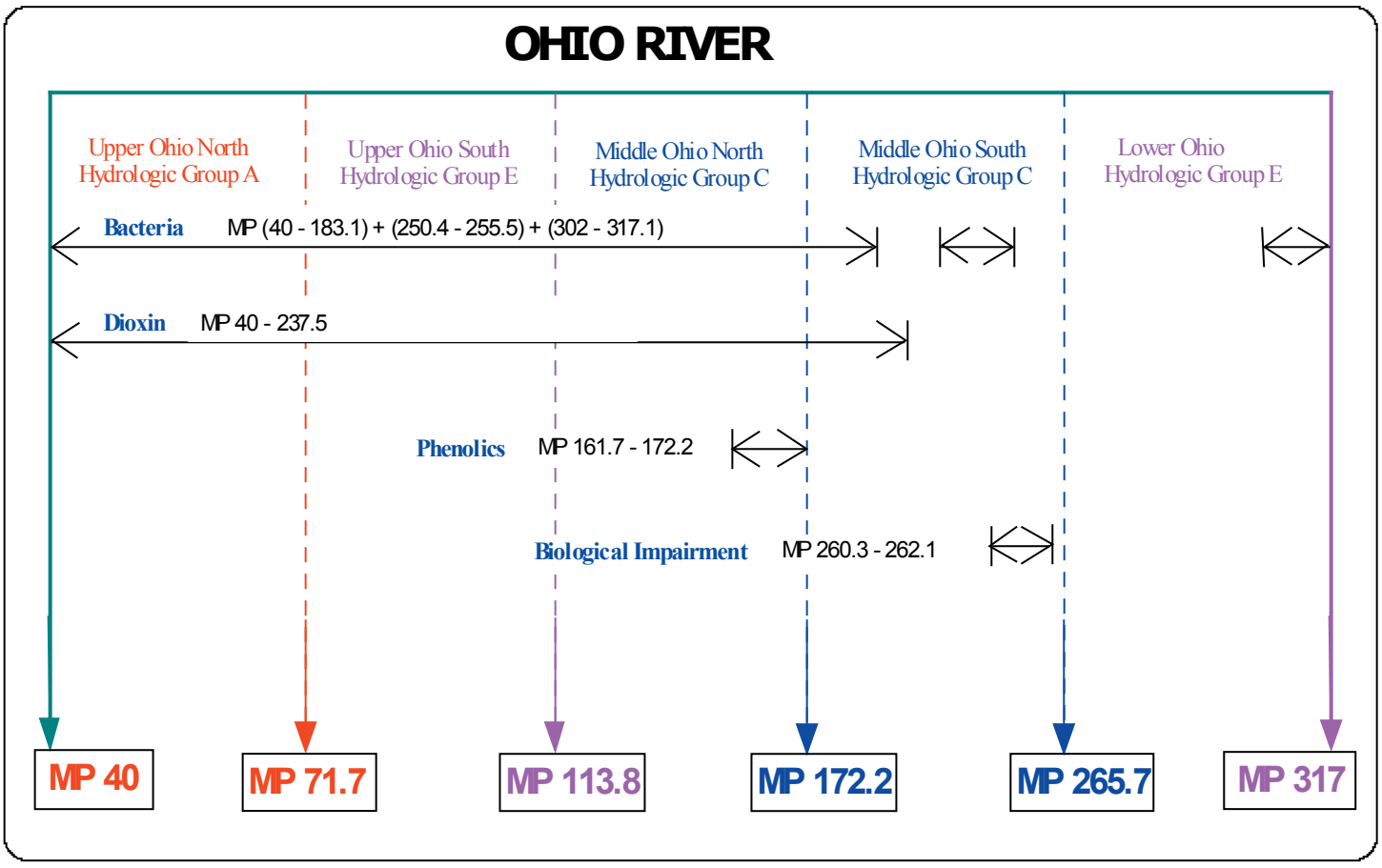
The three major tributaries of the Monongahela River are the Cheat, Tygart Valley and West Fork rivers. All three rivers have undergone TMDL development for total iron, total aluminum, total manganese and pH. The Cheat River and Tygart Valley River TMDLs were finalized in 2001 while the West Fork River was completed in 2002. On the 2004 list, the mainstem sections of the Cheat and Tygart Valley rivers, excluding the lakes, are listed as impaired for dissolved aluminum. Additionally, a section of the Tygart Valley River upstream of the lake also is impaired relative to fecal coliform. Finally, the mainstem section of West Fork River is listed for biological and fecal coliform impairments from its mouth upstream to the Stonewall Jackson Lake tailwater.

Little Kanawha River

A TMDL was finalized in 2000 for the mainstem and several tributaries for total aluminum and total iron. A small headwater section of the river is impaired relative to pH. The impaired segment begins at river mile 162.1 and extends upstream to the headwaters.

Ohio River

TMDLs for dioxin and PCB impairments in the Ohio River were developed in 2000 and 2002, respectively. ORSANCO does extensive water quality monitoring of the Ohio River. Every two years ORSANCO publishes a 305(b) report addressing water quality issues on the Ohio River. As in the past, the DEP has reviewed ORSANCO's Draft 2004 305(b) report and incorporated the assessment results into the West Virginia 303(d) list. The following graphic depicts the identified impairments of the West Virginia section of the Ohio River.



When both West Virginia and ORSANCO have an established criterion for a particular pollutant the most stringent standard is applied for assessment purposes, as required by the ORSANCO Compact. The total phenolics impairment in the Middle Ohio North segment relates to an ORSANCO criterion. The "Bacteria" impairment

identified for various Ohio River segments reflects assessments based on a combination of both ORSANCO's e. coli. water quality criteria and West Virginia's fecal coliform criteria. The segments impaired relative to dioxin are those upstream of the area of applicability of the dioxin TMDL developed in 2000. The biological impairment from mile point 260.3 to 262.1 results from ORSANCO's evaluation of fish community structure in accordance with their Ohio River Fish Index methodology.

Potomac River Tributaries (Cacapon, South Branch and Shenandoah Rivers, Opequon Creek)

Several major tributaries are being listed in 2004 for dissolved aluminum violations, including the Cacapon River, the South Branch of the Potomac River, Opequon Creek and the Shenandoah River. Each of these streams is being listed for its entire length in West Virginia. In addition, Opequon Creek continues to be listed for fecal coliform and narrative water quality criteria impairments. A new segment of the South Branch of the Potomac River also is being listed for fecal coliform from mile point 14.2 to 54.9. Fecal coliform impairments in segments and tributaries upstream of mile point 54.9 were addressed by a TMDL developed in 1998.

Jeff Bailey collects a sample along an unnamed tributary in Berkeley County
Photo by Jason Morgan

Tug Fork River

A TMDL for the Tug Fork River mainstem was finalized in 2002 for total aluminum and total iron. Additionally, TMDL development for total iron, total aluminum, total manganese and pH was finalized in 2002 for numerous tributaries of the Tug Fork River impacted by mine drainage. The river remains on the 303(d) list for biological impairment from mile point 54.2 to its headwaters.

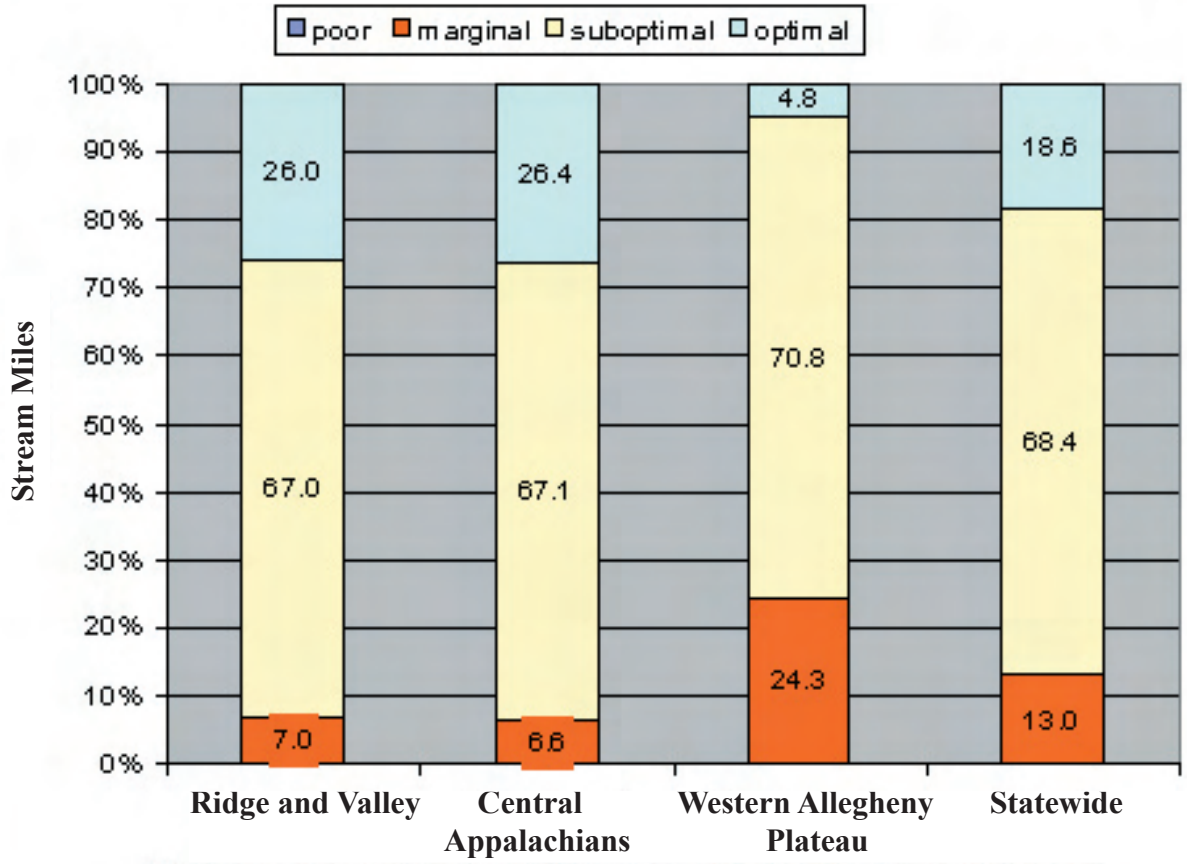
In 1997, the DEP's watershed assessment program partnered with EPA researchers in Corvallis, Ore. to develop a probabilistic monitoring program for West Virginia. The probabilistic (randon sampling) approach allows assessment personnel to sample a limited number of wadeable streams statewide and then make statistically valid statements about the streams condition. The initial probabilistic sampling cycle, which concluded in 2001, was conducted in accordance with the five-year framework cycle. The data collected at these sites can be subjected to statistical analysis to provide an overall characterization of a watershed. Highlights of the random results are described below.

Habitat Quality

During the course of probabilistic sampling, the DEP's field personnel collected data on many features of both riparian and instream habitat known to be important to the biological communities of streams. Habitat parameters in the EPA's Rapid Bioassessment Protocol were measured. These include measures of the amount of sediments and embeddedness in the stream channel as well as measures of the vegetation along the bank and riparian zone in the stream corridor. Ten parameters are scored based on their quality and then combined to assess the overall physical habitat condition of the site. Overall quality is then categorized as optimal, suboptimal, marginal, or poor. Based on probabilistic data, about 18.6 percent of stream miles are of optimal quality, 68.4 percent are of suboptimal quality, and about 13.0 percent are marginal with respect to overall habitat quality (Figure 3). Less than 0.1 percent of stream miles in the state have poor overall habitat quality.

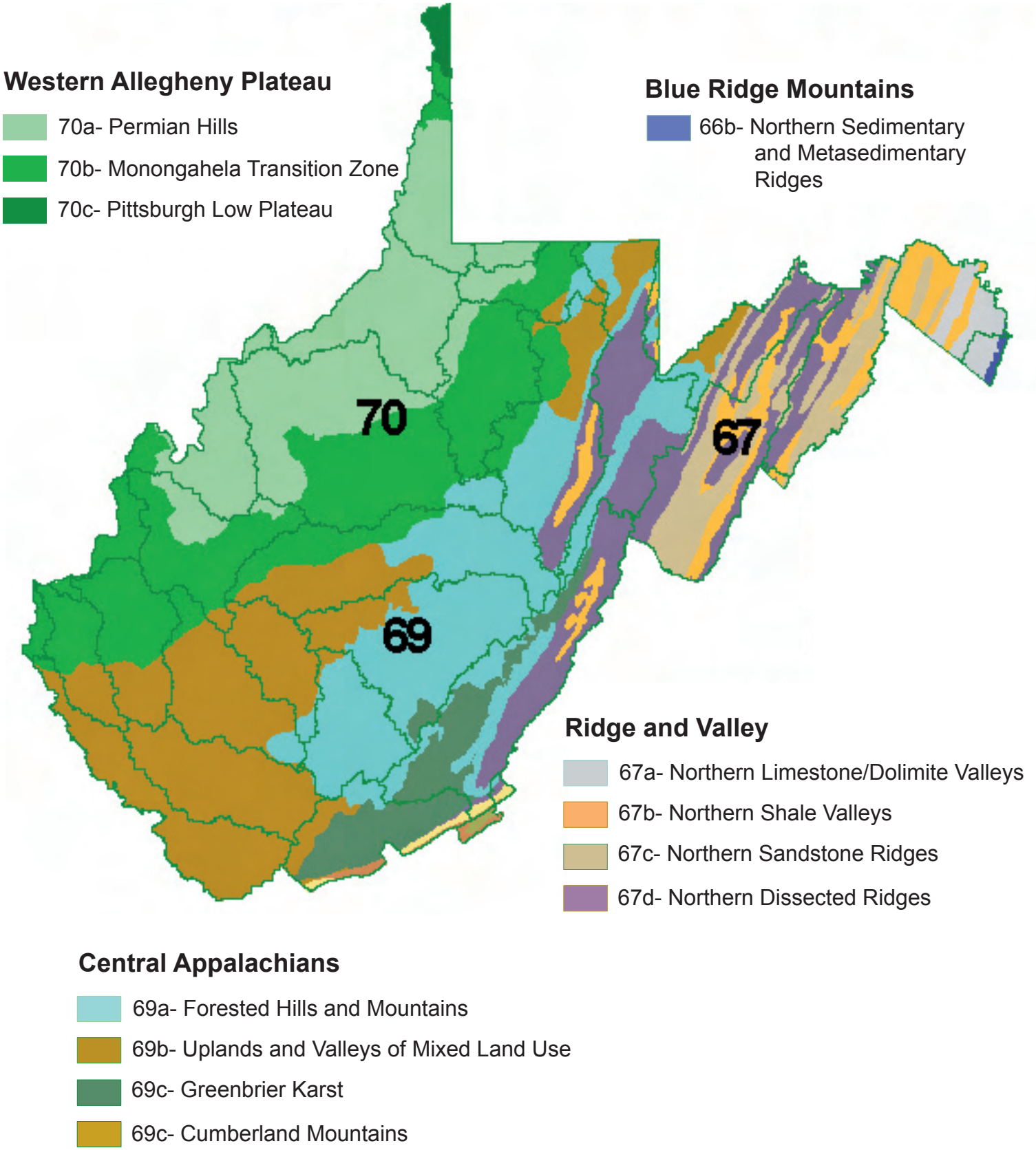
The Ridge and Valley and Central Appalachians ecoregions are similar with respect to overall habitat quality. Approximately 26.0 percent of stream miles in each of these ecoregions are of optimal quality and only about 6.6 percent to 7.0 percent are marginal. In comparison, habitat quality decreased in the Western

Figure 3 - Total Rapid Bioassessment Habitat Score



Note: Stream miles with poor habitat were less than 0.1 percent in all categories

Figure 4 - Map of West Virginia's Ecoregions



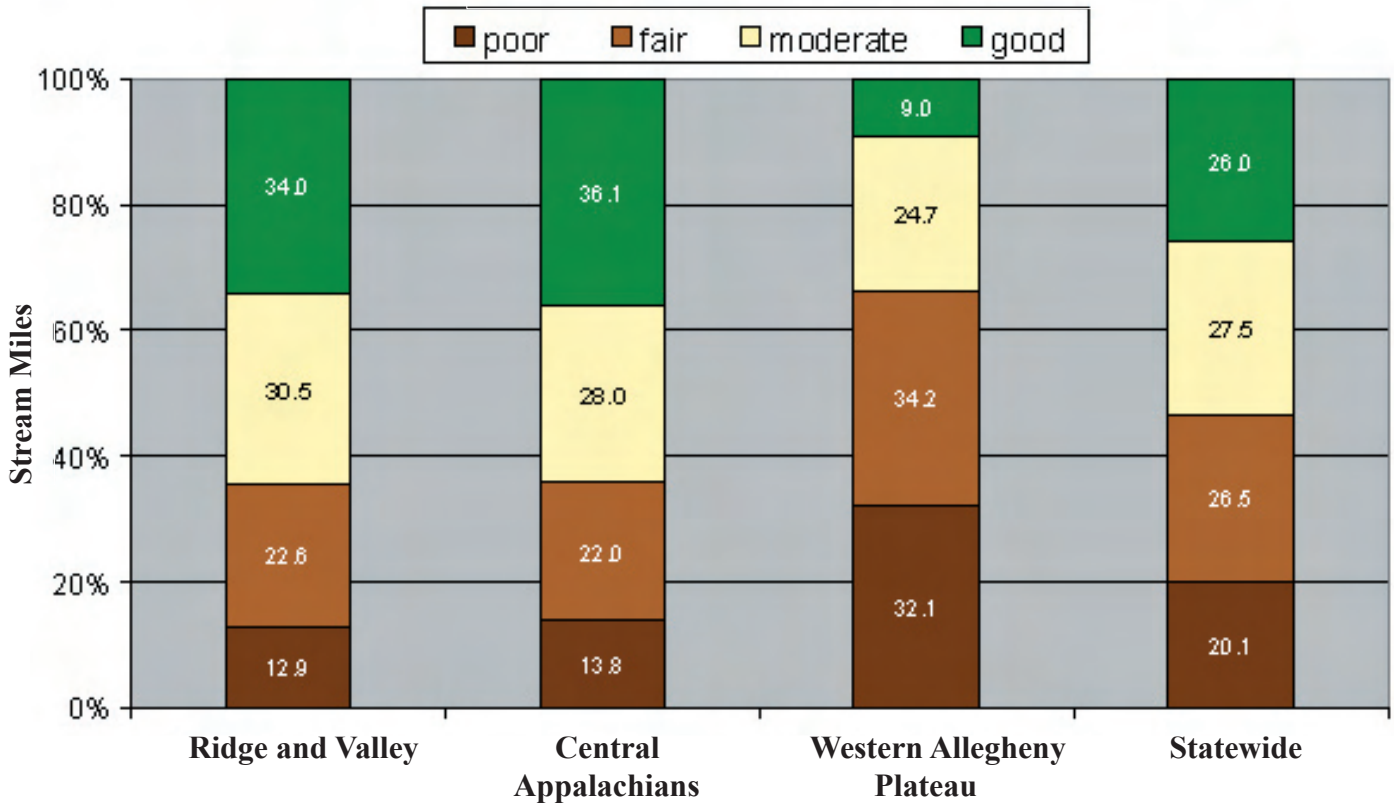
Allegheny Plateau. The presence of more widespread development and factors such as higher rates of soil erosion in this ecoregion are potential causes for less than 5.0 percent of its stream miles being rated as optimal in overall habitat quality. Additionally, the proportion of miles with marginal habitat quality, 24.3 percent, is substantially higher in this ecoregion. It is important to consider that the greatest proportion (67.0 percent up to 70.8 percent) of stream miles in the state and ecoregions are in the suboptimal habitat category. This indicates that most of the state's stream miles have at least some degree of habitat degredation.

Sedimentation Sources

- Agricultural Activities
- Mining
- Oil and Gas Roads
- Logging
- Urban Development
- Suburban Development
- Driveways
- Dirt Roads
- Removal of Stream Bank and Riparian Vegetation

Sedimentation of streams is one of the most important problems facing water resource protection agencies in West Virginia. The effects of sediment deposition on stream biota are well known and include interference with respiration and the smothering of physical habitat. In the course of evaluating probabilistic data, embeddedness and sediment deposition from the EPA's Rapid Bioassessment Protocol habitat evaluation were combined and used as an overall indicator of habitat quality as related to sedimentation. The categories used to rate overall habitat quality, also were used to rate sedimentation: optimal, suboptimal, marginal, or poor. Sedimentation results for the state as a whole indicate that 20.1 percent of stream miles are in poor condition, 26.5 percent are marginal, 27.5 percent are suboptimal, and 26.0 percent are in optimal condition (Figure 5). The importance of sedimentation as a pollutant in West Virginia is especially apparent when marginal and poor stream miles are combined, as nearly 46.6 percent miles in the state would be categorized as having enough sediment to reduce habitat quality.

Figure 5 - Habitat Quality - Sedimentation*



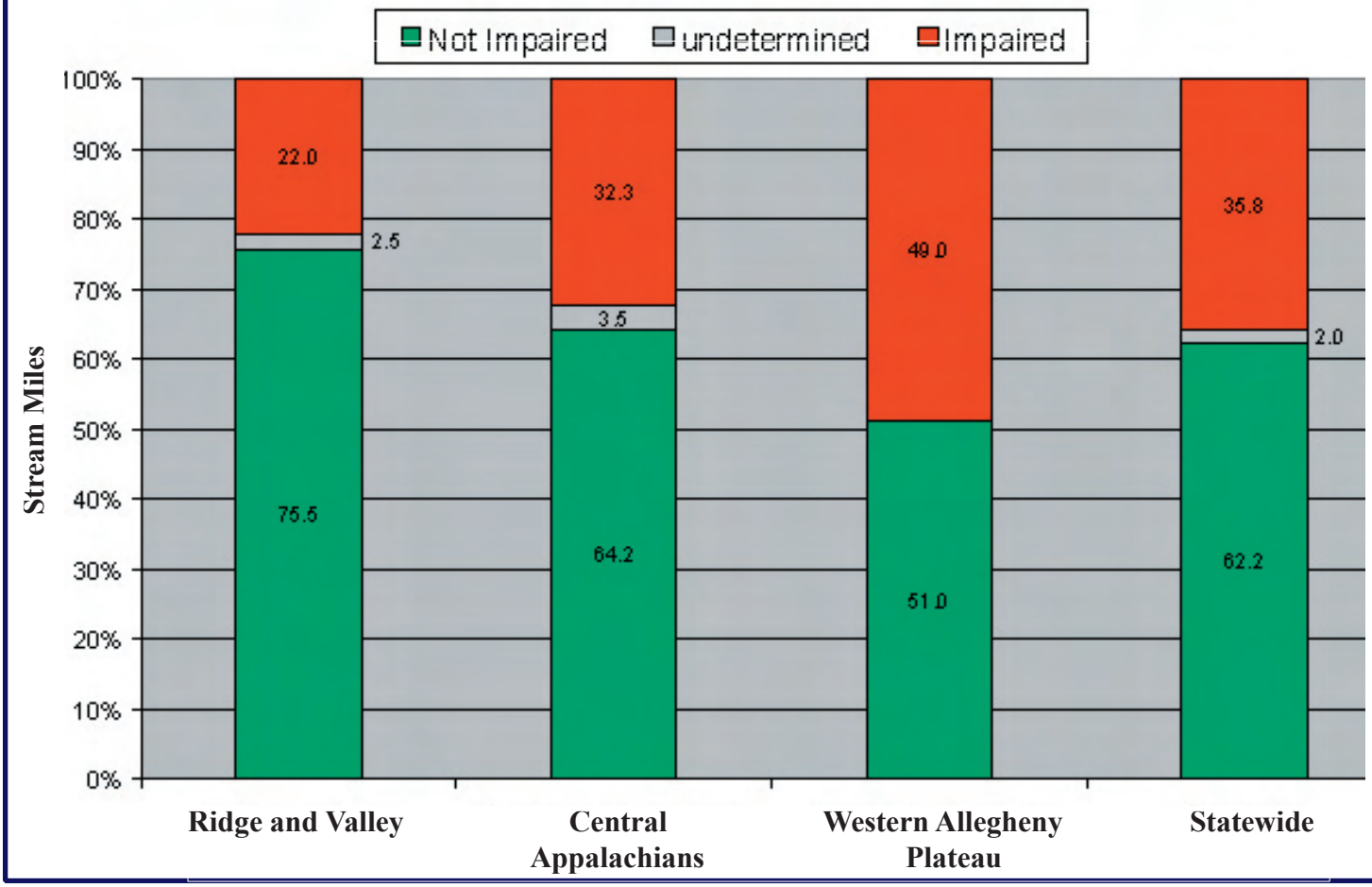
*Sedimentation = combined scores from RBP parameters "sediment deposition" and "embeddedness"

Parallel to overall habitat quality, the Ridge and Valley and Central Appalachians ecoregions are similar with respect to sedimentation. In the Ridge and Valley ecoregion, about 34.0 percent of stream miles are in good condition and 12.9 percent are in poor condition. Results for the Central Appalachians are similar with 36.1 percent in good condition and 13.8 percent in poor condition. In these ecoregions there are nearly as many stream miles in optimal condition as in marginal and poor condition combined. The Western Allegheny Plateau continued to show substantial problems with respect to habitat quality, especially in terms of sedimentation. In contrast to the Ridge and Valley and Central Appalachians, only about 9.0 percent in this ecoregion is in optimal condition and approximately 32.1 percent are in poor condition. If marginal and poor stream miles were combined for this ecoregion, nearly 66.3 percent would be categorized as having enough sediment to reduce habitat quality. The presence of more widespread development and higher rates of soil erosion in this ecoregion are potential causes of the observed increase in sedimentation and resultant decrease in habitat quality.

Biological Impairment

The biological communities living in West Virginia streams are exposed to many stressors, including toxic contaminants, sedimentation, nutrient enrichment, and acid precipitation. The DEP uses benthic macroinvertebrates to assess the biological condition of streams in the state. These organisms can provide reliable information on water and habitat quality in streams. They are extremely diverse and exhibit a wide range of tolerances to pollutants. They serve as an excellent tool for measuring overall ecological health, especially when summarized into a single index of biological integrity. In West Virginia, the health of benthic macroinvertebrate communities are rated using a multimetric index developed for use in wadeable streams. Based on the WVSCI, about 35.8 percent of stream miles in the state are impaired, while approximately 62.2 percent are not impaired (Figure 6). Nearly one half, 49.0

Figure 6 - Biological Condition of Stream Miles Based on the WVSCI

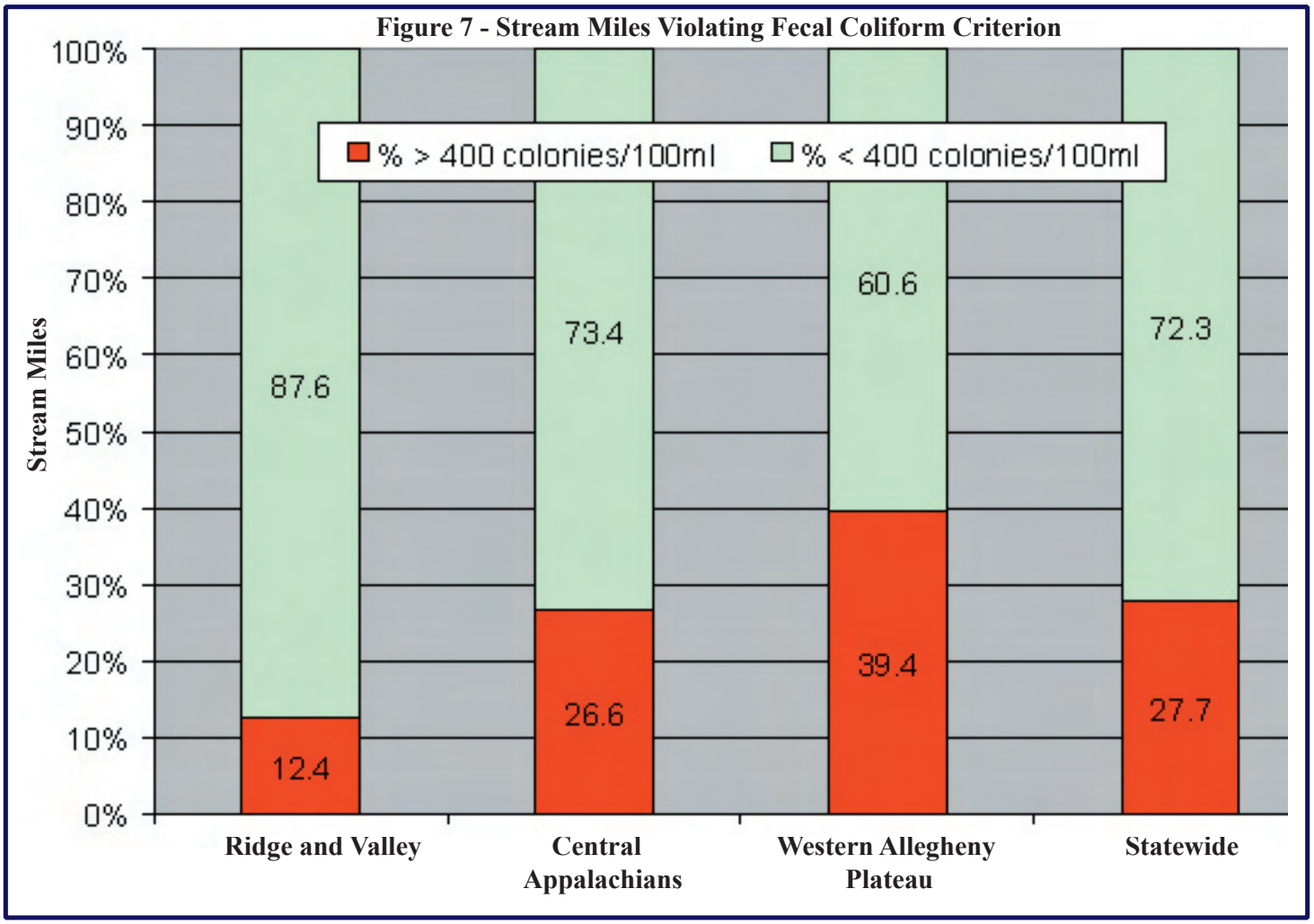


percent, of the stream miles in the Western Allegheny Plateau were impaired. In contrast, 22.0 percent of the Ridge and Valley and 32.3 percent of the Central Appalachians ecoregions had stream miles rated as biologically impaired. Poorer habitat conditions in the Western Allegheny Plateau, especially those related to sedimentation, are likely to be at least partially responsible for the higher proportion of stream miles rated as impaired biologically.

Bacterial Contamination

The urbanized areas of the state seem to have a greater consentration of bacterial contamination than more rural regions. Based on probabilistic data, about 28.0 percent of stream miles in the state have fecal coliform bacteria levels violating the criterion of greater than 400 colonies/100mL (Figure 7). Watersheds in the more developed regions of the state had a greater proportion of stream miles violating the criterion. The proportion of stream miles violating the criterion was highest in the Western Allegheny Plateau ecoregion at 39.4 percent and decreased in the Central Appalachians to 26.6 percent and the Ridge and Valley ecoregions at 12.4 percent.

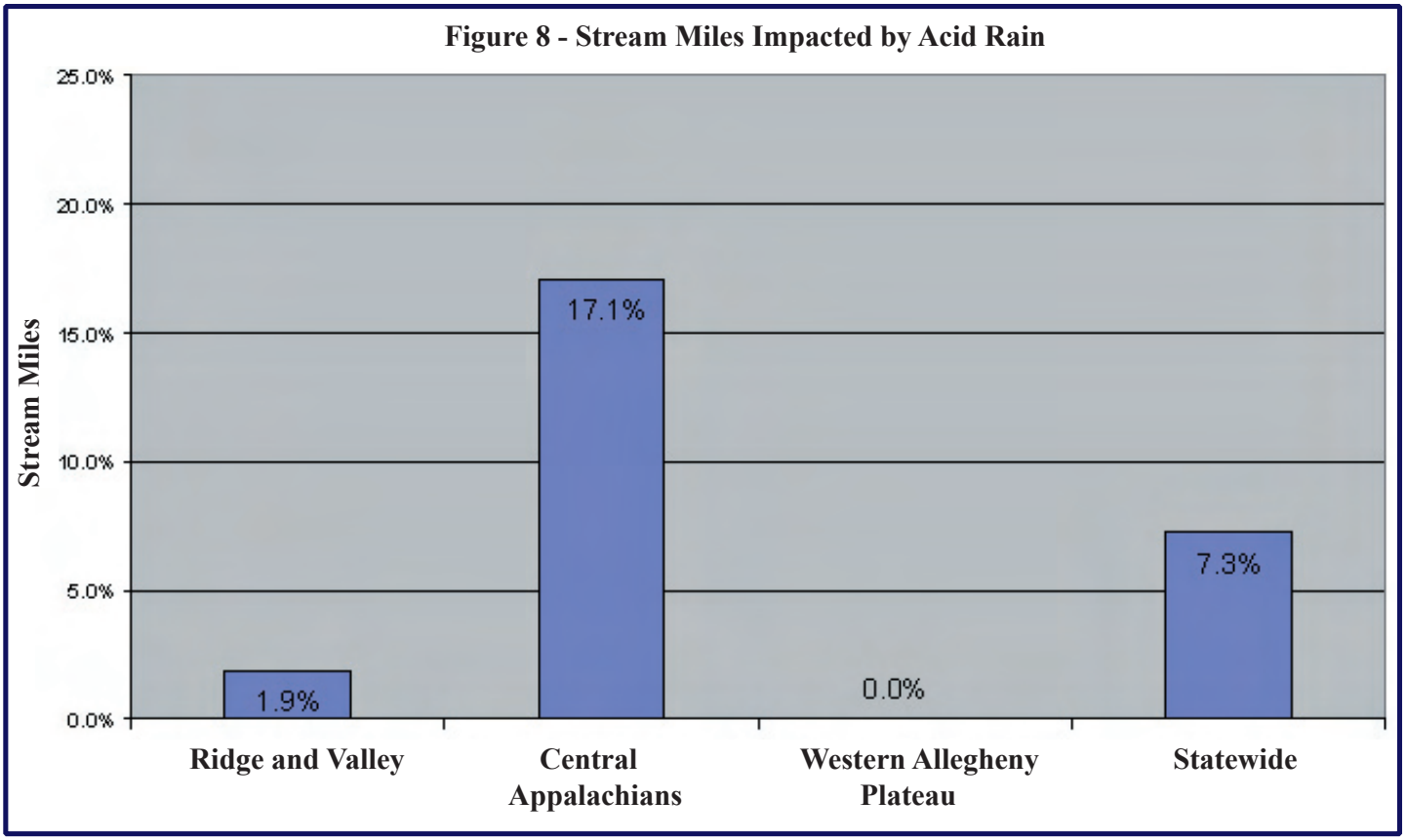
Figure 7 - Stream Miles Violating Fecal Coliform Criterion



Atmospheric Deposition

As previously mentioned, low pH levels continue to have an impact on the state's streams. An evaluation of the data indicates that 7.3 percent of the stream miles in the state are impacted by acid deposition (Figure 8). Nearly all of the stream miles identified as impacted by acid deposition are in the Central Appalachians ecoregion. Acid deposition affects 17.1 percent of this ecoregion. Specifically, the Forested Hills and Mountains section of this ecoregion are largely susceptible to acid deposition impacts due to infertile soils and resistant sandstones of the Pottsville group. The Ridge and Valley ecoregion is less susceptible to the impacts of acid deposition with geologic materials such as limestone, shale, and sandstone providing more buffering capacity to neutralize acids.

Figure 8 - Stream Miles Impacted by Acid Rain



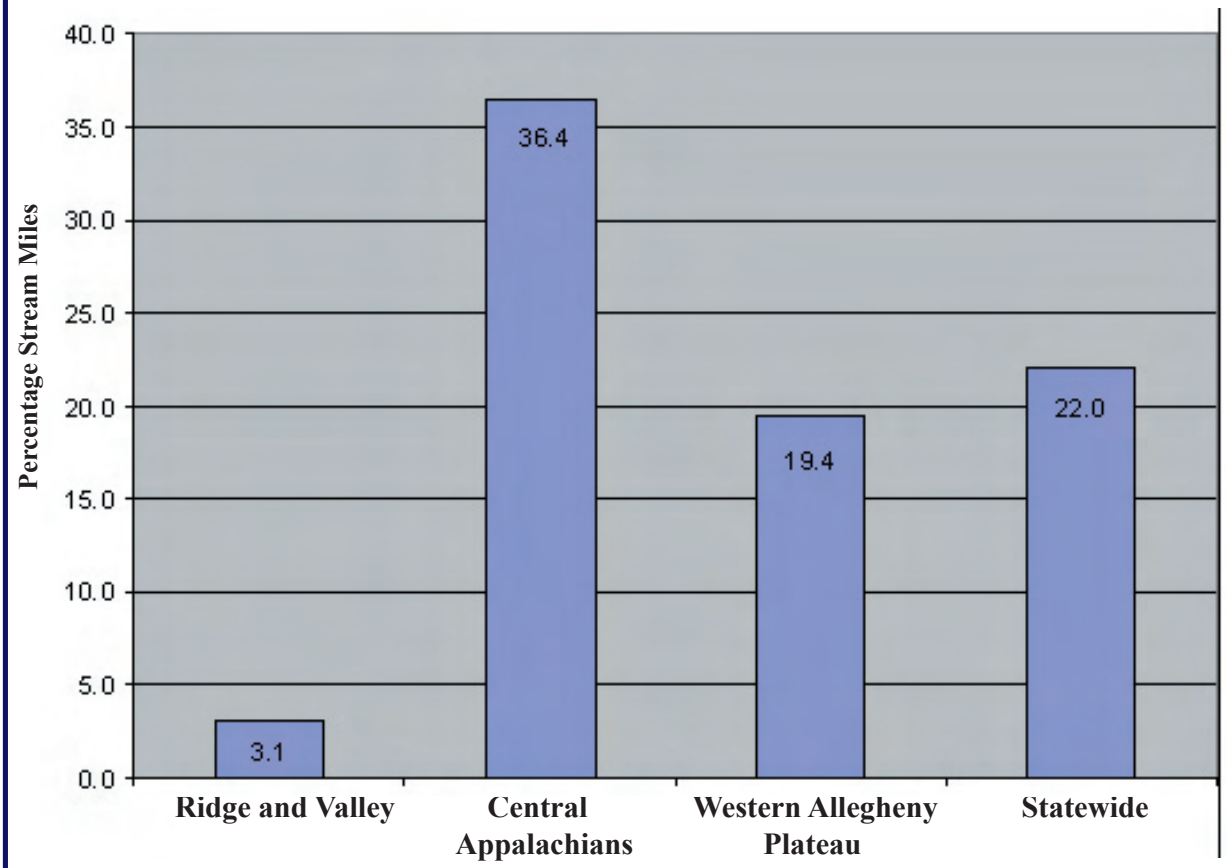
Nonetheless, probabilistic data indicates that approximately 1.9 percent of the stream miles in this ecoregion are impacted by acid deposition. There are no stream miles with impacts attributed to acid deposition in the Western Allegheny Plateau ecoregion. Again, this ecoregion has well buffered soils that limit the impacts of acids. Approximately 1.0 percent of the state's total stream miles had both acid deposition impacts and an impaired biological condition as indicated by the WVSCI.

Mine Drainage

While iron, aluminum and manganese are the most discussed mine drainage metals, other dissolved ions such as sulfate also may be present in concentrations above ambient levels. A sulfate concentration greater than 50 mg/L was used to identify probabilistic sites influenced by mine drainage. The 50mg/L sulfate value used to discriminate between mine drainage waters and those that are not was based upon professional judgment and has no regulartory implication. It should not be construed as a threshold that causes biological impairment. Following this guideline, approximately 22 percent of the stream miles statewide are influenced by mine drainage (Figure 9). Observed on an ecoregional basis, mine drainage influences a greater proportion of stream miles in the coal rich Central Appalachians than in the Ridge and Valley or Western Allegheny Plateau. About 36.4 percent of the stream miles in the Central Appalachians are influenced by mine drainage. In contrast, about 3.1 percent and 19.4 percent of stream miles are influenced by mine drainage in the Ridge and Valley and Western Allegheny Plateau, respectively.

The extent to which mine drainage stresses the biological health of the state's stream miles can be evaluated using the WVSCI in combination with the sulfate guideline. Of the 22 percent of the state's stream length with greater than 50 mg/L, more than 63 percent were identified as having an impaired biological condition (as indicated by the WVSCI, Figure 10). In contrast, 29 percent of the streams with sulfate concentrations less than 50 mg/L were identified as impaired. This information demonstrates the importance of mine drainage as a stressor on the stream resources in the state because well over half of the stream miles identified as having mine drainage problems also had an impaired biological condition.

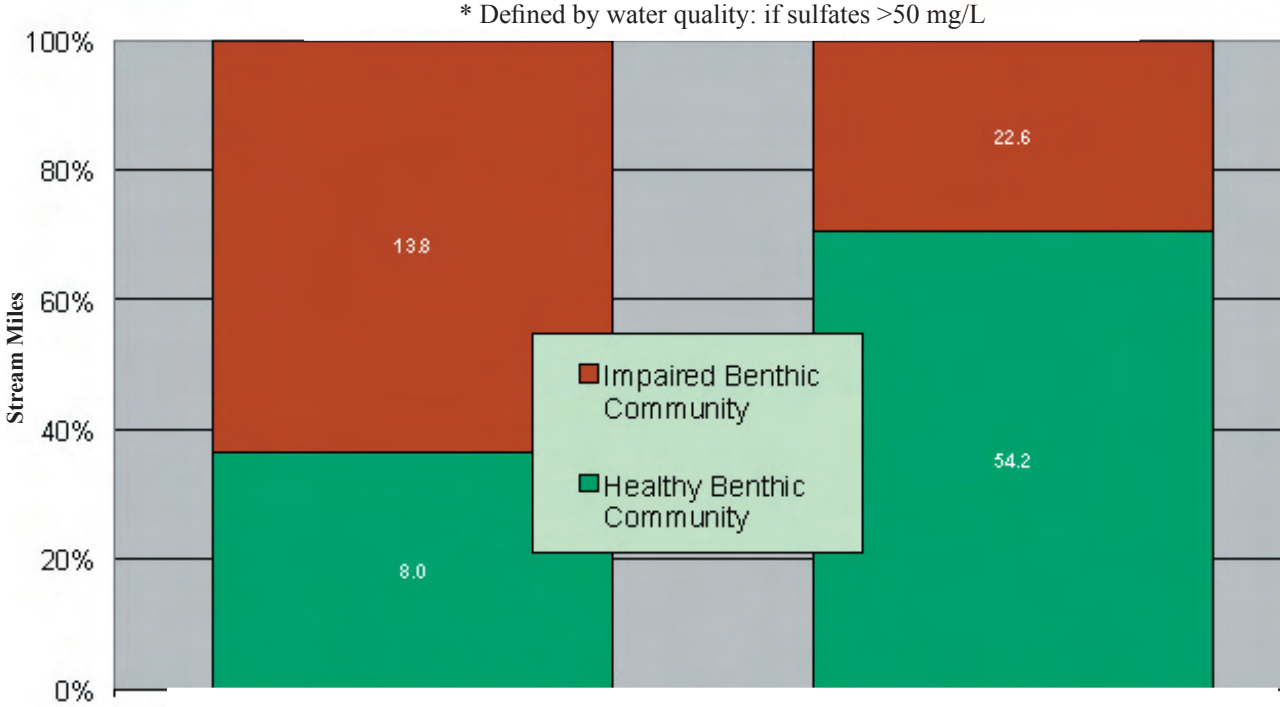
Figure 9 - Stream Miles Influenced by Mine Drainage*



* Defined by water quality: if sulfate concentration is >50 mg/L

Figure 10 - Biological Condition in Mining Influenced* and Nonmining Influenced Stream Miles

* Defined by water quality: if sulfates >50 mg/L



INTERSTATE WATER COORDINATION

In accordance with the Integrated Report's guidelines, states are encouraged to provide documentation that neighboring states have been conferred with concerning assessment determinations for interjursdictional waters. A description of West Virginia's interjursdictional waters and efforts to coordinate assessments is summarized below.

In West Virginia more than one-half of the state's borders are defined based upon the use of a river as the separation between differing states political jurisdictions. West Virginia has approximately 622 miles of border waters, although not all border waters are interjurisdictional waters. Border waters are defined as those waterbodies that serve as the boundary between differing state jurisdictions. Interjursdictional waters are those waters where two or more entities have applicable water quality criteria.

West Virginia's border waters include:
277 miles of the Ohio River comprising the West Virginia – Ohio border.
105 miles of the North Branch of the Potomac River comprising a portion of the West Virginia – Maryland border
115 miles of the Potomac River comprising the remaining portion of the West Virginia – Maryland border
98 miles of the Tug Fork River comprising a portion of the West Virginia – Kentucky border, and
27 miles of the Big Sandy River comprising the remaining portion of the West Virginia – Kentucky border

Of the border waters listed above, only the Ohio, Tug and Big Sandy rivers are true interjursdictional waters. West Virginia has collaborated with neighboring states and basin commissions for the purpose of achieving consistent assessments of interjursdictional waters.

Ohio River

Interstate coordination between West Virginia and Ohio relative to the Ohio River is achieved largely by the structural, organizational and operational activities of the ORSANCO.

Since 1948, ORSANCO and its member states have cooperated to improve water quality in the Ohio River Basin. The river and its tributaries can be used for drinking water, industrial supplies, recreational purposes, and support a healthy and diverse aquatic community. ORSANCO operates monitoring programs to check for pollutants and toxins that may interfere with specific uses of the river, and conducts special studies to address emerging water quality issues.

ORSANCO operates under a committee – subcommittee structure. The technical committee has a TMDL workgroup subcommittee for example. The TMDL workgroup's directive includes continually analyzing and attempting to resolve inconsistencies in assessments of water quality conditions in the Ohio River. State representatives review drafts of Section 305(b) assessments of the river done by ORSANCO and Section 303(d) lists prepared by the states at least twice a year. Listing discrepancies are documented, discussed and resolved where possible.

ORSANCO

ORSANCO and its member states have cooperated since 1948 to improve water quality in the Ohio River Basin so that the river and its tributaries can be used for drinking water, industrial supplies, and recreational purposes; and can support a healthy and diverse aquatic community.

For more information about ORSANCO, visit **www.orsanco.org**

This review process has been active for more than five years and has fostered relationships and communication between each state's assessment and listing personnel. The process has substantially moved the compact states towards the goal of complete interstate listing consistency.

Tug Fork & Big Sandy Rivers

In the southwestern part of West Virginia, the Tug Fork and Big Sandy rivers define the border between West Virginia and Kentucky. Both states have ownership of the waters to the centerline of the rivers. The two states have water quality criteria applicable to these streams.

In September 2002 a TMDL for iron was completed for the Tug Fork River, based on West Virginia water quality criteria. This TMDL necessitated coordination between West Virginia, Virginia, Kentucky and the EPA's Region III and IV offices. The TMDL documented inconsistencies in West Virginia's and Kentucky's categorization of the impairment status of this shared water and demonstrates the need for better coordination amongst both assessment and criteria-setting staff.

Past conversations with Kentucky personnel revealed certain continued inconsistencies in 2004 assessment of these shared waters. Relative to the Big Sandy River, both states list the stream as fully supporting for those certain designated uses for which it was monitored. More specifically Kentucky reports full support for the aquatic life use from milepoint 0 upstream to milepoint 2.6 based on fish tissue information, and from milepoint 2.6 upstream to milepoint 14.7 full supporting based on water quality and bacteria monitoring. West Virginia has placed the Big Sandy River in Category 2 – it is meeting the Agriculture and Wildlife designated uses. However, according to West Virginia methodology, there is insufficient information for determining attainability of all other uses. Increased communication and timely coordination between the states could have led to a large portion of the waterbody being more consistently and thoroughly assessed.

Regarding the Tug Fork River, West Virginia assesses the segment from milepoint 51.6 upstream to headwaters as not meeting the state's aquatic life use based on biological monitoring. Based on recent analytical results, West Virginia is delisting the entire length of the Tug Fork River for fecal coliform impairment, yet Kentucky reports the segment from milepoint 33.9 to 36.6 as nonsupporting, and milepoint 71.9 to 77.7 as partially supporting the contact recreation use.

The assessments by the states do have certain consistencies. From milepoint 0.0 to 7.5 and from milepoint 71.9 to 77.7, both states, using different methodologies and data, classify the water as meeting the aquatic life use.

As evidenced by the previous Ohio River and Big Sandy – Tug River summaries, there are areas where coordination of interjursdictional waters is stronger and more structured than in others. As states become more comfortable with the new reporting requirements for addressing interjurisdictional waters. It is anticipated that increased attention and more focus on resolving remaining interstate inconsistencies will occur.

TOTAL MAXIMUM DAILY LOAD (TMDL) DEVELOPMENT PROCESS

Since 1997, the EPA's Region III office has developed West Virginia TMDLs under the settlement of a 1995 lawsuit, Ohio Valley Environmental Coalition, Inc., West Virginia Highlands Conservancy, et. al. v. Browner, et. al. The lawsuit resulted in a consent decree between the plaintiffs and the EPA that specifies TMDL development requirements and compliance dates. While the EPA was working on developing TMDLs, the DEP concentrated on building its own TMDL program. With the help of the TMDL stakeholder committee, the agency secured funding from the state legislature and created the TMDL section within the Division of Water and Waste Management. This section is committed to implementing a process that reflects the requirements of TMDL regulations, provides for the achievement of water quality standards, and ensures that ample stakeholder participation is achieved in the development and implementation of TMDLs. The division has initiated a new approach to TMDL development by allowing 48 months to develop a TMDL from start to finish. This approach enables the agency to carry out an extensive data generation and gathering effort to produce scientifically defensible TMDLs. It also allows ample time for modeling, report drafting and frequent public participation opportunities. The process already has started for the TMDLs the DEP will be finalizing in 2004, 2005 and 2006.

Absent unforeseen circumstances, all of the agency's TMDLs will be developed according to the Watershed Management Framework cycle. The framework divides the state into 32 major watersheds and operates on a five year, five-step process. The watersheds are divided into five hydrologic groups, A through E. Each group of watersheds is assessed once every five years. A map depicting the 32 watersheds and the hydrologic groupings is provided as an attachment to this document on page 6.

The TMDL process begins in the first year of the cycle with pre-TMDL sampling and public meetings in the affected watersheds. The data is compiled and TMDL development begins in the second year of the cycle. In the third year, development continues and the TMDL is drafted. The TMDL is finalized in the fourth year. In the fifth year of the cycle, TMDL implementation is initiated through the National Pollution Discharge Elimination System permitting process and efforts toward limiting nonpoint source loading. Throughout the TMDL development process, there are many opportunities for public participation and input.

The program also must accomplish TMDL development in accordance with the consent decree between the EPA and the Ohio Valley Environmental Coalition, et. al. This decree requires all streams impaired by mine drainage to have TMDLs developed by 2008. Each year, the agency selects waters within the targeted hydrologic group where mine drainage TMDL development is mandated by the consent decree. Other geographically proximate impairments are added to those selections until the agency's annual resources for TMDL development are utilized. Statewide TMDL development by regulatory deadlines is efficiently and systematically accomplished using these guidelines. The 303(d) list (Category 5) identifies and prioritizes the waters and impairments for which TMDLs will be developed over the next four years by specifying the year in the "Projected TMDL Year" column. The impaired

West Virginia Watershed Management Framework

In 1996, the West Virginia Watershed Management Framework was created. The framework outlines the state's comprehensive approach to managing its waters and surrounding ecosystem. The framework process establishes a coordinated way for government agencies, businesses, environmental groups, watershed associations, citizens, academia, and others to participate in identifying and targeting streams that require restoration, protection, and enhancement. It also provides a mechanism to develop and implement management strategies.

There are 32 watersheds divided into five groups: A, B, C, D, and E. The process consists of five phases, each phase lasting approximately one year. Each group of watersheds begins the process in a staggered approach and as one cycle is completed, another group begins the cycle again.

waters intended for TMDL development in 2004, 2005, 2006 and 2007 are known and identified on the list. The remaining legacy mine drainage impairments that, per the consent decree, must have TMDLs developed by 2008 also are specified.

Total Maximum Daily Loads

The 32 West Virginia watersheds are grouped into five hydrological groups, A through E. A timeline for each group has been developed and may be reviewed online at **www.wvdep.org**.

In the Search DEP box, type "Timelines."

For other waters and impairments, where the timing of TMDL development is less certain, the "Projected TMDL Year" is identified as the most future year when opportunity exists per the DEP's plans to develop TMDLs in concert with the Watershed Management Framework. This is a format change from the 2002 Section 303(d) list in which all of the opportunity years were indicated. The change was necessitated by the single-year output capability of the EPA's Assessment Database. This change is strictly aesthetic and does not represent a material revision to the DEP's strategy for TMDL development.

As an example, please reference the listing for the biological impairment of Crab Creek in the Lower Ohio Watershed (WVO-13). The Lower Ohio Watershed is organized in Hydrologic Group E with potential TMDL finalization years of 2008, 2013 and 2018. On the 2002 list, the "Projected TMDL Year" for this water was indicated as "2008, 2013, 2018", whereas on the 2004 list it is indicated as 2018. The TMDL program plan provides opportunity for the DEP to complete TMDLs for Hydrologic Group E impaired waters in 2008, 2013 or 2018, but the specific streams to be addressed in each set are largely unknown at this time. Crab Creek and other listed Hydrologic Group E waters may have TMDLs developed as early as 2008, but not later than 2018. All distant "Projected TMDL Year" listings should be construed in this manner.

Projected TMDL Completion Years

Hydrologic Group A - 2004, 2009, 2014
Hydrologic Group B - 2005, 2010, 2015
Hydrologic Group C - 2006, 2011, 2016
Hydrologic Group D - 2007, 2012, 2017
Hydrologic Group E - 2008, 2013, 2018

Groundwater Program

Under the Groundwater Protection Act, West Virginia Code Chapter 22, Article 12, Section 6.a.3, the DEP is required to provide a biennial report to the Legislature on the status of the state's groundwater and groundwater management program, including detailed reports from each agency that have groundwater regulatory responsibility. The current biennial report to the Legislature covers the period from July 1, 2001 through June 30, 2003. This is the sixth report completed since the passage of the act in 1991. This section provides a brief overview of the report. Copies of the full report "Groundwater Programs and Activities: Biennial Report to the West Virginia 2002 Legislature" may be obtained by contacting the Groundwater Program at the Division of Water and Waste Management, 414 Summers Street, Charleston, WV 25301. The report also may be reviewed at www.wvdep.org.

The DWWM Groundwater Program is responsible for compiling and editing information submitted for the biennial report. The DEP, the West Virginia Department of Agriculture, and the West Virginia Department of Health and Human Resources all have groundwater regulatory responsibility and contributed to the report. These state boards and six standing committees currently share the responsibility of developing and implementing rules, policies, and procedures for the Ground Water Protection Act (1991). The Environmental Quality Board, The Groundwater Coordinating Committee, the Groundwater Protection Act Committee, The Groundwater Monitoring Well Drillers Advisory Board, The Well Head Protection Committee, and The Nonpoint Source Coordinating Committee are the standing committees.

The report attempts to provide a concise, yet thorough, overview of those programs that are charged with the responsibility of protecting and ensuring the continued viability of groundwater resources in West Virginia. It is also the intent of the report to express the challenges faced and the goals accomplished as we work together to protect and restore West Virginia's water resources.

West Virginia Office of Health Services

The West Virginia Office of Health Services is part of the West Virginia Department of Health and Human Resources and strives to improve environmental health protection for every West Virginia citizen and visitor through quality programs that are designed and administered to serve, educate and regulate in the least restrictive and most efficient manner.

For more information about environmental health services, visit the agency's Web site at **www.wvdhhr.org/oehs/**

Many of the programs and offices in the reporting divisions express a need for an accessible central and statewide electronic data system. Currently all groundwater and other data are collected by individual programs and offices. The DEP Information Technology Office has implemented the Environmental Resource Information System and is currently working on the implementation of the Environmental Quality Information System.

Another desire expressed is the need for a systematic approach to groundwater complaint investigation that would enhance involvement and coordination among agencies with groundwater protection responsibilities.

Programs and agencies also have identified the need for specific hydrogeologic information on the state's groundwater such as regional and local potentiometric surfaces (water levels), groundwater flow studies, and access to statewide dedicated groundwater monitoring data. The installation of a centralized database linked to GIS coverages accessible to the various agencies and the public will go a long way in resolving this problem.

Additional themes include greater outreach to the citizens of West Virginia on issues such as nonpoint source pollution, protecting individual ground and drinking water sources, and the installation of toll-free help lines to enhance statewide consistency and a unified approach to the implementation of groundwater rules. Many of these problems are addressed by five-year cooperative studies performed jointly between the Division of Water and Waste Management and the United States Geological Survey (USGS).

U.S. Geological Survey

The USGS is a federal source for science about the Earth, its natural and living resources, natural hazards, and the environment.

Visit the USGS's Web site at **www.usgs.gov**

The Ambient Groundwater Quality Monitoring Network was established by the DWWM in cooperation with the USGS in 1992 and is an on-going project. The network provides critical data needed for proper management of West Virginia's groundwater resources. The major objective of this USGS study is to assess the ambient groundwater quality of major systems (geologic units) within the state of West Virginia and to characterize the individual systems. Characterization of the quality of water from the major systems helps to:

- Determine which water quality constituents are problems within the state
- Determine which systems have potential water-quality problems
- Assess the severity of water quality problems in respective systems
- Prioritize these concerns.

Only by documenting present ambient groundwater quality of the state's major systems can regulatory agencies assess whether water quality degradation has occurred in certain areas and whether potential degradation is a result of natural processes or those associated with human activity.

Spatial variability in water quality is determined for specific geologic units based on sampling of approximately 30 wells annually. The sampling continues over a period of approximately five years and provides a database of more than 175 wells from which comprehensive water samples are collected. Wells are selected in specific drainage basins in given years, rotating annually to new basins, thus providing sampling of ground water in all watersheds of the state over the five year period. Then, the cycle of sampling begins again. All associated groundwater quality data for each well sampled and summaries of groundwater quality for each respective watershed are published in the U.S. Geological Survey (USGS) Water Resources Data for West Virginia annual report.

While many challenges remain, much has been done to provide protection and continued viability of the groundwater of the state of West Virginia. The DWWM, DOA, and DHHR continue to work closely to fulfill the mission of the DEP, "Promoting a Healthy Environment."

Nonpoint Source Control Program

The DWWM is the lead agency for the state's nonpoint source program. This program works with other cooperating state agencies to assess nonpoint source impacts, then develops and implements projects designed to reduce pollutant loads from agricultural, silviculture, resource extraction, urban runoff and construction activities. Program initiatives are based upon education, technical assistance, financial incentives, demonstration projects, and enforcement, as necessary.

The division's Nonpoint Source Program supports the overall administration and coordination of the nonpoint source activities through these participating state agencies: the Division of Mining and Reclamation, the Division of Land Restoration, the West Virginia Conservation Agency (WVCA), the Office of Oil and Gas, and the Division of Forestry. Each year, specific activities are funded under the Nonpoint Source Program. The following are descriptions of the current program's components.

Nonpoint Source Program Coordinator for Agriculture and Construction

The Nonpoint Source Program of the WVCA has broad responsibilities for coordination of the statewide nonpoint source water quality activities for agriculture and construction. This integrates the water quality components, geographic locations, cooperating agency activities and resources into the total program objectives.

State Revolving Fund for Agriculture

Loan funds are made available at low interest to landowners for installation of best management practices on farms through the DWWM's Revolving Loan Fund. The revolving fund program coordination office is located at the WVCA headquarters. It is responsible for development of the program, which includes implementing and evaluating the state's Revolving Loan Fund for the installation of agriculture best management practices through the local Soil Conservation Districts, WVCA, DEP, Natural Resources Conservation Service, and the Farm Service Agency.

State Nonpoint Source Silviculture Program

Managed through the Division of Forestry, the goal of this program is to maintain and strengthen the cooperative effort and involvement of state and federal agencies, environmental groups, forest industries, woodland owners, and the general public toward preventing and correcting water quality problems associated with the harvesting and processing of forest products. In addition, the program deals with the problems created by forest fires, repeat fires and enforces the use of best management practices under the West Virginia Logging Sediment Control Act.

Dirt Roads Such As This Contribute to Water Quality Problems

Watershed Resource Center

The Nonpoint Source Resource Management Training Center is a cooperative partnership project conducted by the WVCA, the West Virginia Department of Education, the DEP, and the EPA. The main objective of this partnership is to combat nonpoint source pollution in West Virginia and reduce nonpoint source impacts through public education. The nonpoint source Watershed Resources Center provides information and training on the control of nonpoint source impacts to all individuals and groups that disturb soil. Land users utilizing this facility include urban developers, loggers, farmers, watershed associations, homeowners, earth moving contractors, consulting engineers, resource extraction industry individuals, students, and teachers.

Point Source Program or National Pollution Discharge Elimination System (NPDES)

The objectives of the point source control program are the control and reduction of water pollution. These objectives are met by ensuring that discharges from facilities meet the applicable Clean Water Act effluent limitations and, further, that they do not violate water quality standards.

The DWWM's primary mechanism for carrying out this program is the West Virginia NPDES permit. This program, at the state level, regulates activities and facilities involving the installation, construction, modification, and operation and maintenance of wastewater treatment systems as well as their discharges. Individual and general permits are utilized to implement the program. The permits include effluent limits and requirements for facility operation and maintenance, discharge monitoring and reporting. Permits for storm water construction activities

require the implementation of proper best management practices. Permits for home aeration units require the permittees to maintain an operation and maintenance agreement.

Due to these requirements and emphasis on issuing major permits, the best available technology approach to point source control has resulted in substantial pollution reduction in all state waters, particularly in the area of conventional pollutants. Also, it has provided states greater latitude in requiring additional reductions in effluent loadings of these pollutants. Best available technology limits are generally adequate to protect water quality since the majority of major dischargers are located on large rivers, which have the capacity to assimilate wastewater. The best management practices approach for control of storm water discharges associated with construction activities has resulted in a reduction of pollution associated with these sources. Water quality on the state's large rivers has shown a gradual improvement over the past few decades.


Sandy Creek in Barbour County
Photo by Kevin Seagle

On smaller streams, the combination of best available technology and water quality-based permit limits has generally provided the greatest degree of pollutant control, particularly in relation to toxic substances.

In addition to enabling the DWWM to correct problems, state rules also provide a pretreatment program in conjunction with the NPDES program with procedures for regulating proposed industrial wastewater connections to publicly owned treatment works. This allows the DWWM to evaluate proposals and require the installation of pretreatment facilities where necessary, or otherwise approve with required conditions.

Each permitted facility is required to monitor its discharges and submit regular reports. As a result of reviewing these reports, where noncompliance exists, administrative actions are generally initiated to obtain compliance. These may include warning letters, notices to comply, enforcement orders, or referrals for civil action.

Other activities administered by the permitting section of the DWWM include developing wasteload allocations for new or expanding activities, regulating the land application of sewage sludge through the permit process, and regulating industrial solid waste landfills through issuance of permits.

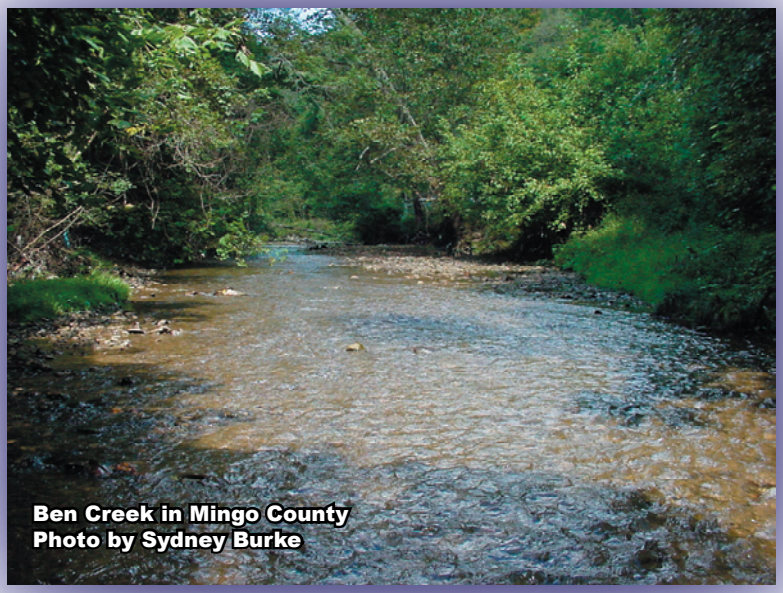
COST BENEFITS

The improvement in water quality due to the installation of new and upgraded municipal wastewater systems has been significant since 1972 when the Water Pollution Control Act Amendment was passed by Congress. Between 1972 and 2003, 409 wastewater systems received funding provided by the DEP's Construction Assistance Program. From 1972 to 1990 the major funding provided was from the EPA Construction Grants Program totaling $668 million in grant funds to 200 projects. From 1990 to 2003, the major funding provided was from the Clean Water State Revolving Fund low interest loan program and this totaled $339 million in loan funds to 206 projects. During the specific reporting period of July 2001 to June 2003, 68 wastewater projects were funded by the State Revolving Fund program totaling $58 million in closed loan agreements.

In addition to the traditional municipal wastewater projects that have always been funded by the DEP, in fiscal year 1998 a new nonpoint source pollution control program was created under the fund called the West Virginia Agriculture Water Quality Loan Program. This program has provided more than $3.5 million for the installation of agriculture best management practices across the state, with most of the funding going to Grant, Hampshire, Hardy, Pendleton and Mineral counties. These counties were the original five that participated in the 1998 pilot program before the program was implemented statewide. During the specific reporting period of July 2001 to June 2003, $691,000 was provided for agriculture best management practices statewide.

The above funding provided to municipal systems has resulted in a number of them coming into compliance with administrative orders and consent decrees. Some of the utilities have extended sewer service to areas where customers used malfunctioning septic tank systems or had direct discharges to streams. All of these projects have environmental benefits affecting the quality of surface and groundwater. They correct a number of health hazards, including raw or partially treated sewage being discharged to areas where children play.

To varying degrees, each project improves and affects the quality of surface waters and groundwater. These types of discharges deplete the oxygen level in the receiving stream and raise the bacteria levels well above standards in the water, leaving it aesthetically unpleasing. Tons of pollutants are removed daily at wastewater plants in the state and more stream miles are able to sustain a full array of aquatic life as a result of these improvements. Boaters, swimmers, and fishermen can be assured of a safer and healthier stream to enjoy. A few thousand families have centralized sewage collection and treatment for the first time. Many yards and ditch lines have been relieved of oozing septage and raw sewage discharges. This not only results in environmental benefit, but also reduces public health risk.


Ben Creek in Mingo County
Photo by Sydney Burke

In West Virginia, the majority of water pollution control activities (permitting) are administered through various state agencies. The DWWM oversees the administration and enforcement of water pollution control (NPDES) permits not related to coal mining. In addition, the office administers Section 401 water quality certifications, with

comments provided by the DNR's Wildlife Resources Section. The Division of Mining and Reclamation handles coal-related NPDES permits. The DWWM issues NPDES permits associated with solid waste facilities. The state Bureau for Public Health has input on municipal facilities and oversees all activities associated with home septic systems in cooperation with county sanitarians. The Environmental Quality Board establishes water quality standards and acts as an appellate board on some water pollution control activities. The DWWM also contributes to two interstate commissions dealing with water pollution: ORSANCO and the Interstate Commission on the Potomac River Basin. Table 7 provides a breakdown of various state agency expenditures for water pollution control activities during fiscal year 2003.

Table 7 - State Agency Water Pollution Control Expenditures for Fiscal Year 2003

Department of Environmental Protection	
Office of Administration	$ 5,687,178
Information Technology Office	2,864,551
Division of Water Resources (includes Revolving Loan Fund)	72,018,992
Division of Waste Management	15,711,495
Division of Mining and Reclamation	37,550,546
Division of Abandoned Mine Lands & Reclamation	18,538,143
Office of Oil & Gas	2,905,615
Office of Environmental Enforcement	3,225,081
Office of Environmental Remediation	3,406,063
Division of Natural Resources	
Fish Kill Reimbursement	2,852
Acid Impacted Streams	100,240
Stream Restoration	1,600
Bureau for Public Health (includes county sanitarians)	3,000,000
Environmental Quality Board	210,905
TOTAL	**$ 165,223,198**

Improvement in the water quality of state rivers and streams has had numerous benefits, particularly for the larger rivers such as the Ohio, Kanawha, and Monongahela. In these waterbodies, a recovery of the sport fishery has coincided with an increase in other water-based recreational activities such as boating, skiing, and swimming.

The following is a list and description of the state's major concerns regarding water quality and pollution control.

Abandoned Mine Drainage

Abandoned mine drainage remains one of the most serious water quality problems facing the state. This affects at least 570 streams totaling more than 3,000 miles. Mine drainage streams are impaired by low pH and/or elevated concentrations of metals, including iron, aluminum, and manganese. Many of these streams also exhibit biological impairment. TMDLs have been developed for mine drainage-impaired streams in the Cheat River, Tygart River, Paint Creek, Elk River, Buckhannon River, Monongahela River, Tug Fork River, West Fork River and Stony River watersheds. In these watersheds, restoration through TMDL implementation is now the focus. Remaining watersheds with a mine drainage impairment will be addressed by TMDLs prior to the end of March 2008. Cost estimates for eliminating abandoned mine drainage impacts to water quality are in the hundreds of millions of dollars. The financial resources and passive technologies to abate this problem are not readily available.

Lack of Domestic Sewage Treatment

In many rural areas of the state, collection and treatment of sewage from domestic sources is limited or nonexistent. The disposal of domestic sewage to state waters either through direct pipes or inadequate or failing septic tanks results in bacterial problems in many state streams. Forty-five percent of West Virginia's population is not connected to centralized wastewater systems. The needs in this area are in excess of $2 billion dollars.

Combined Sewer Overflows (CSO)

There are currently 55 permitted CSO communities in West Virginia that have over 700 outfalls. These communities are located throughout the state and discharge to the major rivers, including the Ohio, Kanawha, Monongahela, and Guyandotte, as well as their tributaries. The DEP is currently reviewing Long-Term Control Plans and Water Quality Studies submitted by these communities.

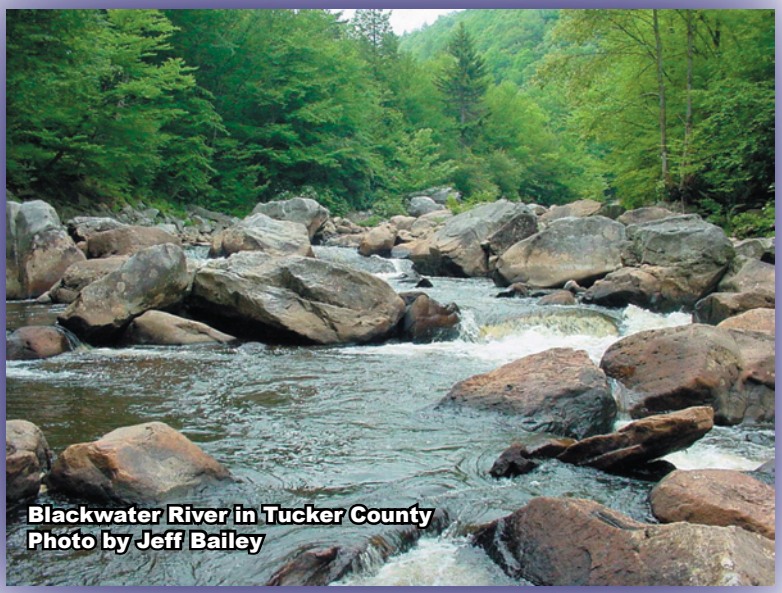
Concerns include CSOs located along rivers used for recreational purposes. Many of West Virginia's larger rivers are used for water contact recreation. It is important to educate the public about CSOs when using these recreational areas. The major concern is the effect of CSOs on water quality. Preliminary results have indicated smaller streams are affected more than the larger rivers. Long term planning for many cities has tried to reduce the number of CSOs or discharges on these smaller streams. West Virginia so far has identified funding needs of over $900 million to minimize CSO impacts statewide.

Water Quality Impacts from Nonpoint Sources

In West Virginia, nonpoint source water quality impacts continue to be a significant source of impairment. Runoff from a variety of land disturbing activities such as agriculture, timbering, and construction projects carries pollutants, such as excess nitrogen and phosphorus from fertilizers, animal wastes, pesticides, and petroleum products from heavy machinery into adjacent waterways.

Siltation associated with the runoff also adversely impacts beneficial uses of the state's streams. Disturbed land, regardless of the source activity, has the potential to impact the state's streams with sediment. One stream in particular, the Upper Elk River in the vicinity of Slatyfork, W.Va., demonstrates the need for education and regulation to prevent impacts to the stream ecosystem. Silviculture and construction activities, in this area of highly erodible soils, is causing increased amounts of fine sediments in trout spawning redds. The threats to this high quality reproducing trout stream exemplify the need for preventive action to control sedimentation sources before the streams become impacted.

Many of the streams being listed on the state's list of impaired waters are affected by nonpoint sources. In fact, the majority of the TMDLs being developed involve nonpoint source water quality impacts.


Blackwater River in Tucker County
Photo by Jeff Bailey

To more effectively respond to TMDL implementation needs, the Nonpoint Source Management Plan was updated in 2000 to incorporate watershed management principles, including integration of TMDL and Watershed Management Framework scheduling. That integration has already proven beneficial in the state's eastern panhandle where TMDLs were completed in the mid-1990s for bacteria associated with agricultural animal wastes. Through the Nonpoint Source Program, partnerships with state and federal agriculture agencies, and the DEP's State Revolving Fund, more than $18 million has been spent implementing best management practices to address agricultural water quality impacts in the Potomac River and its tributaries.

These examples emphasize the need for the existing nonpoint source programs promoting voluntary installation of best management practices to be more focused on identified priority watersheds. Also, enforcement of water quality violations from nonpoint source activities should be used as necessary to encourage compliance. Continuation and expansion of the agency's use of the fund's loans for additional nonpoint source problems, such as failing septic system rehabilitation, also would be beneficial.

Chesapeake Bay and Gulf of Mexico

The Chesapeake Bay and Gulf of Mexico are impaired from nutrients and sediment from multiple upstream states and sources. These large and biologically diverse waterbodies are an important economic resource for their surrounding states and the nation as a whole. As such, the need for their protection and restoration is a high priority for many parties.

West Virginia's Potomac, Shenandoah and James rivers are headwaters to the Chesapeake Bay. The remaining watersheds in the state flow to the Gulf of Mexico. West Virginia's involvement in the restoration of these waterbodies will likely require nutrient and sediment reductions from both point and nonpoint sources. In some cases, these reductions may be necessary on streams that may not be locally impaired. Given this, equitable load reduction targets and implementation strategies are of primary importance to West Virginia.

TMDL Implementation

As described above, millions if not billions of dollars are needed to restore all of West Virginia's streams so they will meet all their designated uses. TMDLs for mine drainage, sedimentation, bacteria and atmospheric deposition are being developed at a steady pace, yet the ability to successfully implement the growing number of completed TMDLs does not exist. Expectations for TMDL implementation must be kept realistic. Additional resources and increased flexibility on the use of existing resources will accelerate stream recovery.

The DEP is pleased to provide this response to comments on the state's Draft 2004 Section 303(d) List. The DEP appreciates the efforts commenters have put forth to improve West Virginia's listing and TMDL development processes.

All comments have been compiled and responded to in this Responsiveness Summary. Comments and comment summaries are bolded and italicized. Agency responses appear in plain text.

Entities That Provided Written Comments About the Draft West Virginia 2004 Section 303(d) List

Appalachian Center for the Economy and the Environment	Argus Energy-WV, LLC.	Independent Oil and Gas Association of West Virginia
Research Environmental & Industrial Consultants, Inc.	U.S. Environmental Protection Agency Region III	West Virginia Manufacturers Association

1. Two commenters asked when the DEP would submit its Integrated Report to the EPA and one asked if a public comment period would be provided.

On August 18, 2004, the DEP submitted its 2004 Integrated Report to the EPA. West Virginia's final Draft 2004 Section 303(d) List is a component of the report and is subject to the EPA's approval. In the 2004 process, only West Virginia's draft list of impaired waters was noticed and made available for public comment, consistent with applicable federal requirements.

2. The DEP was encouraged to adopt and specify the EPA's view that a waterbody should not be listed if a pollutant does not cause the impairment. Additionally, it was suggested that the WVSCI not be used for the listing of biological impairment unless the causative source is known, because a pollutant may not cause the impairment.

The DEP has always accepted the EPA's guidelines and regulations relative to 303(d) list consideration of waters impaired by a "pollutant" versus those impaired by "pollution." Accordingly, waters KNOWN to be impaired by pollution (and not by a pollutant) are not included on the 303(d) list. In the Integrated Report format, such impairments cause waters to be placed in Category 4c rather than Category 5.

Uncertainty of the causative source of biological impairment at the time of assessment is not a sufficient reason to exclude the impairment from the 303(d) list. The uncertainty is much more often related to the specific pollutant(s) causing the impairment. Examples of "pollution, not pollutant" are few and the WVSCI monitoring protocols generally preclude collection of samples in locations where impairment may be attributable to pollution rather than a pollutant. An example is sampling an appropriate substrate in wadeable streams with sufficient flow. The DEP lists waters as biologically impaired if available monitoring results fall below the WVSCI threshold. Causative stressors are identified at the front end of the TMDL development process. If that process determines that a pollutant does not cause the impairment, then a TMDL will not be developed. The EPA endorses this approach, as evidenced by the following excerpt from their 2004 guidance, which can be found at **www.epa.gov/owow/tmdl/tmdl0103/text.html#2**:

> *States should include impaired and threatened waters in Category 5 when a water is shown to be impaired or threatened in relation to biological assessments used to evaluate aquatic life uses or narrative or numeric criteria adopted to protect those uses even if the specific pollutant is not known. These waters*

should be listed unless the state can demonstrate that non-pollutant stressors cause the impairment, or that no pollutant(s) causes or contribute to the impairment. Prior to establishing a TMDL for such waters, the pollutant causing the impairment would need to be identified.

3. Two commenters recommended that the DEP not list a waterbody if natural conditions cause criteria exceedance.

46 CSR 6.1.b.2 provides authority for the Environmental Quality Board to establish less restrictive uses and criteria in waters where naturally-occurring pollutant concentrations prevent attainment of designated uses. 46 CSR 7.2.c.4 provides authority for the board to establish site-specific, numeric, aquatic life water quality criteria in waters where natural conditions are demonstrated to be of lower quality than that prescribed by the numeric criteria of Appendix E of the standards.

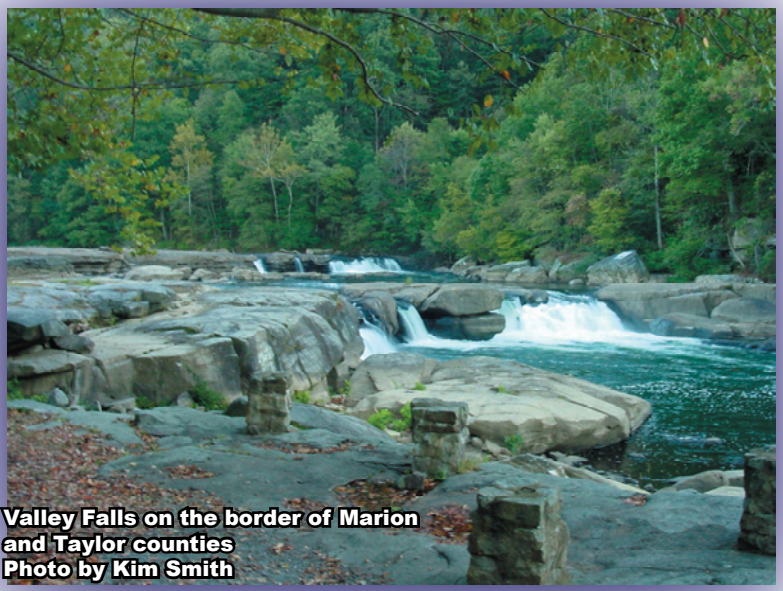
Impairment evaluations in waterbodies for which the Environmental Quality Board has modified uses or criteria pursuant to "natural conditions" are to be made in accordance with the provisions of such modifications. If, in the TMDL development process, the DEP determines that natural conditions preclude attainment of designated uses and/or applicable criteria and that a TMDL is not a practical remedy, then it will consider alternatives. This may include consultation with the board and support of their revision of water quality standards as provided by the aforementioned provisions.

4. Support was received for the delisting of waterbodies identified as impaired on the 2002 Section 303(d) list relative to the previously applicable total aluminum water quality criterion. The comment also requested discussion of plans for modification of TMDLs developed pursuant to the total aluminum criteria.

The requested discussion is a TMDL implementation issue that is not germane to the assessment of state waters and/or the listing of impaired waters. As such, the discussion was not included in the Integrated Report. At this time, the DEP views TMDLs developed pursuant to the previously applicable total aluminum criterion as obsolete. TMDL Waste Load Allocations for point sources that discharge aluminum (usually mining NPDES permits and/or discharges) are not being implemented. Instead, permittees with discharges that are expected to contain aluminum are being required to evaluate water quality impacts relative to the dissolved aluminum criteria. The results of those evaluations will drive appropriate water quality based effluent limitations on an outlet-by-outlet basis.

5. The DEP was asked to discuss specifics relative to the qualification of data from external sources.

In the 2004 process, external sources data qualified for use in impairment assessments if discernable site location information was included, the DEP had a reasonable expectation that the data provider was capable of proper sample collection, and if sample analyses was performed by a certified laboratory. Independent application of external data seldom caused a water to be included on the 303(d) list. Most often, data from external sources reinforced decisions that would be reached based upon a review of the DEP data. In certain instances, external data also allowed refinement of listed stream segments and lengths.



Valley Falls on the border of Marion and Taylor counties
Photo by Kim Smith

The DEP believes that it properly applied data from external sources in the 2004 process, but recognizes the need for a more detailed external data qualification procedure. The 2006 process will be improved in this regard.

6. One commenter requested an explicit statement that monitoring data collected when stream flow is less than 7Q10 or within the boundaries of regulatory mixing zones is not used to determine impairment on the 303(d) list.
An identical comment was received in response to the Provisional Draft list provided to members of the TMDL Stakeholder Committee. The requested clarification was included in Section 4 of the decision rationale offered for public comment. The clarification is reiterated in the Data Management section of the Integrated Report.

7. The DEP was requested to provide background information on "alternative, scientifically-defensible analytical methodologies" to 40 CFR 136 methods and the reason for their use and how they compare with the federal methodologies.
Although it is a primary consideration in the evaluation of the acceptability of monitoring results, monitoring and analysis pursuant to 40 CFR 136 approved methods is not mandated for Section 303(d) or 305(b) processes. 40 CFR 136 does not always contain approved methods for parameters with water quality criteria. In such instances, monitoring and analysis under other scientifically valid methodologies may be appropriate. For example, "free cyanide" is commonly required in NPDES permits to be analyzed by the method for weak acid dissociable cyanide contained in "Standard Methods," water quality data is similarly qualified. In other scenarios, 40 CFR 136 methods may not provide the analytical sensitivity necessary for assessment, and data from alternative scientifically defensible methodologies may be accepted. ORSANCO's use of high volume monitoring techniques for assessment of dioxin in the Ohio River is a primary example.

8. One commenter suggested that the DEP not carry forward previously listed waters if there are no new data for such waters (i.e., in the last five years).
The EPA closely evaluates the removal of waters from the 303(d) list without TMDL development. Excluding extenuating circumstances such as a criterion change or identification that the original listing was made in error, delisting is approvable only where a sufficient quantity of new water quality data is available and shows the water to be compliant with the criteria of concern. In the absence of new data, the DEP must retain the listing but will characterize the present condition through its pre-TMDL monitoring efforts. If such efforts indicate that the water is not impaired, then TMDL development will not be initiated, and the new data will be used to support delisting of the impairment in the next available Section 303(d) List. The EPA's delisting position is described in Section II.F.2 of their 2004 listing guidance.

9. The DEP was cautioned to avoid using subjective judgments in its listing decision and adhere to a purely quantitative approach. The comment was offered in response to the discussion of the agency's consideration of "high assessment quality" data in Section 5 of the rationale.
The DEP concurs that a quantitative assessment enhances consistency, but recognizes that a degree of professional judgment is unavoidable in water quality assessment. The EPA's guidance encourages consideration of assessment quality in the decision-making process and four gradations of assessment quality are provided in the EPA's Assessment Database. For the 2004 list, the assessment quality for the majority of physical and/or chemical water quality data used was classified as "fair." Assessment quality was upgraded to "good" only for the DEP monitoring associated with its pre-TMDL monitoring efforts. The characteristics of the pre-TMDL monitoring data that support the upgraded classification, and the alternative decision methodology, are described in detail in Section 5 of the decision rationale.

10. The DEP was asked to discuss how it incorporates the exceedance frequency of criteria into impairment determinations.

The exposure duration and allowable exceedance frequency components of numeric water quality criteria are discussed in detail in Section 3 of the decision rationale offered with the draft list. Section 5 of the rationale specifically discussed the DEP's procedures for listing pursuant to numeric criteria. The exceedance frequency component is not directly considered in the evaluation of impairment pursuant to chronic aquatic life protection criteria. The described "10 percent rule" protocol is used instead. The 2004 decision methodology includes a provision that identifies a stream as impaired if two or more exceedances of an acute aquatic life protection criterion are observed in any three-year period.

11. The DEP's use of professional judgment in the determination of impaired waters was discouraged. The comment was offered in response to the discussion of stream segmentation in Section 5 of the rationale.
The DEP believes that some amount of professional judgment needs to be retained in the assessment process. Instances of deviation from the segmentation approach were extremely limited and occurred when conditions mirrored the described scenarios.

12. One commenter suggested that the DEP should not list waters simply because the aquatic life is not safe to eat. An opposing commenter argued that the "fishable" Clean Water Act goal does not only mean that fish can thrive, but when caught, can be safely eaten.
The DEP and the EPA consider the "fishable" Clean Water Act goal to encompass the safe consumption of caught fish. Past 303(d) lists have considered waters with fish consumption advisories as impaired relative to the narrative criterion of 46 CSR 1-3.2.e. In the 2004 process, an inconsistency was identified between the numeric body-burden criterion for mercury in 46 CSR 1 and the action levels used for fish consumption advisories. This inconsistency does not change the DEP's underlying interpretation of the fishable goal. The mercury issue is discussed in the rationale document and further clarification of the DEP's action is provided in response to the next comment.

13. One commenter strongly objected to the decision criteria related to mercury and fish consumption advisories and argued that the DEP must list all streams containing fish exceeding advisory levels, including those with fish tissue mercury concentrations greater than 0.028 ppm. At a minimum, the DEP should list 17 waters where a fish tissue sample exceeded 0.5 ppm, which is the applicable 46 CSR 1 body-burden criterion.
The DEP's position relative to streams with fish consumption advisories is described in Section 5 of the decision rationale. Waters will be considered impaired pursuant to the narrative criterion of 46 CSR 1-3.2.e if a fish consumption advisory is in effect or if available fish tissue data exceeds advisory levels unless 46 CSR 1 provides a numeric body-burden criterion for the protection of human health for the pollutant of concern.

For mercury, 46 CSR 1 provides a numeric body-burden criterion for the water contact recreation and the public water supply designated uses. Criteria for the water contact recreation use are intended "to protect human health from toxic effects through fish consumption" and the criteria for the public water supply use are intended "to protect human health from toxic effects through drinking water and fish consumption." Because the applicable standards contain a specific, numeric, body-burden, mercury criterion for human health protection, the DEP will base impairment decisions on the body-burden criterion.

During the assessment of data for the Draft 2004 Section 303(d) List, the only readily available fish tissue mercury data was that provided for the Ohio River by ORSANCO. The Ohio River data indicated that mercury fish tissue concentrations were less than both the West Virginia (0.5 ppm) and the ORSANCO (0.3 ppm) body-burden criterion. As such, no West Virginia waters were identified as impaired relative to mercury in fish tissue. Additional fish tissue mercury data contained in a West Virginia University study was not available at the time of notice of the draft list and was not considered. That data has since been qualified and considered. In that regard, 17 additional waters are being placed on the 2004 list for fish consumption mercury impairment. Those waters have

demonstrated fish tissue mercury concentrations greater than 0.5 ppm in a three-five fish composite sample for at least one species of fish that is commonly consumed by humans.

14. Three commenters questioned the use of the WVSCI in the assessment of impairment relative to aquatic life designated uses. Issues presented include:

- ***Lack of formal adoption through West Virginia rulemaking procedures***
- ***Quality assurance in the WVSCI sampling methodology***
- ***Need for multiple assessments prior to listing***
- ***Variability (seasonally and spatially)***
- ***Default listing of entire stream***

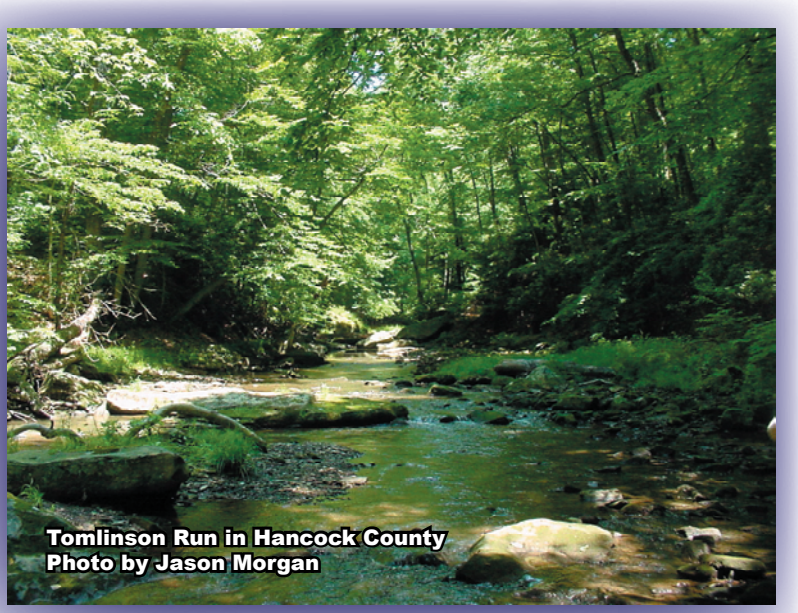
The DEP will continue to list biological impairments using the WVSCI methodology as described in the decision rationale. The methodology is scientifically sound and its use is appropriate for assessing adverse impact to the biological component of aquatic ecosystems. List approval by the EPA is expected to be contingent upon our continued implementation of this practice. West Virginia is not alone in its use of a benthic macroinvertebrate index to assess biological integrity. Many other states implement similar protocols, the majority of which do so without formal rulemaking.

Duplicate sampling has been a part of the DEP's assessment program since 1996. Duplicate sites have two sets of water quality, habitat assessments, and benthic macroinvertebrate samples collected on the same date. Utilizing samples collected at these sites, the precision of the WVSCI scoring can be determined. Streams are not listed as impaired unless the WVSCI score falls below the index's impairment threshold minus the calculated precision, which is determined using a 90 percent confidence interval.

Given the magnitude of the DEP's responsibilities for watershed assessment, it would not be practical to demand multiple biological monitoring events prior to assessment. The design of the WVSCI allows an individual sample, qualified as comparable per its methodology, to discriminate departure from the reference condition and to be used for impairment decisions pursuant to the narrative criterion of 46 CSR 3.2.i. Reference condition is determined by a statewide network of minimally impaired sites. The DEP utilizes a list of water quality, habitat, and landuse criteria in evaluating status as a reference site, all of which must be met to be considered. The DEP avoids biological assessment when suspect conditions jeopardize the validity of assessment under the WVSCI. For example, if it is known that streams have been dry for extended periods or have been scoured by a recent flood, the DEP typically does not perform biological monitoring. Additionally, to be considered comparable, the depth of sample areas cannot be greater than the height of the net and the flow must be sufficient to carry dislodged macroinvertebrates into the net. All biological monitoring data is screened for comparability to WVSCI thresholds before it is used. Further, it should be noted that an intensified monitoring program is implemented prior to TMDL development that includes additional biological evaluations. If the more recent data indicates that the water is not biologically impaired, then TMDL development will not be initiated, and the new data will be used to support delisting of the impairment.

One commenter provided specific examples from his biomonitoring data that indicated spatial variability of biomonitoring results. Spatial variability is not unexpected in waters with varying degrees of anthropogenic impact. The commenter observed that scores are usually high at the farthest upstream station, decrease throughout the active mining areas, and increase in the farther downstream reaches. While the DEP recognizes that stream conditions may vary at different locations, it may, by default, list the entire length of a stream based upon an individual biological assessment. In contrast, streams with multiple sites may be segmented via implementation of the segmentation approach described in the Assessment Methodology section. In the absence of data from multiple monitoring sites, the available site is used to characterize the entire length of the stream. The intensified monitoring conducted prior

to TMDL development will include biological reassessment and water quality monitoring at multiple locations. This is designed to better define impaired segments and causative sources.


Tomlinson Run in Hancock County
Photo by Jason Morgan

The same commenter expressed concern relative to the seasonal variability indicated by his biomonitoring results. The WVSCI was developed using data collected from April 15 through October 15. Seasonal variability within this period was analyzed and determined to be insignificant. Collecting samples using comparable methods and assuring that the stream was neither dry nor had been scoured by flooding prior to the collection is an extremely important aspect of analysis. The DEP realizes that certain permit requirements stipulate that macroinvertebrate samples be collected outside this index period. Largely because of this fact, studies were commissioned to analyze seasonal differences. Results of this study will allow the DEP to better assess data collected outside the original index period.

There was a comment about the need for a regionalized index. This was evaluated at the time the index was developed and it was determined that a single index was sufficient for the state.

15. In addition to the above issues, specific comments were provided relative to the listing of several biologically impaired waters in the East Fork of the Twelvepole Creek Watershed. The issues were related to impaired lengths and descriptions, and the variability of monitoring results as indicated by the commenter's data.
A portion of the biomonitoring information provided by the commenter was initially provided and considered by the DEP in its preparation of the 2002 West Virginia Section 303(d) list. In the 2004 process, the DEP inadvertently omitted that data in its preliminary review. That data has since been incorporated. The commenter also provided newer biomonitoring data (i.e., October 2002 and later) that could not be considered. The new data requires rarification to a 200-organism subsample to be comparable to the WVSCI index and the raw data needed to perform that operation was not provided. The DEP made the following stream-specific revisions:

- The Parker Branch (WVO-2-Q-18-D) reach description is "mouth upstream 1.4 miles to impoundment"
- The Maynard Branch (WVO-2-Q-23) impaired length is "0.1 miles" and the reach description is "mouth to impoundment at river mile 0.4"
- The Kiah Creek (WVO-2-Q-18) impaired length is "11.7 miles" and the reach description is "mouth upstream 11.7 miles"
- The East Fork (WVO-2-Q) impaired length is "24.9 miles" and the reach description is "from river mile 22.9 (East Lynn Lake) to headwaters "
- Milam Creek (WVO-2-Q-20) has been removed from the 303(d) list
- The Copley Trace (WVO-2-Q-18-G) reach description is "mouth upstream 0.9 miles"

16. One of the commenters also suggested that a good WVSCI score should override an aquatic life protection numeric criterion exceedance.
The EPA's independent applicability policy precludes the suggested approach. There is no provision in the

water quality standards that allows the DEP to overlook numeric criteria exceedances. Such action would not be approvable by the EPA. This is a major reason for their past and continued mandate of the independent applicability of water quality criteria.

17. One commenter suggested that the DEP should provide the number of data points for which each listing decision was based, so that the user would know how often a stream was monitored and exceeded criteria.
The DEP attempted to honor the stakeholder recommendation and show the number of samples and the frequency of violation associated with each listing, but encountered difficulty displaying information clearly in the table format, particularly when data was available for more than one sampling location in a stream.

The DEP considered displaying each sampling station as a row in the table. That would have resulted in a doubling or more of the number of pages in the document and would have reduced the clarity of the listing decisions. The display of multiple columns, showing the number of samples, violation frequency, and location of various assessment points, also was considered. In addition to adversely impacting decision clarity, that option could not be accomplished while maintaining all column information for a listed water row on a single page. The DEP considered combining all station data and providing summary "number of samples" and "frequency of violation" columns for the listed waters. However, individual sampling stations are evaluated independently with the extent of impairment based on the results of the various stations. The "combination" option does not accurately reflect the decision making process.

For the reasons described above, the DEP decided that it could not practically display the information suggested by stakeholder recommendation 14.

18. One commenter recommended that the DEP include a specific section in the 303(d) list that describes the delisting process. The commenter specifically requested a description of an interim procedure (between scheduled 303(d) lists) to forego TMDL development when new water quality data indicates that a TMDL is not needed. The same commenter suggested that the DEP revise the 303(d) list at times other than required submissions.
A water and impairment is "delisted" if a TMDL is developed or if cause exists to remove a previous listing without TMDL development. Supplemental Table A identifies previously listed waters that were removed without TMDL development and the cause for such action. Supplemental Table B identifies previously listed waters that have TMDLs developed. Section 10 of the rationale provides supporting information for the supplements.

New water quality data often becomes available in the interim period between list submissions, particularly that which is generated by the DEP in its pre-TMDL monitoring efforts. That monitoring may identify additional impaired waters or contradict previously listed impairments. TMDL development is pursued only for waters where the data indicates pollutant-caused impairment. Newly identified impairments will receive immediate TMDL development, even though the water and impairment is not contained on the operative 303(d) list. Where new data demonstrates criteria compliance, the affected waters will be scheduled for delisting on the next available 303(d) list. The DEP will base interim permitting actions on the new data and document decisions in the fact sheet for the permit. Interim list revision, notice and approval would consume considerable agency resources with little perceived benefit.

19. One commenter suggested that streams in the Potomac River basin should be identified as impaired based upon the observation of intersex and skin lesions.
The DEP is equally concerned with the preliminary findings of reproductive anomalies in the fish of the South Branch of the Potomac River. Due to the extremely limited sample size, the agency is not certain that intersex and

skin lesions are occurring at higher than normal rates, or if the fish-kill that precipitated the intersex monitoring was a unique or associated occurrence.

The DEP, DNR, USGS, EPA and Tennessee Tech University are collaborating in a number of studies to better assess the magnitude and extent of the problem, and to determine if any relationship exists among water-column concentrations of endocrine disrupting compounds, blood-plasma concentrations of endocrine disrupting compounds, and the occurrence of reproductive and other anomalies in fish.

The DNR will collect smallmouth bass and provided the fish to the USGS— BRD Leetown Science Center's National Fish Health Research Laboratory for histopathological analysis of tissues. The EPA's Molecular Ecology Research Branch will apply gene expression methods to gauge the effects of endocrine disrupting chemicals. Fish blood plasma samples will be analyzed for a suite of pharmaceuticals, personal care products, polybrominated diethers, and a limited set of PCB congeners by Tennessee Tech and the USGS.

The DEP will collect water quality samples from streams and point source discharges for arsenic, roxarsone, and a suite of conventional parameters. The point source discharges also will be sampled for a suite of pharmaceuticals. USGS National Water Quality Laboratory will analyze water quality and effluent samples.

The USGS will deploy a network of passive sampling devices in the South Branch of the Potomac and Lost rivers. Passive samplers are simple devices that accumulate and sequester organic compounds over a typical exposure time of several weeks. Extracts will be analyzed for a broad suite of potentially endocrine-disrupting compounds by the USGS National Water Quality Laboratory.

The DEP commits to an expedient review of study findings and prompt pursuit of necessary corrective actions. Assuming that study results become available, findings will be reflected in West Virginia's 2006 Integrated Report.

20. One commenter provided stream-specific suggestions for the listing of impairment relative to selenium. This includes Cow Creek (WVOG-65-J), Hall Fork (WVOG-65-J-3-A) and Rockhouse Creek (WVKC-47-A).
The commenter requested that data generated by Coal-Mac, Inc. and submitted with a permit application (one exceedance in two samples) be considered with the mountain top removal environmental impact statement data (two exceedances in six samples), and that Cow Creek be listed (three violations with less than 20 samples). The supplemental sample results were obtained from a different location than the location sampled in the mountaintop removal environmental impact statement. The commenter also requested Rockhouse Creek to be listed for selenium because if the monitoring results obtained at all stream sampling locations were consolidated, there would be three observed exceedances in 18 samples. In both instances, available data is insufficient to determine if the aquatic life use is fully supported or not supported. Consolidation of sample results provides no additional clarity. The DEP retained its assessments under the prescribed segmentation approach and neither water was added to the 303(d) list.

The commenter disagreed with the DEP's decision to delist Hall Fork based upon recent water quality monitoring. The objection involved the short monitoring period that the commenter believed was insufficient to evaluate water quality during varied weather conditions. Hall Fork was monitored 10 times in September and October 2003 and no exceedances of the selenium water quality criteria were observed. The monitoring was directed by the EPA with sample collection and analyses performed under a strict quality assurance/quality control plan. The intent of the monitoring was to generate recent water quality data for TMDL development. Based upon the monitoring results, the EPA did not pursue TMDL development because they determined that Hall Fork was not impaired relative to selenium. The DEP concurs with that determination.

21. A recommendation to list a portion of Hominy Creek (WVKG-24) pursuant to the iron water quality criteria for troutwaters was provided. The commenter provided observational information relative to iron deposits on the stream bottom and reference to the water quality assessments made by the DEP's Division of Mining and Reclamation in a Cumulative Hydrologic Impact Analysis for a local mining operation.

In the preparation of the 2004 Section 303(d) list, the DEP attempted to universally incorporate water quality monitoring results generated by mining permittees and submitted to the DEP pursuant to the Surface Mining Control and Reclaimation Act of 1977 requirements. Because of database formatting issues and unreliable monitoring location information, the dataset was not readily available for statewide application in the 2004 process. In response to the comment, the DEP sought out and evaluated the mining permit data associated with the subject segment of Hominy Creek. Review of that data indicates iron impairment as suggested. As such, the final draft list includes an iron (troutwater) impairment listing for Hominy Creek for 1.8 miles from river mile 17.3 to 19.1.

Cheat River from Coopers Rock in Preston County
Photo by Mike Whitman

22. Pursuant to the decision criteria for assessing impairment relative to acute aquatic life criteria, a commenter questioned how often sampling occurs at a frequency greater than once in three years.

Most datasets used for assessment include sampling much more frequent that once per three years. Ambient stations are monitored four times per year. Other monitoring programs conducted by the DEP (pre-TMDL, trend) incorporate a monthly monitoring frequency.

23. Clarification of the exceptions indicated in Table 3 of Section 5 of the decision rationale was requested.

The exceptions are consistent with the decision rationale used in previous 303(d) lists and approved by the EPA. If data generated in the most recent period of a dataset indicates a condition that is different from that indicated by the entire dataset, then the DEP bases its listing decision on the most recent data. Table 4 in the Assessment Methodology section of this report provides the specific protocols used by the DEP under this concept.

24. Pursuant to the DEP's protocol for not listing biological impairments in waters where implementation of an established, pollutant-specific TMDL is expected to resolve the biological impairment, a commenter recommended re-evaluation and listing if the biological impairment is not resolved within two listing cycles, which would be four years.

Again, this protocol is identical to that used and approved in the 2002 West Virginia Section 303(d) list. It stems from the inefficiency associated with additional TMDL development for waters where the agency is confident that implementation of established TMDLs for aquatic life protection numeric criteria will address biological impairment. Under this concept, the appropriate time to list a remaining biological impairment would be when TMDL implementation has returned the water to attainment with the numeric criteria, and four years is not a reasonable time period to expect this to occur.

25. One commenter requested revision of TMDL development dates for any water where the maximum projection exceeds the EPA's "pace guidance" of eight to 13 years.
The DEP plans to develop TMDLs for approximately 100 impaired waters per year and attempts to simultaneously develop TMDLs for all known impairments. The Draft West Virginia 2004 Section 303(d) List identifies approximately 900 impaired waters. Evaluation under those terms indicates an intended pace consistent with the guidance. Our program also is linked to a five-year Watershed Management Framework cycle and accommodates the EPA's remaining consent decree requirements. Given those constraints, it is difficult to project that all impaired waters will have a TMDL developed within EPA's arbitrary eight- to 13-year guideline. The DEP respectfully requests that the commenter recognize the robust, positive aspects of our program and judge our pace as adequate.

26. One commenter requested that the 303(d) list include a discussion of the DEP's procedures for use assessment in "shared waters."
The requested discussion is provided in the Interstate Water Coordination section of the Integrated Report.

27. One commenter requested waters that were deemed to be impaired pursuant to the previously applicable total aluminum criteria be included on Supplement B "Previously Listed Waters – TMDL Developed." The commenter reasoned that exclusion might muddy the EPA's accomplishment of consent decree commitments for TMDL development.
The DEP recognizes the confusion that resulted from the aluminum criteria change. The EPA appropriately addressed the now obsolete, aluminum impairments through its timely development of TMDLs for affected waters. Supplement B is not a required component of a state's 303(d) list, but the DEP provides it to allow users to identify previously listed, impaired waters that have had TMDLs developed. Since the total aluminum criterion is no longer applicable, the subject waters cannot be deemed impaired in regard to total aluminum. Furthermore, the criteria change nullifies the TMDL. For these reasons, inclusion of these waters and impairments in Supplement B is not appropriate. In response to the comment, the DEP provided an additional table in the Integrated Report that identifies all waters that had TMDLs developed pursuant to the obsolete total aluminum criterion (See Supplemental E).

28. One commenter recommended that the DEP use an acid neutralization capacity assessment methodology to determine atmospheric deposition (acid rain) impairments.
The West Virginia Section 303(d) list does not include listings for "acid rain," as such. Impairments pursuant to pH observations outside the specified range of the criterion are identified, but the cause of the impairment is not specified. The decision criteria were described in detail in the rationale for the list and are reiterated in the Integrated Report. The cause of low pH will be determined in the TMDL development and the DEP will employ all available mechanisms for differentiation between impacts from historical mining and atmospheric acid deposition.

29. One commenter requested that Supplement B include all Guyandotte River tributaries and impairments for which TMDLs have been developed.
Supplement B has been updated as requested.

EPA APPROVAL

EPA Region III provided comments to DEP pursuant to the Draft 2004 Integrated Water Quality Monitoring and Assessment Report released for public comment in August 2004. DEP's reactions to those EPA comments are documented in the Responsiveness Summary, which begins on page 50 of this report. The DEP submitted the report to EPA Region III for final approval on November 9, 2004. The parties coordinated resolution of issues that arose during EPA's review of the submission and the DEP made certain revisions to the submission. Those revisions are outlined from the letter, which follows the EPA Approval Letter, dated November 9, 2004. EPA Region III determined the report, as revised, meets the requirements for the Integrated Report, and approved the report December 9, 2004. A copy of the EPA approval letter and rationale follows.

EPA's Approval Rationale documents the applicable statutory and regulatory requirements and explains how West Virginia's 2004 Integrated Water Quality Monitoring and Assessement Report List complies with each requirement.

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

Ms. Allyn G. Turner, Director
Division of Water and Waste Management
West Virginia Department of Environmental Protection
601 57th Street SE
Charleston, WV 25304-2345

DEC 09 2004

Dear Ms. Turner:

Thank you for the West Virginia Department of Environmental Protection's (WVDEP) final submission on November 9, 2004, of its identification of waters under Section 303(d) of the Clean Water Act ("2004 Section 303(d) List").

The U. S. Environmental Protection Agency Region III (EPA) has reviewed the submission and supporting documentation and, pursuant to Section 303(d) of the Act, 33 U.S.C. § 1313(d), hereby approves West Virginia's 2004 Section 303(d) List of water quality limited segments still requiring a total maximum daily load (TMDL). The enclosed narrative provides an explanation of the basis for EPA's approval.

Thank you again for this submission. If you or your staff have any questions, please feel free to contact Mr. Larry Merrill (215) 814-5452 or Ms. Jennifer Sincock (215) 814-5766 for assistance.

Sincerely,

Jon M. Capacasa, Director
Water Protection Division

Enclosure

cc: Patrick Campbell, Assistant Director, Division of Water Resources

APPROVAL RATIONALE

Introduction

EPA has conducted a complete review of West Virginia's 2004 Section 303(d) list and supporting documentation and information. Based on this review, EPA has determined that West Virginia's list of water quality limited segments ("WQLSs") still requiring total maximum daily loads ("TMDLs") meets the requirements of Section 303(d) of the Clean Water Act ("CWA" or "the Act") and EPA's implementing regulations. Therefore, by this order, EPA hereby approves West Virginia's 2004 Section 303(d) list. The statutory and regulatory requirements, and EPA's review of West Virginia's compliance with each requirement, are described in detail below.

Statutory and Regulatory Background

Identification of WQLSs for Inclusion on Section 303(d) List

Section 303(d)(1) of the Act directs the states to identify those waters within their jurisdiction
for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of Section 303(d).

EPA regulations provide that states do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act, (2) more stringent effluent limitations required by state or local authority, and (3) other pollution control requirements required by state, local, or Federal authority. See 40 CFR 130.7(b)(1).

West Virginia developed an Integrated Report which identifies the assessment status of all of West Virginia's waters combining EPA's Section 303(d) and 305(b) requirements. The Integrated Report compartmentalized the waters of West Virginia into five distinct categories. All stream segments or assessment units fall into one of the following categories:

- Category 1 - fully supporting all designated uses
- Category 2 - fully supporting some designated uses, but no or insufficient information exists to assess the other designated uses

- Category 3 - insufficient or no information exists to determine if any of the uses are being met
- Category 4 - waters that are impaired or threatened but do not need a Total Maximum Daily Load (TMDL)
    - Category 4a - waters that already have an approved TMDL but are still not meeting standards
    - Category 4b - waters that have other control mechanisms in place which are reasonably expected to return the water to meeting designated uses
    - Category 4c - waters that have been determined to be impaired by pollution or other natural factors
- Category 5 - waters that have been assessed as impaired and are expected to need a TMDL

West Virginia's Section 303(d) list of impaired waters is in Category 5 of West Virginia's 2004 Integrated Report. West Virginia also provided the 2004 Section 303(d) list in the same format as the 2002 Section 303(d) list consisting of the 303(d) list of impaired waters and five supplemental tables that track previously listed waters. The format of the 2004 Section 303(d) list follows the Watershed Management Framework with five hydrologic groups (A-E). Within each hydrologic group, watersheds are arranged alphabetically and impaired waterbodies are listed alphabetically within their appropriate watershed. The information that follows each impaired stream includes the stream code, the affected water quality criteria, the cause of the impairment (where known), the impaired length (or, by default, the entire length), the reach description, the planned timing of TMDL development and whether or not the stream was on the 2002 list.

Five supplemental tables were provided to track previously listed waters that are not present on the 2004 Section 303(d) list. "Supplemental Table A - Previously Listed Waters - No TMDL Developed" is a list of previously listed waters which have been reevaluated and determined not to be impaired and, therefore, not in need of a TMDL. Causes for revision of the impairment status include recent water quality data demonstrating improved water quality condition, revision to the water quality criteria associated with the previous listing, or a modification of the listing methodology. Decisions regarding the need for TMDL development were made in accordance with the requirements of 40 CFR 130.7(b)(1) and the state's listing criteria. In the Integrated Report, these waters have been moved from Category 5 to Category 1, 2, 3, or 4, as appropriate.

"Supplemental Table B - Previously Listed Waters - TMDL Developed" is a list of previously listed impaired waters for which a TMDL has been developed and established by EPA. Waters included in this supplement have had a TMDL developed, but water quality improvements are not yet complete and/or documented. Since the Section 303(d) list is a list of water quality

limited segments still requiring TMDLs (see 40 C.F.R. 130.7(b)), EPA's Integrated Water Quality Monitoring and Assessment Report Guidance recommends classification of such waters in a category separate from the 303(d) list. WVDEP developed this supplemental table to track previously listed impaired waters for which TMDLs have been developed. In the Integrated Report, these waters have been listed in Category 4a which includes waters that already have an approved TMDL but are not meeting standards.

"Supplemental Table C - TMDL Developed - Below Listing Criteria" is a list of impaired waters that have had TMDLs developed and recent water quality information indicates that the applicable water quality standards are no longer being exceeded. The waters listed on this supplemental table have been restored through TMDL implementation to meet their designated uses and associated water quality criteria.

"Supplemental Table D - Impaired Waters - TMDLs Not Included" is a list of impaired waters for which either other control mechanisms are in place to control pollutants or the water is impaired by pollution. These are the same waters contained in Category 4b and 4c, respectively.

"Supplemental Table E - Total Aluminum TMDLs Developed" is a list of previously listed impaired waters for which a total aluminum TMDL has been developed and established by EPA. Due to the criteria change from total aluminum to dissolved aluminum, West Virginia placed total aluminum TMDLs onto a separate table from Supplemental Table B. All waters contained on Supplemental Tables B and E are included on Category 4a of the Integrated Report.

Consideration of Existing and Readily Available Water Quality-Related Data

In developing Section 303(d) lists, states are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the state's most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA. See 40 CFR 130.7(b)(5). In addition to these minimum categories, states are required to consider any other data and information that is existing and readily available. EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available. See Guidance for Water Quality-Based Decisions: The TMDL Process, EPA Office of Water, Appendix C (1991) (EPA's 1991 Guidance). While states are required to evaluate all existing and readily available water quality-related data and information, states may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring states to assemble and evaluate all existing and readily available water quality-related data and information, EPA regulations at 40 CFR 130.7(b)(6) require states to include as part of their submissions to EPA, documentation to support decisions to rely or not rely on particular data and information and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the Region. West Virginia's *2004 Integrated Water Quality Monitoring and Assessment Report* identified the state's assessment methodology and its use of data.

Priority Ranking

EPA regulations also codify and interpret the requirement in Section 303(d)(1)(A) of the Act that states establish a priority ranking for listed waters. The regulations at 40 CFR 130.7(b)(4) require states to prioritize waters on their Section 303(d) lists for TMDL development, and also to identify those WQLSs targeted for TMDL development in the next two years. In prioritizing and targeting waters, states must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. See Section 303(d)(1)(A). As long as these factors are taken into account, the Act provides that states establish priorities. states may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic and aesthetic importance of particular waters, degree of public interest and support, and state or national policies and priorities. See 57 Fed. Reg. 33040, 33045 (July 24, 1992) and EPA's 1991 Guidance.

Analysis of West Virginia's Submission

Identification of Waters and Consideration of Existing and Readily Available Water Quality-Related Data and Information

EPA has reviewed West Virginia's submission, and has concluded that West Virginia developed its 2004 Section 303(d) list in compliance with Section 303(d) of the Act and 40 CFR 130.7. EPA's review is based on its analysis of whether West Virginia reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

A. Description of the methodology used to develop this list, Section 130.7(b)(6)(i)

West Virginia's 2004 Section 303(d) list was developed using all existing and readily available data. In West Virginia, the WVDEP's Division of Water and Waste Management (DWWM) is responsible for the collection and compilation of this information. In preparation for the 303(d) listing process, WVDEP sought water quality information from various state and Federal agencies, colleges and universities, and private individuals, businesses and organizations.

News releases and public notices were published in state newspapers and letters were sent to state and Federal agencies known by WVDEP to be generators of water quality data.

West Virginia's 303(d) list is based largely on the data collection and assessment that underlies the 305(b) report of the state's water quality. WVDEP generated the majority of available surface water quality data through the Watershed Assessment Program (WAP) performed within the Watershed Management Framework cycle. Biological data sources included WV Stream Condition Index (WVSCI) scores collected during WVDEP's WAP. Additional data was obtained from state and Federal agencies, local environmental agencies, colleges, and universities, citizen monitoring groups, and private firms. A complete list of data providers is shown on Table 3 of the listing rationale narrative. West Virginia considered all data and information regarding 130.7(b)(5) categories, which is the minimum required by Federal regulations.

Data evaluation by the agency began in August 2003. In-house personnel possessing varying areas of expertise compared instream data to applicable water quality criteria and determined the impairment status of state waters. The basis for 303(d) listing decisions relate to the West Virginia water quality standards. In general terms, if water quality standards are exceeded, a waterbody is considered impaired, placed on the 303(d) list, and scheduled for TMDL development. More specifically, a waterbody is considered impaired when it does not attain the designated use assigned to it by applicable water quality standards. Use attainment is determined by comparison of the instream values of various water quality parameters to the numeric or narrative criteria contained in the standards. The West Virginia water quality standards are codified at 46 CSR 1 - *Legislative Rule of the Environmental Quality Board - Requirements Governing Water Quality Standards*, and at 60 CSR 5 - *Legislative Rule of the Department of Environmental Protection - Antidegradation Implementation Procedures*. The 46 CSR 1 version used to develop the 2004 Section 303(d) list went into effect June 25, 2003. All water quality standards contained in this version have received the EPA's approval and are currently considered effective for CWA purposes. The exception to the rule is for manganese, found in Section 6.2.d. of 46 CSR 1 which refers to the manganese five-mile rule which was not approved by EPA. West Virginia listed waters by using only the approved applicable water quality standards and did not use the manganese five mile rule in Section 6.2.d of 46 CSR 1.

In addition, West Virginia provided its rationale for not relying on particular existing and readily available water quality-related data and information as a basis for listing waters. West Virginia DWWM staff evaluated data from internal and external sources to ensure that collection and analytical methods, quality assurance/quality control and method detection levels were consistent with approved procedures. All qualified data from available sources were used in the decision making process. For the stream quality assessment, West Virginia generally used water quality data generated between July 1998 and June 2003. EPA finds West Virginia's screening protocol and criteria described in its 2004 Section 303(d) listing rationale narrative to be a reasonable rationale in determining the usage of outside data, as waters listed as "impaired" should be based on scientifically valid data.

On February 17, 2004, West Virginia provided a provisional draft document with the initial impairment decisions and rationale narrative to EPA and the TMDL stakeholder group for comment. The TMDL stakeholder group, formed by WVDEP in 1999, is comprised of 22 members from diverse interests, including representatives from environmental and recreational groups, coal, oil and gas, and forestry industries, nonpoint sources, municipalities, and state and Federal government. The group was charged with developing consensus-based recommendations to WVDEP on 303(d) listing and TMDL development. To the maximum extent practical, the recommendations of the stakeholder group were addressed. EPA also provided comments in a letter dated March 17, 2004 which were addressed by West Virginia.

Preliminary comments from the initial distribution of the provisional draft document were evaluated and subsequent revisions were included in the Public Notice Draft 2004 303(d) List which was released for public comment on March 22, 2004 through April 30, 2004. Notices of the availability of the Public Notice Draft 2004 303(d) List were placed in newspapers statewide and promoted via e-mail and the internet. These notices included information on where to obtain the documents and where to send comments. EPA provided comments to WVDEP on April 30, 2004 requesting clarification of (1) listing decision criteria and assessment methodologies for the following data: numeric, atmospheric deposition, and biological; (2) shared waters; (3) projected TMDL development dates; (4) individual waterbody listings; and (5) additional documentation and data to support delisted segments and/or pollutants. West Virginia received written comments from six entities including EPA. WVDEP evaluated all comments received and prepared a responsiveness summary detailing WVDEP's actions regarding these comments. EPA concludes that WVDEP properly considered and responded to relevant public comments.

EPA received WVDEP's final 2004 Integrated Water Quality Monitoring and Assessment Report package combining the Section 303(d) list and Section 305(b) report on August 19, 2004. This package included: (1) a listing rationale narrative describing: (a) an overview of the process for development of the 2004 Integrated Report; (b) the assessment methodologies for the following kinds of data: numerical water quality; atmospheric deposition, fish consumption advisories, biological impairment, and fecal coliform; and (c) an explanation of the data evaluated in the preparation of the list; (2) a summary of comments and responses that could affect the listing of waters; (3) the 303(d) list with five supplemental tables tracking previously listed waters; (4) WVDEP's 303(d) Decision Database which records final listing decisions; (5) WVDEP's 2004 Assessment Database (ADB); (6) the West Virginia University mercury fish tissue study entitled *West Virginia Statewide Fish Tissue Analysis*; and (7) all comment letters received by WVDEP during the public comment period.

West Virginia received comments questioning listing decisions for particular waterbodies. Where commentors advocated for or against particular impairment listings, West Virginia responded to the comments by providing relevant waterbody-specific analyses used in the listing decision, and where appropriate, making changes to the Section 303(d) list.

EPA recognizes that WVDEP received comments questioning its reliance on biological assessments and the West Virginia Stream Condition Index to identify waters for inclusion on the Section 303(d) list. In identifying water quality limited segments for inclusion on the Section 303(d) list, states must evaluate attainment with water quality standards established under Section 303(c) of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements, based on consideration of all existing and readily available information, including but not limited to assessment information such as chemistry, toxicity, or ecological assessment. 40 C.F.R. 130.7(b)(3) and (b)(5). Assessment information is particularly important for determining whether a waterbody is achieving its designated use (such as supporting aquatic life) or a narrative criteria.

With respect to the various types of assessment information, EPA recommends that the states apply a policy of independent application to determine whether a waterbody is achieving applicable water quality standards. This policy addresses three types of assessment information: chemistry, toxicity testing results, and ecological assessment. Each of these three methods can provide a valid assessment of non-attainment of a designated use and each independently can provide conclusive evidence of nonattainment without confirmation with a second method. EPA, Final Policy on Biological Assessments and Criteria (June 19, 1991); see also 48 Fed. Reg. 51,400, 51,402 (Nov. 8, 1983) (noting that biological monitoring is one method of testing compliance with narrative criteria); cf. 33 U.S.C. 1313(c)(2)(B) (nothing in Section 303 should be construed "to limit or delay the use of effluent limitations or other permit conditions based on or involving biological monitoring or assessment methods ...."). Biological assessments can provide compelling evidence of water quality impairment because they directly measure the aquatic community's response to pollutants or stressors, and they can help provide an ecologically based assessment of the compliance status of a waterbody. Memorandum from Geoffrey H. Grubbs, Director, Assessment and Watershed Protection Division, EPA, to Water Management Division Directors, Regional TMDL Coordinators, Regions I-X re Guidance for 1994 Section 303(d) Lists (Nov. 26, 1993).

Following EPA's review of WVDEP's final 2004 Section 303(d) list, EPA identified some additional concerns for which clarification and/or additional listings were provided by WVDEP in subsequent correspondence. West Virginia provided additional information to address EPA's comments and certain discrepancies identified by WVDEP. An electronic copy of West Virginia's revised 2004 Integrated Report combining the Section 303(d) list and Section 305(b) report with associated databases were received by mail on November 10, 2004.

EPA has reviewed West Virginia's description of the data and information it considered, its methodology for identifying waters, and additional information provided in response to comments raised by EPA. EPA concludes that the state properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR 130.7(b)(5).

B. Description of the data and information used to identify waters, including a description of the data and information used by West Virginia as required by Section 130.7(b)(5).

1. Section 130.7(b)(5)(i), Waters identified by West Virginia in its most recent Section 305(b) report as "partially meeting" or not meeting designated uses or as threatened."

West Virginia's 2004 Section 303(d) list was combined with the 305(b) report to form what is now referred to as the Integrated Report. Therefore, the 305(b) report is no longer a stand alone document and the data that would have gone into development of such a "stand alone" report was used in the production of the Integrated Report. In West Virginia, the biennial water quality assessment is conducted by the WVDEP DWWM. The Integrated Report incorporates the data and evaluations obtained from state and Federal agencies, local environmental agencies, colleges, and universities, citizen monitoring groups, and private firms. A complete list of data providers is shown on Table 3 of the Integrated Report. West Virginia relied heavily on ORSANCO's 2004 305(b) report and use support information when making listing decisions on the Ohio River and the tributaries for which data was available. West Virginia's Integrated Report compartmentalized the waters of West Virginia into five distinct categories which were described above. Waters are defined as being either supporting of all uses, supporting of all uses for which assessment occurred, lacking data for a determination, impaired but not requiring a TMDL, or impaired and requiring a TMDL.

Waters in Category 5, impaired and requiring a TMDL, are those placed on West Virginia's 2004 Section 303(d) list. These waters are found as not attaining their designated uses based on monitoring data. The methodology used to determine non-attainment of designated uses is described in West Virginia's 2004 Integrated Water Quality Monitoring and Assessment Report. West Virginia also provided the Section 303(d) list with five supplemental tables that track previously listed waters.

2. Section 130.7(b)(5)(ii), Waters for which dilution calculations or predictive models indicate nonattainment of applicable water quality standards.

West Virginia relied primarily on data described above in identifying impaired segments. The state also reviewed some NPDES permit files to help identify sources of impairment. The state was not aware of any information, outside of the NPDES permits, with dilution calculations or predictive models which could be incorporated into the 2004 Section 303(d) list. Waters in Category 4b and corresponding Supplemental Table D are impaired waters for which other control mechanisms (i.e. NPDES permits) are in place to control pollutants.

3. Section 130.7(b)(5)(iii), Waters for which water quality problems have been reported by local, state, or Federal agencies; members of the public; or academic institutions.

West Virginia solicited data from entities outside of the WVDEP. Several waters were placed on West Virginia's 2004 Section 303(d) list as a result of data collected by agencies other than WVDEP as identified in Table 3 of the Integrated Report.

- Federal agencies (e.g., U.S. Geological Survey, National Park Service, and EPA)
- State agencies (e.g., WV Department of Natural Resources, WV Department of Agriculture, and ORSANCO)
- Members of the public (e.g., Friends of Decker Creek, Friends of Cacapon River)
- Private companies (e.g., Koppers, Inc., Allegheny Energy Supply)
- Academic institutions (e.g., WV Wesleyan College, Cacapon Institute).

West Virginia encouraged comment on its draft lists, and the submission of water quality data, each time the list is public noticed. West Virginia received additional data and information as comments to their Public Notice Draft 2004 Section 303(d) list. In their listing rationale narrative, West Virginia summarized the comments and any changes that were made to the proposed list based on additional data and information.

4. Section 130.7(b)(5)(iv), Waters identified by West Virginia as impaired or threatened in a nonpoint assessment submitted to EPA under section 319 of the CWA or in any updates of the assessment.

West Virginia properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with Section 303(d) and EPA guidance. Section 303(d) lists are to include all WQLSs still needing TMDLs, regardless of whether the source of impairment is a point and/or nonpoint source. EPA's long-standing interpretation is that Section 303(d) applies to waters impacted by point and/or nonpoint sources. In Pronsolino v. Marcus, the District Court for the Northern District of California held that Section 303(d) of the CWA authorizes EPA to identify and establish TMDLs for waters impaired by nonpoint sources. Pronsolino et al. V. Marcus et al., 91 F.Supp.2d 1337, 1347 (N.D.Ca. 2000), aff'd, 291 F.3d 1123 (9th Cir. 2002), petition for cert. filed, 71 U.S.L.W. 3531 (Feb. 6, 2003) (No. 02-1186). See also EPA's 1991 Guidance and National Clarifying Guidance for 1998 Section 303(d) Lists, Aug. 27, 1997.

5. Other data and information used to identify waters (besides items 1-4 discussed above).

EPA has reviewed West Virginia's description of the data, information, and methodology used by West Virginia in the development of their 2004 Section 303(d) list. This includes supplemental data and information that was submitted in response to EPA's comments. It is not clear if WVDEP considered other data in addition to the categories of existing and readily available data and information listed in the EPA regulations and set out above. As mentioned previously, several Federal, state, and local agencies, citizen groups, private companies, and academic institutions provided data to WVDEP for preparation of West Virginia's 2004 Section 303(d) list. Table 3 of the Integrated Report lists 19 sources of data utilized during the listing process. After this review, EPA has concluded that West Virginia has properly assembled and

evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR 130.7(b)(5).

C. A rationale for any decision to not use any existing and readily available data and information for any one of the categories of waters as described in Sections 130.7(b)(5) and 130.7(b)(6)(iii).

West Virginia provided its rationale for not relying on particular existing and readily available water quality-related data and information as a basis for listing waters. West Virginia DWWM staff evaluated data from internal and external sources to ensure that collection and analytical methods, quality assurance/quality control and method detection levels were consistent with approved procedures. All qualified data from available sources were used in the decision making process. EPA finds West Virginia's screening protocol and criteria described in its 2004 Integrated Report rationale narrative to be a reasonable rationale in determining the usage of outside data, as waters listed as "impaired" should be based on scientifically valid data.

D. Rationale for delisting of waterbodies from the previous 303(d) list.

West Virginia has indicated, through "Supplemental Table A", those waterbodies that were included in previous 303(d) lists but are now delisted from the 2004 303(d) list. West Virginia has demonstrated, to EPA's satisfaction, its rationale for these delistings. According to the regulations at 40 CFR 130.7(b), a water may be delisted for the following reasons: more recent or accurate data; more sophisticated water quality modeling; flaws in the original analysis that led to the water being listed in the categories in section 130.7(b)(5); or changes in conditions (e.g., new control equipment, elimination of discharges).

WVDEP delisted waterbodies due to new water quality analyses demonstrating compliance with water quality standards, revisions to water quality criteria associated with the previous listing, or a modification of the listing methodology. One of the conditions outlined includes more recent or accurate data showing compliance with applicable water quality standards. For the 2004 Section 303(d) list, West Virginia submitted various sets of data demonstrating that certain waters either recovered to the point that the applicable water quality standards have been attained, or were listed in error and are currently not impaired. For other delistings, reassessments revealed that some waters were still impaired, but that the pollutants or impairment lengths had changed. These delisted water-pollutant combinations were reassessed using methodologies at least as stringent as the methodology that originally placed the water on the list.

For each segment proposed for removal from the 2004 303(d) list, West Virginia provided EPA with sufficient documentation as justification. Such data included benthic macroinvertebrate data, chemical data, compliance data, and other forms of documentation. EPA reviewed this data and approves the delisting determinations listed in "Supplemental Table A". Decisions regarding

the need for TMDL development were made in accordance with the requirements of 40 CFR 130.7(b)(1) and the state's listing criteria.

WVDEP has also identified on "Supplemental Table B" those waterbodies where a TMDL has been completed. Consequently, these waterbodies are not included on the 303(d) list.

E. Rationale for delisting the pollutant total aluminum from the previous 303(d) list.

West Virginia has indicated, through "Supplemental Table A", those waterbodies that had total aluminum identified as an impairment in previous 303(d) lists but have had the pollutant total aluminum delisted from the 2004 303(d) list. West Virginia delisted total aluminum from the 2004 Section 303(d) list without supporting data based on a criteria change and EPA guidance.

On April 17, 2003, EPA approved revisions to certain water quality standards in West Virginia including an aquatic life protection criteria change from total recoverable aluminum to dissolved aluminum. The aluminum aquatic life criteria changed from a total recoverable aluminum of 750 ug/L for acute criteria to a dissolved aluminum criteria of 750 ug/L for acute criteria and 87 ug/L for chronic criteria. West Virginia considers the previous total aluminum criteria to be obsolete[1] and started applying the applicable dissolved aluminum criteria for 303(d) listing and TMDL development. There is no universally accepted translator that would allow West Virginia to use total aluminum data to identify whether waters were impaired by dissolved aluminum and vice versa. Accordingly, West Virginia delisted all previously listed total aluminum from impaired waters. Where West Virginia had sufficient dissolved aluminum data to make an impairment determination, West Virginia listed for dissolved aluminum. In the 2004 list, West Virginia listed over 100 waters impaired for dissolved aluminum as determined by pre-TMDL monitoring.

West Virginia based its decision to de-list waters previously listed under the former, total aluminum water quality standard on EPA's July 21, 2003 Guidance for 2004 Assessment, Listing and Reporting, section F. 6. on page 12 to 13 regarding how to list waters when a WQS is being revised. "If EPA approves a revised standard in the future, the water may be removed from the Section 303(d) list at that time provided the water does not meet the listing requirements with respect to the new standard (40 CFR 130.7(b)(3))." Since the aluminum criteria had already been revised, EPA finds West Virginia's decision to delist the aluminum pollutant from these waters to be acceptable. EPA also notes that the waters previously listed for total aluminum are legacy mining waters and continue to be listed for pH, iron, and/or manganese impairments which will require TMDL development. Essentially, West Virginia delisted the pollutant total aluminum but

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[1]While EPA agrees that the former water quality standard for total aluminum is no longer applicable, EPA does not agree with West Virginia's statement that TMDLs based upon the former water quality standard for total aluminum have been "nullified.

the waterbodies remained on the 2004 Section 303(d) list and in Category 5 of the Integrated Report due to impairments caused by pH, iron, and/or manganese.

West Virginia plans to monitor these waters for both dissolved and total aluminum during pre-TMDL monitoring in order to determine if the waters were impaired for dissolved aluminum. If pre-TMDL monitoring shows these waters to be impaired for dissolved aluminum, then a TMDL would be developed for dissolved aluminum along with those developed for pH, iron, and/or manganese..

F. Any other reasonable information requested by the Regional Administrator described in Section 130.7(b)(6)(iv).

During the review of West Virginia's 2004 Section 303(d) list, EPA Region III staff requested additional information from West Virginia.

- **Justification for differences between EPA recommendations and WVDEP's final 2004 Section 303(d) list.** In comment letters dated March 17, 2004 and April 30, 2004 and various electronic comments sent from May 2004 to October 2004, EPA requested clarification and amendments to West Virginia's 2004 Section 303(d) list and WVDEP's 303(d) decision database. West Virginia evaluated EPA's comments and provided explanations and specific data for specific streams where the state determined the recent data showed the streams were meeting water quality standards. Where appropriate, the list was revised to resolve the discrepancy. WVDEP provided data and other documentation as necessary to support its listing decisions and database.

- **Justification for delisting segments.** West Virginia delisted a number of segments listed on the 2004 list which were provided on "Supplemental Table A - Previously Listed Waters - No TMDL Developed". EPA reviewed the monitoring data to support delisting and requested that some segments remain on the list. West Virginia either placed the waters back on the 2004 Section 303(d) list, or provided a reasonable rationale for removing the waters. Where waters were delisted, the delisting was consistent with the CWA and implementing regulations.

- **Clarification of changes to previously listed waters.** EPA requested that West Virginia clarify changes in segment length and stream codes to previously listed waters. This information was provided to EPA to justify changes made from previous listing cycles.

EPA concludes that West Virginia has addressed all additional information EPA Region III requested of the state during the review of the 2004 Section 303(d) list.

G. Identification of the pollutants causing or expected to cause a violation of the applicable water quality standards described in Section 130.7(b)(4).

West Virginia identified the pollutants that were causing or expected to cause a violation of the applicable water quality standards for every listed segment where the identity of the pollutant was known. West Virginia included those pollutants for which a numeric water quality criterion was violated, such as fecal coliform. For violations of a narrative criterion, pollutants were rarely identified. Therefore, many waters were listed for violations of the narrative biological standard without identifying a cause since no cause was determined at the time of listing. West Virginia anticipates that the cause of biological impairments will be determined during TMDL development.

H. Priority Ranking and Targeting

Within the 2004 Section 303(d) list, West Virginia has provided TMDL development dates and a detailed discussion of both the priority ranking and schedule development in its 2004 Section 303(d) list rationale. This discussion includes a description of West Virginia's five-year Watershed Management Framework cycle for its five hydrologic groups (A-E). EPA reviewed West Virginia's priority ranking of listed waters for TMDL development, and concludes that West Virginia properly took into account the severity of pollution and the uses to be made of such waters. Scheduling, however, takes into account additional relevant factors, such as programmatic considerations (e.g., efficient allocation of resources, Watershed Management Framework cycles, coordination with other programs or states) and technical considerations (e.g., data availability, problem complexity, availability of technical tools). Another factor West Virginia considered in prioritizing its listed waters is the schedule in the consent decree resolving *Ohio Valley Environmental Coalition, Inc., et al. v. Carol Browner, et al., No. 2:95-0529 (S.D.W.VA.)* entered on July 9, 1997, which establishes dates for EPA to ensure TMDL development for all waters and pollutants listed on West Virginia's 1996 Section 303(d) list.

In addition, EPA reviewed West Virginia's identification of WQLSs targeted for TMDL development in the next four years, and concludes that the targeted waters are appropriate for TMDL development in this timeframe. High priority has been placed on these stream segments. For other impairments where the timing of TMDL development is less certain, multiple year entries were indicated that represent the opportunity for TMDL development per the Watershed Management Framework cycle.

Although West Virginia's projected TMDL development dates do not strictly follow EPA's pace guidance of completion with eight to thirteen years since initial listing, West Virginia's TMDL development plans appear consistent with the guidance in that West Virginia plans to develop TMDLs for approximately 100 impaired waters per year and attempts to simultaneously develop TMDLs for all known impairments. The 2004 Section 303(d) list identifies approximately 900 impaired waters. Given West Virginia's TMDL development on approximately 100 waters per year, it is likely that West Virginia will comply with EPA's pace

guidance. To the extent West Virginia has stated that it feels unconstrained by the time periods set forth in EPA's pace guidance, EPA disagrees with statements by West Virginia regarding the applicability of the pace guidance.

H. Coordination with the U.S. Fish and Wildlife Service

During West Virginia's public comment period, EPA sent a copy of West Virginia's Draft 2004 Section 303(d) list in electronic correspondence on March 24, 2004 to the West Virginia Field Office of the U.S. Fish and Wildlife Service (FWS). EPA requested comments from FWS regarding the draft list. No comments from FWS were received.

west virginia department of environmental protection

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304

Bob Wise, Governor
Stephanie R. Timmermeyer, Cabinet Secretary
www.wvdep.org

November 9, 2004

Larry Merrill (3WP10)
USEPA
1650 Arch St.
Philadelphia, PA 19103

Dear Mr. Merrill:

Enclosed with this correspondence is a CD containing the revised West Virginia 2004 Integrated Water Quality Monitoring and Assessment Report. Supporting documentation including our decision database and the ADB database are also included on the CD.

Following our telephone conversation of October 6, 2004, and review of comments provided by your staff, the WVDEP made various revisions in anticipation of EPA approval of the Section 303(d) components of the Report. The WVDEP also modified portions of the report in response to questions and comments provided relative to Section 305(b) components. For any unresolved issues, the WVDEP anticipates continued dialogue between our agencies. Resultant modifications to our report/process will be included in the 2006 report.

Specific to the 2004 Integrated Report, the WVDEP made the following final revisions:

1. Reinserted language from the Draft 303(d) List relative to dissolved aluminum impairment and TMDL development into the Aluminum Criteria Change discussion in the Water Quality Standards section.

2. Clarified the watershed organization and number of monitoring sites associated with the probabilistic monitoring program in the Surface Water Monitoring and Assessment section.

3. Added language in the Lakes and Reservoirs discussion in the Surface Water Monitoring and Assessment section to indicate that 1989-1996 lake assessments were retained in the absence of new water quality data.

4. Revised the External Data Providers discussion in the Data Management section to indicate that qualified data from external sources was used to make assessments.

5. Supplemented the Listing Decision Criteria for Numeric Water Quality Criteria section with additional information relative to the evaluation of impairment pursuant to pH criteria.

6. Corrected errors in the ADB relative to overlapping Warmwater Fishery and Troutwater designated uses for certain stream segments and revised Table 6 in the Assessment Results section. The revised Table accurately displays the ADB output for total length of streams with contact recreation use (29,145), total length of streams with wildlife and agriculture uses (29,145) and the total lengths of warmwater fisheries and troutwaters (25,997 + 3,148 = 29,145).

7. Revised Tables 5 and 6 and other summary statements in the Assessment Results section to reflect stream-specific revisions described in Items 11 through 23, below.

8. Supplemented the Atmospheric Deposition discussion in the Assessment Results section to indicate that atmospheric deposition is a potential source of mercury impairment.

9. Added "Hydrologic Group/Projected TMDL Years" table in the Total Maximum Daily Load (TMDL) Development Process section and in the List Key.

10. Numbered the comment summary items in the Responsiveness Summary section.

11. Revised and inserted language from the Draft 303(d) List (Section 9 -"List Format Description" and Section 10 - "List Supplements") as an introduction to the 2004 Section 303(d) List and Supplements.

12. Wolfpen Hollow (WVK-58-B.1) - Added iron impairment on the Section 303(d) List and removed it from Supplement A.

13. New West Hollow (WVK-58-B.8-1) - Added iron and manganese impairments on the Section 303(d) List and removed it from Supplement A.

14. Mill Branch (WVK-58-B.8) – Added dissolved aluminum impairment to the Section 303(d) List.

15. Armstrong Creek (WVK-73) – No change to Section 303(d) List. Revised ADB and the decision database to indicate that fecal coliform exceedences demonstrated in the summer/fall of 2001 were attributed to a flood damaged POTW collection system that has been repaired.

16. Big Bottom Hollow – This stream was coded as WVK-49-G.2 on the 2002 Section 303(d) List and in the Upper Kanawha TMDL. It is now properly coded as WVK-49-H. Table 3-4 of the TMDL has been modified to allow cross-referencing.

17. UNT of Rich Fork of Two Mile Creek (WVK-41-D.5-3) - No change to Section 303(d) List. Revised comment in ADB and decision database to explain

complications associated with changed stream codes for this water and Rich Fork. (WVK-41-D.5)

18. Hackers Creek (WVMT-26) – Added biological impairment to the Section 303(d) List.

19. Peters Run (WVO-88-D-1) – Increased the impaired reach associated with biological impairment from MP 0.9 to headwaters on the Section 303(d) List.

20. Fourpole Creek (WVO-3) - Added biological impairment to the Section 303(d) List.

21. Peachtree Creek (WVKC-46-G) – Added the delisting of total aluminum to Supplement A.

22. Big Cub Creek (WVOG-96) – Displayed dissolved aluminum impairment in Supplement B.

23. Lower Guyandotte River (WVOG-lower) – No revision to the Section 303(d) List or Supplements relative to dissolved aluminum. The quality of the lower mainstem was determined from the ambient monitoring station at Huntington. Data from this station does not demonstrate exceedence of dissolved aluminum water quality criteria and dissolved aluminum impairment is not indicated for the lower mainstem segment in the ADB. This is not inconsistent with the Guyandotte TMDL developed by EPA, which prescribes aluminum pollutant reductions only for subwatersheds associated with the impaired Upper Mainstem and the impaired tributaries of the Guyandotte.

WVDEP remains willing to cooperate in any manner necessary to support EPA's approval of the Section 303(d) List. If you or your staff have any questions or would like to discuss any issue in greater detail, please contact Dave Montali or me at (304) 926-0499.

Sincerely,

Patrick V. Campbell
Assistant Director

West Virginia Section 303(d) List and Supplements

unnamed tributary of Elk-two Mile Creek
in Kanawha County
Photo by Pat Campbell

The format of the 2004 Section 303(d) list is organized around the Watershed Management Framework. The five hydrologic groups (A-E) of the framework provide the skeleton. Within each hydrologic group, watersheds are arranged alphabetically and impaired waters are sorted by stream code in their appropriate watershed.

The information that follows each impaired stream includes the stream code, the affected water quality criteria, the affected designated use, the general cause of the impairment (where known), the impaired length (or, by default, the entire length), the planned or last possible timing of TMDL development and whether or not the stream was on the 2002 list.

The cause of impairment is often unknown or uncertain at the time of listing and is so indicated on the list. The cause(s) of impairment and the contributing sources of pollution will be identified in the TMDL development process. Many waters are listed, by default, for their entire length. In most cases, it is doubtful that the entire length of stream is impaired, but without further data, the exact length of impairment is unknown. Each listed stream will be revisited prior to TMDL development. The additional assessments performed in the pre-TMDL monitoring effort will better define the impaired length.

A West Virginia Watershed Management Framework map is provided to assist navigation within the list. A key is also provided to aid in the interpretation of presented information.

Six additional supplements to the Section 303(d) List are provided. The supplements allow tracking of previously listed waters that are not on the 2004 Section 303(d) list, and identify impaired waters for which TMDLs are not needed, waters for which obsolete total aluminum TMDLs have been developed, and new waters/impairments listed in 2004. Each supplement is described below:

Supplemental Table A – Previously Listed Waters – No TMDLs Developed

Previously listed waters from the 2002 list that are not on the 2004 list are included in this supplement if a TMDL has not been developed. These waters have been reevaluated and found not to be impaired. Causes for revision of their impairment status include recent water quality data demonstrating an improved water quality condition, revision to the water quality criteria associated with the previous listing, documentation that the water was previously listed in error, or modification of the listing methodology.

Supplemental Table B – Previously Listed Waters – TMDL Developed

TMDLs have been developed for many previously listed waters. Under 40 CFR 130 regulations, TMDL development allows the removal of an impaired water from the Section 303(d) List. In the suggested format for the Integrated Report, such waters are to be classified in Category 4a and clearly distinguished from Category 5 and the Section 303(d) List. Waters included in Category 4a have TMDLs developed, but water quality improvements are not yet complete or documented.

Supplemental Table C – TMDL Developed – Below Listing Criteria

The goal of every TMDL is to bring the impaired water back to the point where it meets its designated uses and associated water quality criteria. Waters in this supplement have had TMDLs developed and recent water quality information indicates that the listing criteria are no longer being exceeded. In the Integrated Report, the waters of Supplement C may be included in Category 1 (meeting all uses) provided that impairments for other uses/pollutants are not evidenced.

Supplemental Table D – Impaired Waters – TMDLs not Required

Under 40 CFR 130 regulations, TMDL development is not needed for impaired waters if other control mechanisms are in place which are reasonably expected to achieve water quality standards, or if the impairment is not caused by a pollutant. In the suggested format for the Integrated Report, such waters are to be classified in Categories 4b and 4c, respectively. The waters residing in Category 4c are dewatered as a result of historic and present day deep mining activities.

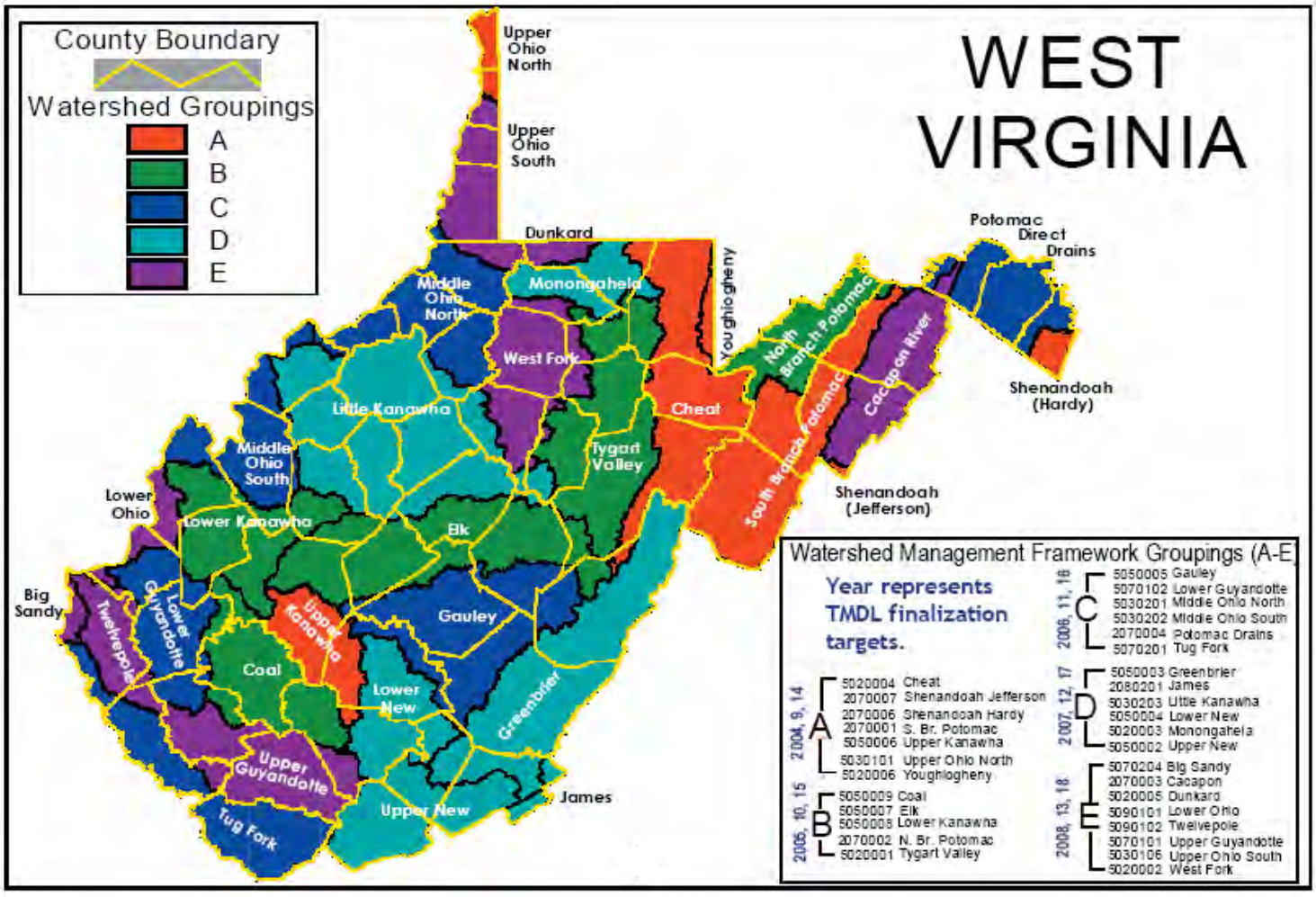
Supplemental Table E – Total Aluminum TMDLs

This supplement identifies waters for which TMDLs have been developed pursuant to the previously applicable total aluminum water quality criterion. EPA's approval of revised aluminum criteria, as described on Page 10 of the report, makes the subject TMDLs obsolete.

Supplemental Table F – New Listings for 2004

This supplement simply identifies the newly identified waters and impairments associated with the West Virginia 2004 Section 303(d) List. The waters and impairment shown on Supplemental Table F are also include on the Section 303(d) List and are classified in Category 5 of the Integrated Report format.

Watershed Management Framework Groupings with TMDL Finalization Target Dates



WV 2004 Section 303(d) List Key

List Format

Impaired waters are first organized by their hydrologic grouping pursuant to the West Virginia Watershed Management Framework (i.e. Hydrologic Group A waters are shown first, followed by Hydrologic Group B, etc.) Within each hydrologic group, major watersheds are displayed alphabetically (e.g. within Hydrologic Group B, the **C**oal watershed is displayed first, followed by the **E**lk , followed by the **L**ower Kanawha, and so on.) Within each major watershed, impaired waters are arranged by their stream code.

The following table displays the format of the West Virginia 2004 Section 303(d) List and contains excerpts designed to display various intricacies.

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (mi)	Reach Description	Projected TMDL Year	2002 List?
Hydrologic Group B							
Coal Watershed – HUC # 05050009							
Big Coal River	WVKC	Fecal Coliform	Unknown	60.5	Entire Length	2005	Yes
Little Coal River	WVKC-10	Fecal Coliform	Unknown	32.0	Entire Length	2005	Yes
Spruce Fork	WVKC-10-T	Aluminum (dis)	Unknown	11.4	Mouth - RM 11.4	2005	No
		Fecal Coliform	Unknown	18.1	Mouth - RM 18.1	2005	No
Hewitt Creek	WVKC-10-T-9	Aluminum (dis)	Unknown	6.0	Entire Length	2005	No
		Fecal Coliform	Unknown	6.0	Entire Length	2005	No
		Iron	Unknown	6.0	Entire Length	2005	No
Craddock Fork	WVKC-10-T-9-C	Fecal Coliform	Unknown	2.5	Entire Length	2005	No
Sycamore Branch	WVKC-10-T-9-C-2	Fecal Coliform	Unknown	0.8	Mouth - RM 0.8	2005	No

West Virginia's streams are coded under an alphanumeric system. Major rivers have been assigned an alphabetical code that symbolizes their name. For example, the code for the Coal River is "WVKC" which symbolizes West Virginia-Kanawha-Coal. Adding a numerical suffix to the major river code codifies tributaries to the mainstems of the major rivers. Suffixes are applied in ascending order from mouth to headwaters. Tributaries of tributaries are codified by alternately adding numerical and alphabetical suffixes, always in ascending order from mouth to headwaters. In the example table, the Little Coal River (WVKC-10) is the tenth tributary of the Coal River (WVKC) and Spruce Fork (WVKC-10-T) is the twentieth tributary of the Little Coal River. Hewitt Creek (WVKC-10-T-9) is the ninth tributary of Spruce Fork. Craddock Fork (WVKC-10-T-9-C) is the third tributary of Hewitt Creek, and Sycamore Branch (WVKC-10-T-9-C-2) is the second tributary of Craddock Fork.

The "Criteria Affected" column identifies the numeric or narrative water quality criterion that is not attained in the impaired water. On the list, a separate line is provided for each affected criterion (reference above listings for Spruce Fork or Hewitt Creek). The "Cause" column identifies the general cause(s) of the impairment. In most instances, the actual cause of impairment is not known at the time of listing. For all waters and impairments, the impaired length is provided, as well as the impaired reach description, in as much detail as possible. If the exact length of impairment is unknown, the entire length of the stream is indicated by default. Causes of impairment and impaired reach descriptions will be confirmed in the TMDL development process.

The "Projected TMDL Year" column indicates the latest year in which the WVDEP plans to develop a TMDL for the impairment. The last column of the list provides information as to whether or not the stream appeared on the West Virginia 2002 Section 303(d) List or is a new listing.

Projected TMDL Completion Years	
Hydrologic Group A	2004, 2009, 2014
Hydrologic Group B	2005, 2010, 2015
Hydrologic Group C	2006, 2011, 2016
Hydrologic Group D	2007, 2012, 2017
Hydrologic Group E	2008, 2013, 2018

WV 2004 Section 303(d) List Key

Designated Uses

The affected designated uses associated with each listing are not displayed in the tabular format. Instead, the following table and discussion provides information regarding the affected designated use(s) for all criteria exceedances that resulted in the listing of impaired waters.

Criterion	Affected Designated Use			
	Aquatic Life	Contact Recreation	Public Water Supply	All Other uses
Aluminum, dissolved	X			
Chromium, hexavalent	X			
CNA-Biological	X			
Dioxin (2,3,7,8 - TCDD)		X	X	X
Fecal Coliform / Bacteria		X	X	
Iron	X		X	
Lead, dissolved	X			
Manganese			X	
pH	X	X	X	X
Selenium	X		X	
Zinc	X			

Both the aquatic life and public water supply uses are affected in most waters listed as impaired relative to **iron** because the numeric criterion for aquatic life in warmwater fisheries (1.5 mg/l) is identical to the criterion for the public water supply use. The aquatic life criterion for iron in troutwaters (0.5 mg/l) is more stringent than the criterion for the public water supply use. Three waters are listed solely due to the exceedance of the troutwater iron criterion - Snowy Creek (WVMY-2), Peters Creek (WVKG-13) and Right Fork of Middle Fork (WVMTM-11). In those waters, the public water supply use is not affected.

The contact recreation and public water supply uses are affected in all waters listed as impaired relative to **fecal coliform** because the criteria applicable to both uses are identical. Similarly, all designated uses of waters listed as impaired relative to **pH** are affected because the pH criterion (6.0 – 9.0 standard units) is applicable to all designated uses.

Although the West Virginia Water Quality Standards contain **lead** and **hexavalent chromium** criteria for the public water supply use, all identified impairments on the 2004 list were associated with the more stringent aquatic life use criteria for those parameters.

The **dioxin** impairment of the Ohio River identified on the 2004 list is based upon exceedance of criteria for all designated uses except aquatic life.

The aquatic life use is affected in all waters identified as impaired relative to **selenium**. Additionally, the following waters exceed the selenium criterion for the public water supply use: Beaver Pond Branch (WVKC-10-U-9), Left Fork of White Oak Creek (WVKC-35-E), Seng Creek (WVKC-42), Left Fork of Beech Creek (WVKC-10-T-15-A), and Hughes Fork (WVKG-5-B-4)

Abbreviations and Acronyms

The following table defines abbreviations and acronyms used.

AQ	Aquatic Life	**mi**	Miles
CNA	Conditions not allowable	**mp**	Mile Point
(dis)	Dissolved	**RM**	River Mile
HW	Headwaters	**TMDL**	Total Maximum Daily Load
HUC	Hydrologic Unit Code	**UNT**	Unnamed Tributary

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
HYDROLOGIC GROUP A							
Cheat Watershed - HUC# 05020004 - *32 streams 349 miles 1 lake 1730 acres*							
Cheat River	WVMC	Aluminum (dis)	Unknown	69.4	Entire length upstream of Cheat Lake headwater	2014	No
Cheat Lake	WVMC-(L1)	Mercury	Unknown	1730.0	Entire length	2014	No
Coles Run	WVMC-2.5	CNA-Biological	Unknown	2.0	Entire length	2014	Yes
Kelly Run	WVMC-2.7	CNA-Biological	Unknown	1.8	Entire length	2014	Yes
Whites Run	WVMC-4	CNA-Biological	Unknown	2.5	Entire length	2014	Yes
Scott Run	WVMC-7	CNA-Biological	Unknown	3.8	Entire length	2014	Yes
Big Sandy Creek	WVMC-12	Aluminum (dis)	Unknown	19.0	Entire length	2014	No
Patterson Run	WVMC-12-A-2	CNA-Biological	Unknown	3.6	Entire length	2014	Yes
UNT/Webster Run RM 1.3	WVMC-12-B-0.5-A	CNA-Biological	Unknown	1.6	Entire length	2014	Yes
Muddy Creek	WVMC-17	Aluminum (dis)	Unknown	15.6	Entire length	2014	No
Crab Orchard Creek	WVMC-17-0.7A	CNA-Biological	Unknown	3.5	Entire length	2014	Yes
Dry Fork	WVMC-60	Mercury	Unknown	40.2	Entire length	2014	No
North Fork/Blackwater River	WVMC-60-D-3	Aluminum (dis)	Unknown	8.0	Entire length	2014	No
Sand Run	WVMC-60-D-3-E	CNA-Biological	Unknown	2.2	Entire length	2014	Yes
Beaver Creek	WVMC-60-D-5	Aluminum (dis)	Unknown	13.8	Entire length	2014	No
UNT/Beaver Creek RM 11.0	WVMC-60-D-5-H	CNA-Biological	Unknown	2.1	Entire length	2014	No
Yellow Creek	WVMC-60-D-7	CNA-Biological	Unknown	3.0	Entire length	2014	Yes
Freeland Run	WVMC-60-D-12	CNA-Biological	Unknown	1.8	Entire length	2014	Yes
Laurel Run	WVMC-60-E	pH	Unknown	3.6	Entire length	2014	Yes
Red Creek	WVMC-60-O	CNA-Biological	Unknown	19.8	Entire length	2014	Yes
		pH	Unknown	19.8	Entire length	2014	Yes

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Gandy Run	WVMC-60-O-3	pH	Unknown	2.3	Entire length	2014	Yes
South Fork	WVMC-60-O-4	pH	Unknown	6.0	Entire length	2014	Yes
Tory Camp Run	WVMC-60-R	CNA-Biological	Unknown	2.6	Entire length	2014	Yes
SHAVERS FORK SUBWATERSHED							
Shavers Fork	WVMCS	Mercury	Unknown	96.9	Entire length	2014	Yes
		pH	Unknown	28.0	From Bemis (RM 40.6) to Cheat Bridge (RM 68.6)	2014	Yes
Smoky Hollow	WVMCS-0.5	CNA-Biological	Unknown	1.8	Entire length	2014	Yes
McGee Run	WVMCS-39	pH	Unknown	2.0	Entire length	2014	Yes
Yokum Run	WVMCS-40	pH	Unknown	2.6	Entire length	2014	Yes
Crouch Run	WVMCS-41	pH	Unknown	2.8	Entire length	2014	Yes
Whitmeadow Run	WVMCS-44	pH	Unknown	2.5	Entire length	2014	Yes
Stonecoal Run	WVMCS-45	pH	Unknown	2.6	Entire length	2014	Yes
Fish Hatchery Run	WVMCS-48	pH	Unknown	2.8	Entire length	2014	Yes
First Fork	WVMCS-50	pH	Unknown	5.4	Entire length	2014	Yes
Buck Run	WVMCS-52	pH	Unknown	1.0	Entire length	2014	Yes
SHENANDOAH (JEFFERSON) WATERSHED - HUC# 02070007 - *5 streams 47 miles*							
Shenandoah River	WVS	Aluminum (dis)	Unknown	19.5	Entire length	2014	No
		Mercury	Unknown	19.5	Entire length	2014	No
Cattail Run	WVS-2	CNA-Biological	Unknown	3.7	Entire length	2014	Yes
Evitts Run	WVS-4	CNA-Biological	Unknown	10.3	Entire length	2014	Yes
Bullskin Run	WVS-6	CNA-Biological	Unknown	8.5	Entire length	2014	Yes
North Fork	WVS-6-A	CNA-Biological	Unknown	4.6	Entire length	2014	Yes

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
SOUTH BRANCH POTOMAC WATERSHED - HUC# 02070001 - *23 streams 315 miles*							
South Branch Potomac River	WVPSB	Aluminum (dis)	Unknown	154.1	Entire length	2014	No
		Fecal Coliform	Unknown	40.7	RM 14.2 (Springfield) to RM 54.9 (Old Fields)	2014	No
Abernathy Run	WVPSB-1.8	CNA-Biological	Unknown	3.9	Entire length	2014	Yes
UNT/South Branch Potomac River RM 21.86	WVPSB-1.9	CNA-Biological	Unknown	3.6	Entire length	2014	Yes
Buffalo Creek	WVPSB-5	CNA-Biological	Unknown	3.6	Entire length	2014	Yes
Dumpling Run	WVPSB-9-B	CNA-Biological	Unknown	2.6	Entire length	2014	Yes
Mayhew Run	WVPSB-9-B-2	CNA-Biological	Unknown	1.1	Entire length	2014	Yes
McDowell Run	WVPSB-11	CNA-Biological	Unknown	2.7	Entire length	2014	Yes
Anderson Run	WVPSB-18	CNA-Biological	Unknown	4.9	Entire length	2014	Yes
Mudlick Run	WVPSB-18-A	CNA-Biological	Unknown	2.2	From mouth to RM 2.2	2014	Yes
South Fork/South Branch Potomac River	WVPSB-21	Mercury	Unknown	74.0	Entire length	2014	No
Dumpling Spring Run	WVPSB-21-F	CNA-Biological	Unknown	2.5	Entire length	2014	Yes
Stony Run	WVPSB-21-R	CNA-Biological	Unknown	2.7	Entire length	2014	Yes
UNT/South Branch Potomac River RM 42.3 (Hively Gap)	WVPSB-21-T	CNA-Biological	Unknown	2.6	Entire length	2014	Yes
Hawes Run	WVPSB-21-X	CNA-Biological	Unknown	4.2	From mouth to RM 4.2	2014	Yes
Miller Run	WVPSB-21-AA	CNA-Biological	Unknown	6.5	Entire length	2014	Yes
South Fork/Lunice Creek	WVPSB-26-D	CNA-Biological	Unknown	10.3	Entire length	2014	Yes
Powers Hollow	WVPSB-28-0.5A	CNA-Biological	Unknown	2.7	Entire length	2014	Yes

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Jordan Run	WVPSB-28-A	CNA-Biological	Unknown	5.9	Entire length	2014	Yes
Mill Creek	WVPSB-28-M	CNA-Biological	Unknown	3.4	Entire length	2014	Yes
Root Run	WVPSB-28-P	CNA-Biological	Unknown	3.0	Entire length	2014	Yes
Judy Run	WVPSB-28-U	CNA-Biological	Unknown	2.1	Entire length	2014	Yes
Smith Creek	WVPSB-46	CNA-Biological	Unknown	12.3	Entire length	2014	Yes
East Dry Run	WVPSB-53	CNA-Biological	Unknown	4.0	Entire length	2014	Yes
UPPER KANAWHA WATERSHED - HUC# 05050006 - *96 streams 362 miles*							
Kanawha River (Upper)	WVK-up	Aluminum (dis)	Unknown	48.0	From mouth (confluence with Elk River) to headwaters	2014	No
		Mercury	Unknown	9.8	From mouth (confluence with Elk River) to RM 67.7 (Marmet Lock)	2014	No
Mission Hollow	WVK-46-A	CNA-Biological	Unknown	2.3	Entire length	2014	Yes
Campbells Creek	WVK-49	CNA-Biological	Unknown	18.5	Entire length	2004	Yes
		Fecal Coliform	Unknown	10.2	From mouth to RM 10.2	2004	No
Dry Branch	WVK-49-A	Aluminum (dis)	Unknown	1.3	Entire length	2004	No
		CNA-Biological	Unknown	0.7	From mouth to RM 0.7	2004	Yes
		Fecal Coliform	Unknown	0.7	From mouth to RM 0.7	2004	No
Spring Fork	WVK-49-B	Aluminum (dis)	Unknown	3.8	Entire length	2004	No
		Fecal Coliform	Unknown	3.8	Entire length	2004	No
UNT/Left Fork RM 0.2/Spring Fork	WVK-49-B-2-A	Iron	Unknown	0.6	Entire length	2004	No
Coal Fork	WVK-49-D	Fecal Coliform	Unknown	3.0	Entire length	2004	No
Pointlick Fork	WVK-49-F	CNA-Biological	Unknown	3.7	Entire length	2014	Yes
		Fecal Coliform	Unknown	1.2	From mouth to RM 1.2	2004	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Wash Branch	WVK-49-F.5	Fecal Coliform	Unknown	0.8	Entire length	2004	No
Cline Branch	WVK-49-G	Fecal Coliform	Unknown	1.1	Entire length	2004	No
Big Bottom Hollow	WVK-49-H	CNA-Biological	Unknown	0.4	From mouth to RM 0.4	2004	Yes
		Fecal Coliform	Unknown	1.3	Entire length	2004	No
		Iron	Unknown	1.3	Entire length	2004	No
Rattlesnake Hollow	WVK-49-I	CNA-Biological	Unknown	2.0	Entire length	2014	Yes
		Manganese	Unknown	2.0	Entire length	2004	No
UNT/Campbells Creek RM 7.5 (Sprucepine Hollow)	WVK-49-J	Fecal Coliform	Unknown	1.7	Entire length	2004	No
Big Ninemile Fork	WVK-49-N	CNA-Biological	Unknown	1.8	Entire length	2014	No
Georges Creek	WVK-50	CNA-Biological	Unknown	2.8	Entire length	2014	No
Lens Creek	WVK-53	CNA-Biological	Unknown	6.4	Entire length	2004	Yes
		Fecal Coliform	Unknown	6.4	Entire length	2004	No
		Iron	Unknown	6.4	Entire length	2004	No
Left Fork/Lens Creek	WVK-53-A	Fecal Coliform	Unknown	5.4	Entire length	2004	No
		Iron	Mine Drainage	2.9	From RM 2.5 to headwaters	2004	Yes
UNT/Left Fork RM 1.8/Lens Creek	WVK-53-A-0.4	Aluminum (dis)	Unknown	1.5	Entire length	2004	No
		Iron	Unknown	1.5	Entire length	2004	No
		Manganese	Unknown	1.5	Entire length	2004	No
		pH	Unknown	1.5	Entire length	2004	No
Ring Hollow	WVK-53-B	Fecal Coliform	Unknown	1.7	Entire length	2004	No
Fourmile Fork	WVK-53-C	CNA-Biological	Unknown	1.7	Entire length	2004	Yes
		Fecal Coliform	Unknown	1.7	Entire length	2004	No
Simmons Creek	WVK-54	CNA-Biological	Unknown	2.7	Entire length	2014	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Witcher Creek	WVK-57	Aluminum (dis)	Unknown	6.8	Entire length	2004	No
		CNA-Biological	Unknown	6.8	Entire length	2004	No
		Fecal Coliform	Unknown	6.8	Entire length	2004	No
		Iron	Unknown	0.9	From mouth to RM 0.9	2004	No
		Manganese	Unknown	5.9	From RM 0.9 to headwaters	2004	No
		pH	Unknown	5.9	From RM 0.9 to headwaters	2004	No
Dry Branch	WVK-57-A	Aluminum (dis)	Unknown	1.7	Entire length	2004	No
		CNA-Biological	Unknown	1.7	Entire length	2004	Yes
		Fecal Coliform	Unknown	1.7	Entire length	2004	No
		Iron	Unknown	1.7	Entire length	2004	No
Left Fork/Witcher Creek	WVK-57-C	Fecal Coliform	Unknown	4.6	Entire length	2004	No
Counterfeit Branch	WVK-57-D	Iron	Mine Drainage	0.8	Entire length	2004	Yes
UNT/Witcher Creek RM 5.2	WVK-57-D.5	Aluminum (dis)	Unknown	0.5	Entire length	2004	No
		pH	Unknown	0.5	Entire length	2004	No
Fields Creek	WVK-58	Aluminum (dis)	Unknown	1.5	From mouth to RM 1.5	2004	No
		CNA-Biological	Unknown	3.5	From mouth to RM 3.5	2004	Yes
		Fecal Coliform	Unknown	4.9	Entire length	2004	No
Scott Branch	WVK-58-B	Fecal Coliform	Unknown	1.3	Entire length	2004	No
Wolfpen Hollow	WVK-58-B.1	Aluminum (dis)	Unknown	1.0	Entire length	2004	No
		CNA-Biological	Unknown	1.0	Entire length	2004	No
		Fecal Coliform	Unknown	1.0	Entire length	2004	No
		Iron	Mine Drainage	1.0	Entire length	2004	Yes
		Manganese	Mine Drainage	1.0	Entire length	2004	Yes
		pH	Mine Drainage	1.0	Entire length	2004	Yes
Coopers Hollow	WVK-58-B.3	Fecal Coliform	Unknown	1.4	Entire length	2004	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Mill Branch	WVK-58-B.8	Aluminum (dis)	Unknown	0.9	Entire length	2004	No
New West Hollow	WVK-58-B.8-1	Aluminum (dis)	Unknown	1.2	Entire length	2004	No
		Iron	Mine Drainage	1.2	Entire length	2004	Yes
		Manganese	Mine Drainage	1.2	Entire length	2004	Yes
South Hollow	WVK-58-C	CNA-Biological	Unknown	1.2	Entire length	2004	No
Carroll Branch	WVK-59	Aluminum (dis)	Unknown	2.8	Entire length	2004	No
		CNA-Biological	Unknown	2.8	Entire length	2004	No
		Iron	Mine Drainage	2.8	Entire length	2004	Yes
		Manganese	Mine Drainage	2.8	Entire length	2004	Yes
		pH	Mine Drainage	2.8	Entire length	2004	Yes
Slaughter Creek	WVK-60	Aluminum (dis)	Unknown	3.0	From mouth to RM 3.0	2004	No
		Manganese	Mine Drainage	4.3	Entire length	2004	Yes
Little Creek	WVK-60-A	Aluminum (dis)	Unknown	1.9	Entire length	2004	No
		CNA-Biological	Unknown	1.9	Entire length	2004	Yes
		Manganese	Unknown	1.9	Entire length	2004	No
		pH	Unknown	1.9	Entire length	2004	No
UNT/Little Creek RM 0.4 (Little Branch)	WVK-60-A-1	Aluminum (dis)	Unknown	0.8	Entire length	2004	No
		Manganese	Unknown	0.8	Entire length	2004	No
		pH	Unknown	0.8	Entire length	2004	No
Bradley Fork	WVK-60-B	Aluminum (dis)	Unknown	2.8	Entire length	2004	No
		Manganese	Unknown	2.8	Entire length	2004	No
		pH	Unknown	2.8	Entire length	2004	No
UNT/Slaughter Creek RM 3.0	WVK-60-B.1	Aluminum (dis)	Unknown	0.6	Entire length	2004	No
		Manganese	Unknown	0.6	Entire length	2004	No
		pH	Unknown	0.6	Entire length	2004	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Cabin Creek	WVK-61	Aluminum (dis)	Unknown	10.5	From RM 4.7 to RM 15.2	2004	No
		CNA-Biological	Unknown	22.7	Entire length	2004	Yes
		Fecal Coliform	Unknown	15.0	From mouth to RM 12.7 and from RM 17.5 to RM 19.8	2004	No
		Iron	Mine Drainage	21.1	From mouth to RM 21.1	2004	Yes
		Manganese	Mine Drainage	10.5	From RM 7.3 to RM 17.8	2004	Yes
		pH	Mine Drainage	2.6	From RM 15.2 to RM 17.8	2004	Yes
Dry Branch	WVK-61-B	Fecal Coliform	Unknown	1.7	From mouth to RM 1.7	2004	No
		Iron	Unknown	1.7	From mouth to RM 1.7	2004	No
UNT/Dry Branch RM 0.7 (Coalburg Branch)	WVK-61-B-1	Aluminum (dis)	Unknown	1.5	Entire length	2004	No
		CNA-Biological	Unknown	1.5	Entire length	2004	No
		pH	Unknown	1.5	Entire length	2004	No
Wet Branch	WVK-61-C	CNA-Biological	Unknown	3.3	Entire length	2014	Yes
Paint Branch	WVK-61-E	Iron	Unknown	2.4	Entire length	2004	No
Longbottom Creek	WVK-61-F	Fecal Coliform	Unknown	0.8	From mouth to RM 0.8	2004	No
Left Fork/Longbottom Creek	WVK-61-F-1	CNA-Biological	Unknown	3.9	Entire length	2004	No
Greens Branch	WVK-61-G	Fecal Coliform	Unknown	2.0	Entire length	2004	No
		pH	Mine Drainage	2.0	Entire length	2004	Yes
Coal Fork	WVK-61-H	Aluminum (dis)	Unknown	4.8	From mouth to RM 4.8	2004	No
		CNA-Biological	Unknown	5.8	Entire length	2014	No
Laurel Fork	WVK-61-H-1	Aluminum (dis)	Unknown	3.5	Entire length	2004	No
		CNA-Biological	Unknown	1.1	From mouth to RM 1.1	2004	No
		Iron	Unknown	3.5	Entire length	2004	No
		Manganese	Unknown	3.5	Entire length	2004	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Left Fork/Laurel Fork	WVK-61-H-1-A	CNA-Biological	Unknown	2.2	Entire length	2004	No
UNT/Coal Fork RM 4.6	WVK-61-H-3	Aluminum (dis)	Unknown	1.3	Entire length	2004	No
		Iron	Unknown	1.3	Entire length	2004	No
		Manganese	Unknown	1.3	Entire length	2004	No
Bear Hollow	WVK-61-I	Aluminum (dis)	Unknown	1.6	Entire length	2004	No
		CNA-Biological	Unknown	1.6	Entire length	2004	Yes
		Fecal Coliform	Unknown	1.6	Entire length	2004	No
		pH	Mine Drainage	1.6	Entire length	2004	Yes
UNT/Bear Hollow RM 0.3	WVK-61-I-1	Aluminum (dis)	Unknown	1.0	Entire length	2004	No
		CNA-Biological	Unknown	1.0	Entire length	2004	No
		Fecal Coliform	Unknown	1.0	Entire length	2004	No
		Manganese	Unknown	1.0	Entire length	2004	No
		pH	Unknown	1.0	Entire length	2004	No
Cane Fork	WVK-61-J	Aluminum (dis)	Unknown	2.7	Entire length	2004	No
		CNA-Biological	Unknown	2.7	Entire length	2004	No
		Iron	Mine Drainage	2.7	Entire length	2004	Yes
		Manganese	Mine Drainage	2.7	Entire length	2004	Yes
		pH	Mine Drainage	2.7	Entire length	2004	Yes
Toms Fork	WVK-61-K	Aluminum (dis)	Unknown	1.8	Entire length	2004	No
Tenmile Fork	WVK-61-L	Aluminum (dis)	Unknown	4.7	From mouth to RM 4.7	2004	No
		CNA-Biological	Unknown	6.0	Entire length	2004	Yes
		Iron	Mine Drainage	4.7	From mouth to RM 4.7	2004	Yes
UNT/Tenmile Fork RM 1.2	WVK-61-L-0.5	Aluminum (dis)	Unknown	1.4	Entire length	2004	No
		CNA-Biological	Unknown	1.4	Entire length	2014	No
UNT/Tenmile Fork RM 4.2	WVK-61-L-5	Iron	Unknown	1.0	Entire length	2004	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Fifteenmile Fork	WVK-61-O	Aluminum (dis)	Unknown	2.9	From mouth to RM 2.9	2004	No
		Iron	Mine Drainage	2.9	From mouth to RM 2.9	2004	Yes
		Manganese	Mine Drainage	3.6	Entire length	2004	Yes
		pH	Mine Drainage	1.3	From mouth to RM 1.3	2004	Yes
Abbott Creek	WVK-61-O-1	Aluminum (dis)	Unknown	2.3	Entire length	2004	No
		Iron	Mine Drainage	2.3	Entire length	2004	Yes
		Manganese	Mine Drainage	2.3	Entire length	2004	Yes
		pH	Mine Drainage	2.3	Entire length	2004	Yes
Hicks Hollow	WVK-61.5	Aluminum (dis)	Unknown	1.0	Entire length	2004	No
		CNA-Biological	Unknown	1.0	Entire length	2004	Yes
		Iron	Mine Drainage	1.0	Entire length	2004	Yes
		Manganese	Mine Drainage	1.0	Entire length	2004	Yes
		pH	Mine Drainage	1.0	Entire length	2004	Yes
Watson Branch	WVK-62	Aluminum (dis)	Unknown	1.2	Entire length	2004	No
		Manganese	Mine Drainage	1.2	Entire length	2004	Yes
		pH	Mine Drainage	1.2	Entire length	2004	Yes
Mile Branch	WVK-63	Aluminum (dis)	Unknown	1.3	Entire length	2004	No
		CNA-Biological	Unknown	1.3	Entire length	2004	No
		Fecal Coliform	Unknown	1.3	Entire length	2004	No
		Iron	Mine Drainage	1.3	Entire length	2004	Yes
Kellys Creek	WVK-64	Aluminum (dis)	Unknown	6.5	Entire length	2014	No
Horsemill Branch	WVK-64-A	CNA-Biological	Unknown	2.1	Entire length	2014	Yes
		Manganese	Unknown	2.1	Entire length	2014	Yes
		pH	Unknown	2.1	Entire length	2014	Yes
Hurricane Fork	WVK-64-J	CNA-Biological	Unknown	4.3	Entire length	2014	Yes
Paint Creek	WVK-65	Aluminum (dis)	Unknown	31.8	From mouth to RM 31.8	2014	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Sycamore Branch	WVK-65-L	CNA-Biological	Unknown	3.2	Entire length	2014	Yes
Bishop Fork	WVK-65-X	CNA-Biological	Unknown	1.7	Entire length	2014	No
Plum Orchard Creek	WVK-65-Z	CNA-Biological	Unknown	1.6	Entire length (up to Plum Orchard Lake)	2014	No
Maple Fork	WVK-65-HH-1-A	CNA-Biological	Unknown	2.9	Entire length	2014	Yes
Hughes Creek	WVK-66	CNA-Biological	Unknown	7.0	Entire length	2014	Yes
Lower Creek	WVK-67	CNA-Biological	Unknown	1.7	Entire length	2014	Yes
Morris Creek	WVK-70	CNA-Biological	Unknown	2.4	From mouth to RM 2.4	2004	Yes
		Iron	Mine Drainage	3.1	From RM 0.2 to RM 3.3	2004	Yes
		Manganese	Mine Drainage	3.3	Entire length	2004	Yes
		pH	Unknown	3.1	From RM 0.2 to RM 3.3	2004	No
Schuyler Fork	WVK-70-A	Aluminum (dis)	Unknown	2.6	Entire length	2004	No
		Manganese	Unknown	2.6	Entire length	2004	No
		pH	Unknown	2.6	Entire length	2004	No
Staten Run	WVK-71	CNA-Biological	Unknown	1.2	Entire length	2004	No
		Iron	Mine Drainage	1.2	Entire length	2004	Yes
Smithers Creek	WVK-72	Aluminum (dis)	Unknown	3.9	From mouth to RM 3.9	2004	No
		CNA-Biological	Unknown	7.0	Entire length	2014	Yes
Blake Branch	WVK-72-A	Aluminum (dis)	Unknown	2.6	Entire length	2004	No
		Fecal Coliform	Unknown	2.6	Entire length	2004	No
Fishhook Fork	WVK-72-A-1	Aluminum (dis)	Unknown	1.5	Entire length	2004	No
		Manganese	Mine Drainage	1.5	Entire length	2004	Yes
Bullpush Fork	WVK-72-B	Aluminum (dis)	Unknown	1.4	From mouth to M 1.4	2004	No
		CNA-Biological	Unknown	2.4	Entire length	2014	Yes
Burnett Hollow	WVK-72-B-2	Aluminum (dis)	Unknown	1.2	Entire length	2004	No
Armstrong Creek	WVK-73	Aluminum (dis)	Unknown	6.9	From mouth to RM 1.6 and from RM 3.3 to headwaters	2004	No

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
		CNA-Biological	Unknown	8.6	Entire length	2004	No
		pH	Unknown	2.7	From RM 5.9 to headwaters	2004	No
Tucker Hollow	WVK-73-A	Aluminum (dis)	Unknown	1.6	Entire length	2004	No
		pH	Unknown	1.6	Entire length	2004	No
Jenkins Fork	WVK-73-D	Aluminum (dis)	Unknown	2.1	Entire length	2004	No
		CNA-Biological	Unknown	2.1	Entire length	2004	No
		Manganese	Mine Drainage	2.1	Entire length	2004	Yes
		pH	Unknown	2.1	Entire length	2004	Yes
Craig Hollow	WVK-73-D-1	Aluminum (dis)	Unknown	1.7	Entire length	2004	No
		Manganese	Unknown	1.7	Entire length	2004	No
		pH	Unknown	1.7	Entire length	2004	No
Powellton Fork	WVK-73-E	Aluminum (dis)	Unknown	4.4	Entire length	2004	No
		Iron	Mine Drainage	4.0	From mouth to RM 4.0	2004	Yes
Laurel Branch	WVK-73-E-1	Iron	Mine Drainage	1.2	Entire length	2004	Yes
		Manganese	Mine Drainage	1.2	Entire length	2004	Yes
Woodrum Branch	WVK-73-E-2	Iron	Unknown	1.1	Entire length	2004	No
Right Fork/Armstrong Creek	WVK-73-F	Aluminum (dis)	Unknown	2.5	Entire length	2004	No
		Manganese	Mine Drainage	2.5	Entire length	2004	Yes
		pH	Unknown	2.5	Entire length	2004	No
Boomer Branch	WVK-74	Aluminum (dis)	Unknown	2.6	Entire length	2004	No
		CNA-Biological	Unknown	2.6	Entire length	2004	Yes

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Jarrett Branch	WVK-75	Aluminum (dis)	Unknown	1.3	From mouth to RM 1.3	2004	No
		CNA-Biological	Unknown	1.6	Entire length	2004	Yes
		Iron	Mine Drainage	1.3	From mouth to RM 1.3	2004	Yes
		Manganese	Mine Drainage	1.6	Entire length	2004	Yes
		pH	Unknown	1.3	From mouth to RM 1.3	2004	No
UNT/Jarrett Branch RM 1.1	WVK-75-A	Aluminum (dis)	Unknown	1.0	Entire length	2004	No
		Manganese	Unknown	1.0	Entire length	2004	No
		pH	Unknown	1.0	Entire length	2004	No
Loop Creek	WVK-76	Fecal Coliform	Unknown	10.7	From RM 9.3 to headwaters	2004	No
Mulberry Fork	WVK-76-C	Fecal Coliform	Unknown	2.5	From mouth to RM 2.5	2004	No
Dempsey Branch	WVK-76-C-1	CNA-Biological	Unknown	2.7	Entire length	2014	Yes
Beards Fork	WVK-76-D	Aluminum (dis)	Unknown	4.3	Entire length	2004	No
Ingram Branch	WVK-76-K	Aluminum (dis)	Unknown	1.2	Entire length	2004	No
		CNA-Biological	Unknown	0.6	From mouth to RM 0.6	2004	No
		pH	Unknown	1.2	Entire length	2004	No

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UPPER OHIO NORTH WATERSHED - HUC# 05030101 - *32 streams 119 miles*

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Ohio River (Upper North)	WVO-un	Dioxin	Unknown	31.4	Ohio River from mp 71.4 (mouth of Cross Creek) to mp 40 (PA line)	2012	Yes
		Bacteria	Unknown	31.4	Ohio River from mp 71.4 (mouth of Cross Creek) to mp 40 (PA line)	2012	No
Cross Creek	WVO-95	Aluminum (dis)	Unknown	3.7	from RM 3.5 to headwaters	2014	No
		CNA-Biological	Unknown	3.7	from RM 3.5 to headwaters	2004	Yes
		Fecal Coliform	Unknown	7.2	Entire length	2004	No
UNT/Cross Creek RM 1.7	WVO-95-0.5A	Fecal Coliform	Unknown	1.6	Entire length	2004	No
Bosley Run	WVO-95-A	CNA-Biological	Unknown	3.2	Entire length	2004	Yes
		Fecal Coliform	Unknown	3.2	Entire length	2004	No
North Potrock Run	WVO-95-C	Fecal Coliform	Unknown	2.9	Entire length	2004	No
Potrock Run	WVO-95-D	CNA-Biological	Unknown	1.7	Entire length	2004	Yes
		Fecal Coliform	Unknown	1.7	Entire length	2004	No
Alleghany Steel Run	WVO-95.5	CNA-Biological	Unknown	1.9	Entire length	2004	Yes
		Fecal Coliform	Unknown	1.9	Entire length	2004	No
UNT/Alleghany Steel Run RM 0.9	WVO-95.5-A	CNA-Biological	Unknown	0.6	Entire length	2004	No
		Fecal Coliform	Unknown	0.6	Entire length	2004	No
Mahan Run	WVO-96	CNA-Biological	Unknown	2.8	Entire length	2014	Yes
Harmon Creek	WVO-97	CNA-Biological	Unknown	5.4	from RM 2.2 to Headwaters	2004	Yes
		Fecal Coliform	Unknown	7.6	Entire length	2004	No
UNT/Harmon Creek RM 2.9	WVO-97-0.7A	Fecal Coliform	Unknown	1.7	Entire length	2004	No

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Harmon Creek RM 3.2	WVO-97-0.9A	Fecal Coliform	Unknown	1.3	Entire length	2004	No
Sappingtons Run	WVO-97-A	CNA-Biological	Unknown	2.9	Entire length	2004	Yes
		Fecal Coliform	Unknown	2.9	Entire length	2004	No
Alexanders Run	WVO-97-B	CNA-Biological	Unknown	3.4	Entire length	2004	Yes
		Fecal Coliform	Unknown	3.4	Entire length	2004	No
		Iron	Mine Drainage	2.8	From mouth to RM 2.8	2004	Yes
		Manganese	Mine Drainage	2.8	From mouth to RM 2.8	2004	Yes
Mechling Run	WVO-97-C	Fecal Coliform	Unknown	1.7	Entire length	2004	No
Brown Hollow	WVO-97-D	CNA-Biological	Unknown	1.4	Entire length	2004	Yes
		Fecal Coliform	Unknown	1.4	Entire length	2004	No
Kings Creek	WVO-98	Fecal Coliform	Unknown	7.4	Entire length	2004	No
Turkeyfoot Run	WVO-98-0.5A	Fecal Coliform	Unknown	1.8	Entire length	2004	No
Rush Run	WVO-98-0.7A	CNA-Biological	Unknown	0.9	Entire length	2004	No
		Fecal Coliform	Unknown	0.9	Entire length	2004	No
North Fork/Kings Creek	WVO-98-A	Fecal Coliform	Unknown	4.7	Entire length	2004	No
Marrow Run	WVO-98-A.5	CNA-Biological	Unknown	1.2	Entire length	2004	Yes
		Fecal Coliform	Unknown	1.2	Entire length	2004	No
UNT/Kings Creek RM 6.8	WVO-98-C	Fecal Coliform	Unknown	1.5	Entire length	2004	No
Holbert Run	WVO-99	CNA-Biological	Unknown	2.8	Entire length	2014	Yes
Deep Gut Run	WVO-101	Aluminum (dis)	Unknown	2.0	From mouth to RM 2.0	2004	No
		CNA-Biological	Unknown	4.5	Entire length	2004	Yes
		Iron	Mine Drainage	2.0	From mouth to RM 2.0	2004	Yes
		Manganese	Mine Drainage	2.0	From mouth to RM 2.0	2004	Yes
		pH	Unknown	1.2	From mouth to RM 1.2	2004	No
UNT/Deep Gut Run RM 1.8	WVO-101-E	Manganese	Unknown	0.4	Entire length	2004	No

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
South Fork/Tomlinson Run	WVO-102-B	CNA-Biological	Unknown	5.1	Entire length	2004	Yes
		Fecal Coliform	Unknown	5.1	Entire length	2004	No
North Fork/Tomlinson Run	WVO-102-C	CNA-Biological	Unknown	6.0	Entire length	2004	Yes
		Fecal Coliform	Unknown	6.0	Entire length	2004	No
Mercer Run	WVO-102-C-1	CNA-Biological	Unknown	2.3	Entire length	2004	Yes
		Fecal Coliform	Unknown	2.3	Entire length	2004	No
UNT/North Fork RM 4.4/Tomlinson Run (Stewarts Run)	WVO-102-C-6	Fecal Coliform	Unknown	1.6	Entire length	2004	No
Laurel Hollow	WVO-105	CNA-Biological	Unknown	2.1	Entire length	2014	Yes
Middle Run	WVO-107	CNA-Biological	Unknown	2.0	Entire length	2014	Yes
Marks Run	WVO-108	CNA-Biological	Unknown	1.7	Entire length	2014	Yes
YOUGHIOGHENY WATERSHED - HUC# 05020006 - *5 streams 29 miles*							
Youghiogheny River	WVMY	CNA-Biological	Unknown	6.2	Entire length	2008	No
Snowy Creek	WVMY-2	Aluminum (dis)	Unknown	6.2	Entire length	2008	No
		CNA-Biological	Unknown	6.2	Entire length	2008	Yes
		Iron	Unknown	6.2	Entire length	2008	No
Laurel Run	WVMY-2-0.2A	Iron	Mine Drainage	4.8	Entire length	2008	Yes
		Manganese	Mine Drainage	4.8	Entire length	2008	Yes
		pH	Mine Drainage	4.8	Entire length	2008	Yes
Wardwell Run	WVMY-2-A-1	CNA-Biological	Unknown	3.2	Entire length	2008	Yes
Maple Run	WVMY-5	CNA-Biological	Unknown	8.2	Entire length	2008	Yes

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
HYDROLOGIC GROUP B							
COAL WATERSHED - HUC# 05050009 - *127 streams 591 miles*							
Big Coal River or Coal River	WVKC	Fecal Coliform	Unknown	60.5	Entire length	2005	Yes
Browns Creek	WVKC-2	CNA-Biological	Unknown	6.1	Entire length	2005	No
		Fecal Coliform	Unknown	6.1	Entire length	2005	No
Smith Creek	WVKC-4	CNA-Biological	Unknown	5.2	Entire length	2005	No
		Fecal Coliform	Unknown	5.2	Entire length	2005	No
Little Smith Creek	WVKC-4-C	CNA-Biological	Unknown	3.0	Entire length	2005	No
		Fecal Coliform	Unknown	3.0	Entire length	2005	No
Falls Creek	WVKC-5	Fecal Coliform	Unknown	3.6	Entire length	2005	No
Fuquay Creek	WVKC-8	Fecal Coliform	Unknown	5.4	Entire length	2005	No
Crooked Creek	WVKC-9	CNA-Biological	Unknown	3.3	Entire length	2005	Yes
		Fecal Coliform	Unknown	3.3	Entire length	2005	No
Little Coal River	WVKC-10	Fecal Coliform	Unknown	32.0	Entire length	2005	Yes
Cobb Creek	WVKC-10-E	Fecal Coliform	Unknown	3.8	Entire length	2005	No
Dicks Creek	WVKC-10-F	Iron	Unknown	1.9	Entire length	2005	No
Little Hewitt Creek	WVKC-10-H	Aluminum (dis)	Unknown	2.1	Entire length	2005	No
		pH	Unknown	2.1	Entire length	2005	No
Big Horse Creek	WVKC-10-I	CNA-Biological	Unknown	7.7	From mouth to RM 7.7	2005	Yes
		Fecal Coliform	Unknown	10.1	Entire length	2005	No
Laurel Fork	WVKC-10-I-2	Fecal Coliform	Unknown	4.3	Entire length	2005	No
		Iron	Unknown	4.3	Entire length	2005	No
Peters Cave Fork	WVKC-10-I-3	Fecal Coliform	Unknown	3.0	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Dodson Fork	WVKC-10-I-6	CNA-Biological	Unknown	4.0	Entire length	2005	No
		Fecal Coliform	Unknown	4.0	Entire length	2005	No
Rich Hollow	WVKC-10-I-8	Manganese	Unknown	1.1	Entire length	2005	No
Little Horse Creek	WVKC-10-J	CNA-Biological	Unknown	2.5	From mouth to RM 2.5	2005	Yes
		Fecal Coliform	Unknown	2.5	From mouth to RM 2.5	2005	No
		Manganese	Unknown	3.3	Entire length	2005	No
UNT/Little Horse Creek RM 2.4	WVKC-10-J-8	Fecal Coliform	Unknown	0.4	Entire length	2005	No
Camp Creek	WVKC-10-L	Fecal Coliform	Unknown	5.4	Entire length	2005	No
Rock Creek	WVKC-10-N	CNA-Biological	Unknown	3.8	From mouth to RM 3.8	2005	Yes
		Fecal Coliform	Unknown	5.1	Entire length	2005	No
Hubbard Fork	WVKC-10-N-2	CNA-Biological	Unknown	1.8	Entire length	2005	No
		Fecal Coliform	Unknown	1.8	Entire length	2005	No
Right Fork/Rock Creek	WVKC-10-N-3	CNA-Biological	Unknown	2.4	Entire length	2005	No
		Fecal Coliform	Unknown	2.4	Entire length	2005	No
Left Fork/Rock Creek	WVKC-10-N-4	CNA-Biological	Unknown	3.8	Entire length	2005	No
		Fecal Coliform	Unknown	3.8	Entire length	2005	No
Lick Creek	WVKC-10-O	CNA-Biological	Unknown	5.1	Entire length	2005	No
		Fecal Coliform	Unknown	5.1	Entire length	2005	No
Turtle Creek	WVKC-10-P	CNA-Biological	Unknown	7.0	Entire length	2005	No
		Fecal Coliform	Unknown	7.0	Entire length	2005	No
Spruce Fork	WVKC-10-T	Aluminum (dis)	Unknown	11.4	From mouth to RM 11.4	2005	No
		Fecal Coliform	Unknown	18.1	From mouth to RM 18.1	2005	No
Sparrow Creek	WVKC-10-T-1	Fecal Coliform	Unknown	2.4	Entire length	2005	No
Laurel Branch	WVKC-10-T-2	Fecal Coliform	Unknown	1.1	Entire length	2005	No
Low Gap Creek	WVKC-10-T-3	Fecal Coliform	Unknown	1.9	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Hunters Branch	WVKC-10-T-5	Aluminum (dis)	Unknown	2.0	Entire length	2005	No
		pH	Unknown	2.0	Entire length	2005	No
Sixmile Creek	WVKC-10-T-7	Fecal Coliform	Unknown	4.6	Entire length	2005	No
Bias Branch	WVKC-10-T-8	CNA-Biological	Unknown	2.7	Entire length	2005	No
		Fecal Coliform	Unknown	2.7	Entire length	2005	No
Hewett Creek	WVKC-10-T-9	Aluminum (dis)	Unknown	6.0	Entire length	2005	No
		Fecal Coliform	Unknown	6.0	Entire length	2005	No
		Iron	Unknown	6.0	Entire length	2005	No
Meadow Fork	WVKC-10-T-9-A	Fecal Coliform	Unknown	3.4	Entire length	2005	No
Missouri Fork	WVKC-10-T-9-B	CNA-Biological	Unknown	1.4	From RM 1.9 to headwaters	2005	Yes
		Fecal Coliform	Unknown	3.3	Entire length	2005	No
Isom Branch	WVKC-10-T-9-B.5	Fecal Coliform	Unknown	0.8	From mouth to RM 0.8	2005	No
Craddock Fork	WVKC-10-T-9-C	Fecal Coliform	Unknown	2.5	Entire length	2005	No
Sycamore Branch	WVKC-10-T-9-C-2	Fecal Coliform	Unknown	0.8	From mouth to RM 0.8	2005	No
Baldwin Fork	WVKC-10-T-9-D	CNA-Biological	Unknown	2.0	Entire length	2005	No
		Fecal Coliform	Unknown	2.0	Entire length	2005	No
Stollings Branch	WVKC-10-T-10	Fecal Coliform	Unknown	0.4	From mouth to RM 0.4	2005	No
Spruce Laurel Fork	WVKC-10-T-11	Aluminum (dis)	Unknown	6.1	From mouth to RM 6.1	2005	No
		CNA-Biological	Unknown	6.1	From mouth to RM 6.1	2005	Yes
		Iron	Unknown	2.6	From RM 3.5 to RM 6.1	2005	No
Rockhouse Creek	WVKC-10-T-13	CNA-Biological	Unknown	3.0	Entire length	2005	Yes
		Fecal Coliform	Unknown	0.8	From mouth to RM 0.8	2005	No
Beech Creek	WVKC-10-T-15	Selenium	Unknown	1.7	From mouth to RM 1.7	2005	Yes
Left Fork/Beech Creek	WVKC-10-T-15-A	CNA-Biological	Unknown	2.4	Entire length	2005	Yes
		Selenium	Unknown	2.4	Entire length	2005	Yes
Trace Branch	WVKC-10-T-19	Selenium	Unknown	1.0	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Little White Oak Branch	WVKC-10-T-22.5	pH	Unknown	1.3	Entire length	2005	No
Brushy Fork	WVKC-10-T-24	Iron	Unknown	3.8	Entire length	2005	No
Pond Fork	WVKC-10-U	Aluminum (dis)	Unknown	15.8	From mouth to RM 15.8	2005	No
		CNA-Biological	Unknown	10.0	From RM 26.6 to headwaters	2005	Yes
		Fecal Coliform	Unknown	20.3	From RM 6.3 to RM 26.6	2005	No
Robinson Creek	WVKC-10-U-3	Aluminum (dis)	Unknown	5.3	Entire length	2005	No
West Fork	WVKC-10-U-7	Aluminum (dis)	Unknown	7.9	From mouth to RM 7.9	2005	No
		CNA-Biological	Unknown	9.7	From mouth to RM 9.7	2005	Yes
Whites Branch	WVKC-10-U-7-B	Fecal Coliform	Unknown	3.8	Entire length	2005	No
Browns Branch	WVKC-10-U-7-D	Manganese	Unknown	3.2	Entire length	2005	No
James Creek	WVKC-10-U-7-I	Selenium	Unknown	0.2	From mouth to RM 0.16	2005	No
Casey Creek	WVKC-10-U-8	CNA-Biological	Unknown	5.3	Entire length	2005	No
		Selenium	Unknown	5.3	Entire length	2005	No
Beaver Pond Branch	WVKC-10-U-9	Selenium	Unknown	2.0	Entire length	2005	No
James Branch	WVKC-10-U-16	CNA-Biological	Unknown	4.2	Entire length	2005	No
Lacey Branch	WVKC-10-U-21	Iron	Unknown	1.4	From mouth to RM 1.4	2005	No
Alum Creek	WVKC-11	Fecal Coliform	Unknown	3.9	Entire length	2005	No
UNT/Alum Creek RM 1.5	WVKC-11-A	Fecal Coliform	Unknown	1.0	Entire length	2005	No
Little Alum Creek	WVKC-11-B	Fecal Coliform	Unknown	2.0	Entire length	2005	No
Brier Creek	WVKC-13	Fecal Coliform	Unknown	8.4	Entire length	2005	No
Lick Creek	WVKC-19	CNA-Biological	Unknown	4.0	Entire length	2005	No
		Fecal Coliform	Unknown	4.0	Entire length	2005	No
Brush Creek	WVKC-21	CNA-Biological	Unknown	3.8	Entire length	2005	Yes
		Fecal Coliform	Unknown	3.8	Entire length	2005	No
Ridgeview Hollow	WVKC-21-C	CNA-Biological	Unknown	1.0	Entire length	2005	No
		Fecal Coliform	Unknown	1.0	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Drawdy Creek	WVKC-24	Fecal Coliform	Unknown	5.9	Entire length	2005	No
Short Creek	WVKC-26	Fecal Coliform	Unknown	2.7	Entire length	2005	No
Toneys Branch	WVKC-27	Fecal Coliform	Unknown	2.9	Entire length	2005	No
Joes Creek	WVKC-29	Fecal Coliform	Unknown	4.5	From mouth to RM 4.5	2005	No
Left Fork/Joes Creek	WVKC-29-A	Fecal Coliform	Unknown	1.3	Entire length	2005	No
Laurel Creek	WVKC-31	Aluminum (dis)	Unknown	8.6	Entire length	2005	No
		Fecal Coliform	Unknown	2.3	From mouth to RM 2.3	2005	No
		Manganese	Unknown	8.6	Entire length	2005	No
Sandlick Creek	WVKC-31-A	CNA-Biological	Unknown	4.6	Entire length	2005	No
		Fecal Coliform	Unknown	4.6	Entire length	2005	No
Hopkins Fork	WVKC-31-B	Fecal Coliform	Unknown	6.3	From mouth to RM 6.3	2005	No
Big Jarrells Creek	WVKC-31-B-2	Fecal Coliform	Unknown	6.1	Entire length	2005	No
Cold Fork	WVKC-31-C	pH	Unknown	2.0	Entire length	2005	No
Horse Branch	WVKC-32	Aluminum (dis)	Unknown	2.1	Entire length	2005	No
		Manganese	Unknown	2.1	Entire length	2005	No
		pH	Unknown	2.1	Entire length	2005	No
Haggle Branch	WVKC-33	Aluminum (dis)	Unknown	1.6	Entire length	2005	No
		pH	Unknown	1.6	Entire length	2005	No
White Oak Creek	WVKC-35	Aluminum (dis)	Unknown	3.9	From mouth to RM 3.9	2005	No
		Selenium	Unknown	5.5	Entire length	2005	No
Threemile Branch	WVKC-35-D	pH	Unknown	2.1	Entire length	2005	No
Left Fork/White Oak Creek	WVKC-35-E	Aluminum (dis)	Unknown	2.3	Entire length	2005	No
		Selenium	Unknown	2.3	Entire length	2005	No
UNT/Big Coal River RM 52.7	WVKC-35.8	Aluminum (dis)	Unknown	1.4	Entire length	2005	No
		Manganese	Unknown	1.4	Entire length	2005	No
		pH	Unknown	1.4	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Little Elk Creek	WVKC-39	Aluminum (dis)	Unknown	2.7	Entire length	2005	No
Seng Creek	WVKC-42	CNA-Biological	Unknown	5.9	Entire length	2005	No
		Fecal Coliform	Unknown	5.9	Entire length	2005	No
		Selenium	Unknown	5.9	Entire length	2005	No
Elk Run	WVKC-43	Iron	Unknown	4.4	Entire length	2005	No
Marsh Fork	WVKC-46	Fecal Coliform	Unknown	32.0	From mouth to RM 32.0	2005	No
		Iron	Unknown	34.1	Entire length	2005	No
Little Marsh Fork	WVKC-46-A	Aluminum (dis)	Unknown	3.8	From mouth to RM 3.8	2005	No
Brushy Fork	WVKC-46-A-4	Aluminum (dis)	Unknown	1.9	Entire length	2005	No
		Manganese	Unknown	1.9	Entire length	2005	No
Ellis Creek	WVKC-46-B	CNA-Biological	Unknown	1.2	From mouth to RM 1.2	2005	No
Stink Run	WVKC-46-E	Fecal Coliform	Unknown	0.1	From mouth to RM 0.1	2005	No
Drews Creek	WVKC-46-G-1	Iron	Unknown	2.9	From RM 1.6 to headwaters	2005	No
Martin Fork	WVKC-46-G-2	Aluminum (dis)	Unknown	3.0	Entire length	2005	No
		Manganese	Unknown	3.0	Entire length	2005	No
		pH	Unknown	3.0	Entire length	2005	No
Millers Fork	WVKC-46-G-3	Iron	Unknown	1.2	Entire length	2005	No
		Manganese	Unknown	1.2	Entire length	2005	No
Dry Creek	WVKC-46-H	Fecal Coliform	Unknown	2.3	From mouth to RM 2.3	2005	No
Rock Creek	WVKC-46-I	Fecal Coliform	Unknown	5.2	Entire length	2005	No
Righthand Fork	WVKC-46-I-1	Fecal Coliform	Unknown	2.9	Entire length	2005	No
Flat Branch	WVKC-46-I.7	Fecal Coliform	Unknown	1.4	Entire length	2005	No
Sandlick Creek	WVKC-46-J	CNA-Biological	Unknown	9.4	From 0.7 to headwaters	2005	No
		Fecal Coliform	Unknown	6.5	From mouth to RM 6.5	2005	No
		Iron	Unknown	10.1	Entire length	2005	No

2004 Section 303(d) List

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Bee Branch	WVKC-46-J-2	Aluminum (dis)	Unknown	1.3	Entire length	2005	No
		Manganese	Unknown	1.3	Entire length	2005	No
		pH	Unknown	1.3	Entire length	2005	No
Right Fork/Sandlick Creek	WVKC-46-J-3	CNA-Biological	Unknown	3.3	Entire length	2005	No
		Fecal Coliform	Unknown	2.4	From mouth to RM 2.4	2005	No
Wingrove Branch	WVKC-46-J-4	Fecal Coliform	Unknown	2.4	Entire length	2005	No
Harper Branch	WVKC-46-J-7	Iron	Unknown	1.0	Entire length	2005	No
Cove Creek	WVKC-46-K	Fecal Coliform	Unknown	1.2	From mouth to RM 1.2	2005	No
UNT/Cove Creek RM 1.2	WVKC-46-K-2	Fecal Coliform	Unknown	1.1	Entire length	2005	No
Breckenridge Creek	WVKC-46-L	Fecal Coliform	Unknown	4.8	Entire length	2005	No
UNT/Breckenridge Creek RM 2.7	WVKC-46-L-1	Fecal Coliform	Unknown	1.7	Entire length	2005	No
		pH	Unknown	1.7	Entire length	2005	No
Spanker Branch	WVKC-46-M	Fecal Coliform	Unknown	2.0	Entire length	2005	No
Maple Meadow Creek	WVKC-46-N	CNA-Biological	Unknown	4.5	Entire length	2005	No
		Fecal Coliform	Unknown	3.0	From mouth to RM 3.0	2005	No
		Iron	Unknown	3.0	From mouth to RM 3.0	2005	No
Rockhouse Fork	WVKC-46-N-1	Fecal Coliform	Unknown	3.1	Entire length	2005	No
		Iron	Unknown	3.1	Entire length	2005	No
Claypool Hollow	WVKC-46-N.9	Fecal Coliform	Unknown	1.4	Entire length	2005	No
Dingess Branch	WVKC-46-O	Fecal Coliform	Unknown	3.9	Entire length	2005	No
		Iron	Unknown	3.9	Entire length	2005	No
Surveyor Creek	WVKC-46-P	CNA-Biological	Unknown	3.2	Entire length	2005	Yes
		Fecal Coliform	Unknown	3.2	Entire length	2005	No

2004 Section 303(d) List

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Millers Camp Branch	WVKC-46-Q	Aluminum (dis)	Unknown	5.0	From mouth to RM 5.0	2005	No
		CNA-Biological	Unknown	4.3	From RM 2.5 to headwaters	2005	Yes
		Fecal Coliform	Unknown	2.5	From mouth to RM 2.5	2005	No
		Manganese	Unknown	4.3	From RM 2.5 to headwaters	2005	No
Clay Branch	WVKC-46-Q-0.1	Fecal Coliform	Unknown	0.9	From mouth to RM 0.9	2005	No
Laurel Branch	WVKC-46-Q-4	Iron	Unknown	2.0	Entire length	2005	No
		Manganese	Unknown	2.0	Entire length	2005	No
Jehu Branch	WVKC-46-Q-5	Iron	Mine Drainage	1.7	Entire length	2005	Yes
		Manganese	Mine Drainage	1.7	Entire length	2005	Yes
Clear Fork	WVKC-47	Aluminum (dis)	Unknown	10.9	From RM 0.7 to RM 11.6	2005	No
		CNA-Biological	Unknown	12.1	From RM 4.1 to RM 16.2	2005	No
		Fecal Coliform	Unknown	18.2	From mouth to RM 18.2	2005	Yes
		Iron	Mine Drainage	21.6	Entire length	2005	No
Sycamore Creek	WVKC-47-E	Fecal Coliform	Unknown	5.7	Entire length	2005	No
Raines Fork	WVKC-47-E-4	CNA-Biological	Unknown	1.1	Entire length	2015	Yes
Stonecoal Branch	WVKC-47-F	Aluminum (dis)	Unknown	1.0	Entire length	2005	No
		CNA-Biological	Unknown	1.0	Entire length	2005	Yes
		Iron	Unknown	1.0	Entire length	2005	No
		Manganese	Unknown	1.0	Entire length	2005	No
		pH	Unknown	1.0	Entire length	2005	No
Long Branch	WVKC-47-G	Aluminum (dis)	Unknown	2.6	Entire length	2005	No
Dow Fork	WVKC-47-G-1	Aluminum (dis)	Unknown	1.3	Entire length	2005	No
		Manganese	Mine Drainage	1.3	Entire length	2005	Yes
		pH	Unknown	1.3	Entire length	2005	No
Fulton Creek	WVKC-47-I	Iron	Unknown	3.2	Entire length	2005	No

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
White Oak Creek	WVKC-47-K	CNA-Biological	Unknown	4.0	Entire length	2005	No
		Fecal Coliform	Unknown	4.0	Entire length	2005	No
Left Fork/White Oak Creek	WVKC-47-K-1	Iron	Unknown	1.9	Entire length	2005	No
Toney Fork	WVKC-47-L	CNA-Biological	Unknown	2.4	Entire length	2005	Yes
		Fecal Coliform	Unknown	0.8	From mouth to RM 0.8	2005	No
		Iron	Mine Drainage	2.4	Entire length	2005	No
Buffalo Fork	WVKC-47-L-1	CNA-Biological	Unknown	2.5	Entire length	2005	No
McDowell Branch	WVKC-47-N	Fecal Coliform	Unknown	1.6	Entire length	2005	No
		Iron	Unknown	1.6	Entire length	2005	No
Lick Run	WVKC-47-P.5	CNA-Biological	Unknown	1.8	Entire length	2005	No
		Fecal Coliform	Unknown	1.8	Entire length	2005	No
		Iron	Unknown	1.8	Entire length	2005	No
ELK WATERSHED - HUC# 05050007 - *27 streams 301 miles 1 Lake 1500 acres*							
Elk River	WVKE	Aluminum (dis)	Unknown	106.4	From mouth to Sutton Lake (RM 106.4)	2015	No
		Chromium, hexavalent	Unknown	102.0	From RM 4.4 to Sutton Lake (RM 106.4)	2015	No
		Fecal Coliform	Unknown	27.2	From mouth to RM 27.2	2015	No
Sutton Lake	WVKE-(L1)	Mercury	Unknown	1500.0	Entire length	2015	No
Green Bottom	WVKE-2-E	CNA-Biological	Unknown	0.9	Entire length	2015	Yes
Newhouse Branch	WVKE-3	CNA-Biological	Unknown	2.0	Entire length	2015	Yes
Coonskin Branch	WVKE-4	CNA-Biological	Unknown	1.1	Entire length	2015	Yes
Kaufman Branch	WVKE-7-E	CNA-Biological	Unknown	1.0	Entire length	2015	Yes
Blue Creek	WVKE-14	Aluminum (dis)	Unknown	25.3	Entire length	2015	No
Whiteoak Fork	WVKE-14-G-2	CNA-Biological	Unknown	3.0	Entire length	2015	Yes
Mudlick Branch	WVKE-14-M-2	CNA-Biological	Unknown	1.6	Entire length	2015	Yes

2004 Section 303(d) List

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Big Sandy Creek	WVKE-23	Aluminum (dis)	Unknown	24.4	Entire length	2015	No
		CNA-Biological	Unknown	12.5	From mouth to RM 12.5	2015	No
		Fecal Coliform	Unknown	24.4	Entire length	2015	No
Camp Creek	WVKE-34	CNA-Biological	Unknown	3.1	Entire length	2015	Yes
Laurel Fork	WVKE-37-B	CNA-Biological	Unknown	2.5	Entire length	2015	Yes
Reed Fork	WVKE-37-C-1	CNA-Biological	Unknown	1.9	Entire length	2015	No
Summers Fork	WVKE-37-D	CNA-Biological	Unknown	2.6	Entire length	2015	Yes
Grassy Fork	WVKE-41-C-1	CNA-Biological	Unknown	2.7	Entire length	2015	Yes
Leatherwood Creek	WVKE-46	Aluminum (dis)	Unknown	11.3	Entire length	2015	No
		CNA-Biological	Unknown	11.3	Entire length	2015	No
		Manganese	Unknown	11.3	Entire length	2015	No
Buffalo Creek	WVKE-50	Aluminum (dis)	Unknown	23.8	Entire length	2015	No
		CNA-Biological	Unknown	21.7	From 2.1 to headwaters	2015	No
Lilly Fork	WVKE-50-B	Aluminum (dis)	Unknown	13.1	Entire length	2015	No
		CNA-Biological	Unknown	13.1	Entire length	2015	No
Birch River	WVKE-76	Aluminum (dis)	Unknown	38.5	Entire length	2015	No
Jacks Run	WVKE-76-W	CNA-Biological	Unknown	1.3	Entire length	2015	Yes
Upper Mill Creek	WVKE-78	CNA-Biological	Unknown	4.8	Entire length	2015	Yes
Bear Run	WVKE-84.5	CNA-Biological	Unknown	1.5	Entire length	2015	Yes
UNT/Granny Creek	WVKE-87-C	CNA-Biological	Unknown	1.4	Entire length	2015	Yes
Old Woman Run	WVKE-88	CNA-Biological	Unknown	2.4	Entire length	2015	Yes
Fall Run	WVKE-98-B-3	pH	Unknown	2.4	Entire length	2015	No
Desert Fork	WVKE-98-B-16	pH	Unknown	7.4	Entire length	2015	No
Fall Run	WVKE-98-C-14	pH	Unknown	1.4	Entire length	2015	Yes
Sugar Creek	WVKE-111-K	pH	Unknown	12.7	Entire length	2015	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
LOWER KANAWHA WATERSHED - HUC# 05050008 - *57 streams 227 miles*							
Kanawha River (Lower)	WVK-lo	Fecal Coliform	Unknown	57.0	From RM 1.5 to the confluence with Elk River (RM 57.9)	2015	No
		Mercury	Unknown	13.0	From RM 32.2 (Winfield Lock) to the confluence with Elk River (RM 57.9)	2015	No
Pond Branch	WVK-11	CNA-Biological	Unknown	3.1	Entire length	2015	Yes
Poplar Fork	WVK-12-F	CNA-Biological	Unknown	5.0	From mouth to RM 5.0	2015	Yes
Jakes Run	WVK-16-B	CNA-Biological	Unknown	1.9	Entire length	2015	Yes
Saltlick Creek	WVK-16-J-3	CNA-Biological	Unknown	2.9	Entire length	2015	Yes
Hurricane Creek	WVK-22	CNA-Biological	Unknown	21.2	from mouth to RM 21.2	2015	Yes
Cow Creek	WVK-22-B-2	CNA-Biological	Unknown	4.4	Entire length	2015	Yes
Long Branch	WVK-22-B-3	CNA-Biological	Unknown	2.8	Entire length	2015	Yes
UNT/Crooked Creek	WVK-22-B-5-B	CNA-Biological	Unknown	1.3	Entire length	2015	Yes
Sleepy Creek	WVK-22-C	CNA-Biological	Unknown	3.9	Entire length	2015	No
Rider Creek	WVK-22-J	CNA-Biological	Unknown	1.7	Entire length	2015	Yes
Armour Creek	WVK-30	CNA-Biological	Unknown	3.7	Entire length	2015	Yes
UNT/Scary Creek RM 0.13 (Vintroux Hollow)	WVK-32-0.1A	CNA-Biological	Unknown	0.8	Entire length	2015	Yes
Rockstep Run	WVK-32-A	CNA-Biological	Unknown	2.3	Entire length	2015	Yes
Gallatin Branch	WVK-33	CNA-Biological	Unknown	1.6	Entire length	2015	Yes
Ward Hollow	WVK-39-A	CNA-Biological	Unknown	1.7	Entire length	2015	Yes
Rays Branch	WVK-39-F	CNA-Biological	Unknown	2.7	Entire length	2015	Yes
Coal Hollow	WVK-39-J	CNA-Biological	Unknown	1.6	Entire length	2015	Yes

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Twomile Creek	WVK-41	Aluminum (dis)	Unknown	3.9	From RM 0.8 to headwaters	2005	No
		CNA-Biological	Unknown	4.7	Entire length	2005	Yes
		Fecal Coliform	Unknown	4.7	Entire length	2005	No
		Iron	Unknown	0.8	from mouth to RM 0.8	2005	No
Woodward Branch	WVK-41-A	Fecal Coliform	Unknown	1.4	Entire length	2005	No
Pfieffer Branch	WVK-41-A-1	Fecal Coliform	Unknown	1.3	Entire length	2005	No
UNT/Woodward Branch RM 0.9	WVK-41-A-2	Fecal Coliform	Unknown	0.9	Entire length	2005	No
Chandler Branch	WVK-41-B	Fecal Coliform	Unknown	0.8	Entire length	2005	No
Sugar Creek	WVK-41-C	Fecal Coliform	Unknown	1.9	Entire length	2005	No
Left Fork/Twomile Creek	WVK-41-D	Fecal Coliform	Unknown	4.0	Entire length	2005	No
UNT/Left Fork RM 0.5/Twomile Creek	WVK-41-D-1	CNA-Biological	Unknown	1.9	Entire length	2005	Yes
		Fecal Coliform	Unknown	1.9	Entire length	2005	No
Rich Fork	WVK-41-D.5	Aluminum (dis)	Unknown	1.5	Entire length	2005	No
		CNA-Biological	Unknown	1.5	Entire length	2005	Yes
		Fecal Coliform	Unknown	1.5	Entire length	2005	No
		Manganese	Mine Drainage	1.5	Entire length	2005	Yes
		pH	Mine Drainage	1.5	Entire length	2005	Yes
Craig Branch	WVK-41-D.5-2	CNA-Biological	Unknown	0.6	Entire length	2005	Yes
Right Fork/Twomile Creek	WVK-41-E	Fecal Coliform	Unknown	4.6	Entire length	2005	No
Edens Fork	WVK-41-E-1	CNA-Biological	Unknown	2.4	Entire length	2005	Yes
		Fecal Coliform	Unknown	2.4	Entire length	2005	No
Sheldon Rock Branch	WVK-41-E-1-A	Fecal Coliform	Unknown	1.8	Entire length	2005	No
Holmes Branch	WVK-41-E-2	CNA-Biological	Unknown	1.7	From mouth to RM 1.7	2005	Yes
		Fecal Coliform	Unknown	1.8	Entire length	2005	No

2004 Section 303(d) List

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Trace Fork	WVK-41-E-2.5	Fecal Coliform	Unknown	1.4	Entire length	2005	No
Joplin Branch	WVK-42	CNA-Biological	Unknown	2.9	Entire length	2015	Yes
POCATALICO RIVER SUBWATERSHED							
Pocatalico River	WVKP	CNA-Biological	Unknown	16.0	From RM 45.0 to headwaters	2015	No
Heizer Creek	WVKP-1	Iron	Mine Drainage	3.6	From mouth to RM 3.6	2005	Yes
		Manganese	Mine Drainage	3.6	From mouth to RM 3.6	2005	Yes
Manila Creek	WVKP-1-A	Aluminum (dis)	Unknown	3.4	From mouth to RM 3.4	2005	No
		CNA-Biological	Unknown	7.4	Entire length	2005	No
		Iron	Mine Drainage	3.4	From mouth to RM 3.4	2005	Yes
		Manganese	Mine Drainage	3.4	From mouth to RM 3.4	2005	Yes
		pH	Mine Drainage	3.4	From mouth to RM 3.4	2005	Yes
Sulphur Hollow	WVKP-1-A-0.4	Aluminum (dis)	Unknown	0.6	Entire length	2005	No
		Iron	Unknown	0.6	Entire length	2005	No
		Manganese	Unknown	0.6	Entire length	2005	No
		pH	Unknown	0.6	Entire length	2005	No
UNT/Manila Creek RM 2.3 (#4 Hollow)	WVKP-1-A-0.48	Aluminum (dis)	Unknown	0.2	Entire length	2005	No
		Iron	Unknown	0.2	Entire length	2005	No
		Manganese	Unknown	0.2	Entire length	2005	No
		pH	Unknown	0.2	Entire length	2005	No
Washington Hollow	WVKP-1-A-0.5	Iron	Unknown	0.7	Entire length	2005	No
Alcocks Hollow	WVKP-1-A-0.6	Aluminum (dis)	Unknown	0.6	Entire length	2005	No
		Iron	Unknown	0.6	Entire length	2005	No
		Manganese	Unknown	0.6	Entire length	2005	No
		pH	Unknown	0.6	Entire length	2005	No

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Manila Creek RM 3.2	WVKP-1-A-0.8	Iron	Unknown	1.2	Entire length	2005	No
		Manganese	Unknown	1.2	Entire length	2005	No
Coal Hollow	WVKP-1-A.3	Aluminum (dis)	Unknown	1.2	Entire length	2005	No
		Manganese	Unknown	1.2	Entire length	2005	No
		pH	Unknown	1.2	Entire length	2005	No
UNT/Heizer Creek RM 2.3	WVKP-1-A.6	Aluminum (dis)	Unknown	0.3	Entire length	2005	No
		Iron	Unknown	0.3	Entire length	2005	No
		Manganese	Unknown	0.3	Entire length	2005	No
		pH	Unknown	0.3	Entire length	2005	No
Harmond Creek	WVKP-4	CNA-Biological	Unknown	2.8	Entire length	2015	Yes
Rocky Fork	WVKP-5	CNA-Biological	Unknown	6.9	Entire length	2015	Yes
Spring Branch	WVKP-9-A	CNA-Biological	Unknown	1.4	Entire length	2015	Yes
Tupper Creek	WVKP-13	Aluminum (dis)	Unknown	5.8	From mouth to RM 5.8	2005	No
		CNA-Biological	Unknown	6.8	Entire length	2005	Yes
		Fecal Coliform	Unknown	6.8	Entire length	2005	No
		Iron	Mine Drainage	5.8	From mouth to RM 5.8	2005	Yes
		Manganese	Mine Drainage	4.1	From RM 2.7 to headwaters	2005	Yes
		pH	Mine Drainage	3.1	From RM 2.7 to RM 5.8	2005	Yes
Legg Fork	WVKP-13-A	Fecal Coliform	Unknown	4.9	Entire length	2005	No
Sigman Fork	WVKP-13-A-1	Fecal Coliform	Unknown	3.3	Entire length	2005	No
Union Fork	WVKP-13-C.5	Aluminum (dis)	Unknown	1.7	Entire length	2005	No
		Fecal Coliform	Unknown	1.7	Entire length	2005	No
		Iron	Unknown	1.7	Entire length	2005	No
		Manganese	Unknown	1.7	Entire length	2005	No
		pH	Unknown	1.7	Entire length	2005	No

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Union Fork RM 0.2	WVKP-13-C.5-1	Aluminum (dis)	Unknown	1.0	Entire length	2005	No
		Fecal Coliform	Unknown	1.0	Entire length	2005	No
		Iron	Unknown	1.0	Entire length	2005	No
		Manganese	Unknown	1.0	Entire length	2005	No
		pH	Unknown	1.0	Entire length	2005	No
Broadtree Run	WVKP-16-B	CNA-Biological	Unknown	1.7	Entire length	2015	Yes
Raccoon Creek	WVKP-20	CNA-Biological	Unknown	3.0	Entire length	2015	Yes
Leatherwood Creek	WVKP-22	CNA-Biological	Unknown	4.2	Entire length	2015	No
Camp Creek	WVKP-26	CNA-Biological	Unknown	2.2	Entire length	2015	Yes
Anderson Lick Run	WVKP-28-E	CNA-Biological	Unknown	1.3	Entire length	2015	Yes

NORTH BRANCH POTOMAC WATERSHED - HUC# 02070002 - *24 streams 95 miles*

Patterson Creek	WVPNB-4	CNA-Biological	Unknown	25.2	From RM 32.2 to headwaters	2015	No
Pargut Run	WVPNB-4-J-1	CNA-Biological	Unknown	3.4	Entire length	2015	Yes
Mill Creek	WVPNB-4-S	CNA-Biological	Unknown	5.6	From mouth to RM 5.6	2015	Yes
UNT/UNT RM 0.5/New Creek RM 4.3	WVPNB-7-C.4-1	CNA-Biological	Unknown	0.7	Entire length	2015	Yes
Slaughterhouse Run	WVPNB-10	CNA-Biological	Unknown	2.2	Entire length	2005	No
		Manganese	Mine Drainage	2.2	Entire length	2005	Yes
Montgomery Run	WVPNB-11	Aluminum (dis)	Unknown	2.8	Entire length	2005	No
		CNA-Biological	Unknown	2.8	Entire length	2005	No
		Iron	Mine Drainage	1.4	From mouth to RM 1.4	2005	Yes
		pH	Mine Drainage	2.8	Entire length	2005	Yes

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Montgomery Run RM 1.4	WVPNB-11-A	Aluminum (dis)	Unknown	0.4	Entire length	2005	No
		Manganese	Unknown	0.4	Entire length	2005	No
		pH	Unknown	0.4	Entire length	2005	No
Piney Swamp Run	WVPNB-12	Aluminum (dis)	Unknown	5.5	Entire length	2005	No
		CNA-Biological	Unknown	3.2	From mouth to RM 3.2	2005	No
		Iron	Mine Drainage	3.2	From mouth to RM 3.2	2005	Yes
		Manganese	Mine Drainage	5.5	Entire length	2005	Yes
		pH	Mine Drainage	5.5	Entire length	2005	Yes
UNT/Piney Swamp Run RM 0.7	WVPNB-12-B	Aluminum (dis)	Unknown	0.4	Entire length	2005	No
		Manganese	Unknown	0.4	Entire length	2005	No
		pH	Unknown	0.4	Entire length	2005	No
UNT/Piney Swamp Run RM 1.8	WVPNB-12-E	Aluminum (dis)	Unknown	0.2	Entire length	2005	No
		Iron	Unknown	0.2	Entire length	2005	No
		Manganese	Unknown	0.2	Entire length	2005	No
		pH	Unknown	0.2	Entire length	2005	No
UNT/Piney Swamp Run RM 2.2	WVPNB-12-F	Aluminum (dis)	Unknown	0.7	Entire length	2005	No
		Iron	Unknown	0.7	Entire length	2005	No
		Manganese	Unknown	0.7	Entire length	2005	No
		pH	Unknown	0.7	Entire length	2005	No

2004 Section 303(d) List

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Abram Creek	WVPNB-16	Aluminum (dis)	Unknown	18.5	Entire length	2005	No
		CNA-Biological	Unknown	18.5	Entire length	2005	Yes
		Iron	Mine Drainage	9.5	From RM 9.0 to headwaters	2005	Yes
		Manganese	Mine Drainage	18.5	Entire length	2005	Yes
		pH	Mine Drainage	18.5	Entire length	2005	Yes
UNT/Abrams Creek RM 1.9	WVPNB-16-0.5A	CNA-Biological	Unknown	1.5	Entire length	2005	Yes
Emory Creek	WVPNB-16-A	Aluminum (dis)	Unknown	2.3	Entire length	2005	No
		CNA-Biological	Unknown	2.3	Entire length	2005	Yes
		Iron	Mine Drainage	2.3	Entire length	2005	Yes
		Manganese	Mine Drainage	2.3	Entire length	2005	Yes
		pH	Mine Drainage	2.3	Entire length	2005	Yes
UNT/Emory Creek RM 0.8	WVPNB-16-A-1	Aluminum (dis)	Unknown	1.0	Entire length	2005	No
		Manganese	Unknown	1.0	Entire length	2005	No
		pH	Unknown	1.0	Entire length	2005	No
Glade Run	WVPNB-16-B.5	Aluminum (dis)	Unknown	0.4	From mouth to RM 0.4	2005	No
		Iron	Mine Drainage	0.4	From mouth to RM 0.4	2005	Yes
		Manganese	Mine Drainage	0.4	From mouth to RM 0.4	2005	Yes
		pH	Mine Drainage	0.4	From mouth to RM 0.4	2005	Yes
UNT/Glade Run RM 0.3	WVPNB-16-B.5-1	Aluminum (dis)	Unknown	1.1	Entire length	2005	No
		Iron	Unknown	1.1	Entire length	2005	No
		Manganese	Unknown	1.1	Entire length	2005	No
		pH	Unknown	1.1	Entire length	2005	No
Laurel Run	WVPNB-16-C	Aluminum (dis)	Unknown	3.0	Entire length	2005	No
		Manganese	Unknown	3.0	Entire length	2005	No
		pH	Unknown	3.0	Entire length	2005	No

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Abrams Creek RM 13.6	WVPNB-16-C.4	Aluminum (dis)	Unknown	0.9	Entire length	2005	No
		Manganese	Unknown	0.9	Entire length	2005	No
		pH	Unknown	0.9	Entire length	2005	No
UNT/Abrams Creek RM 15.9	WVPNB-16-C.8	Aluminum (dis)	Unknown	1.1	Entire length	2005	No
		Iron	Unknown	1.1	Entire length	2005	No
		Manganese	Unknown	1.1	Entire length	2005	No
		pH	Unknown	1.1	Entire length	2005	No
Little Creek	WVPNB-16-D	Aluminum (dis)	Unknown	0.7	Entire length	2005	No
		Iron	Mine Drainage	0.7	Entire length	2005	Yes
		Manganese	Mine Drainage	0.7	Entire length	2005	Yes
		pH	Mine Drainage	0.7	Entire length	2005	Yes
Stony River	WVPNB-17	Aluminum (dis)	Unknown	14.7	From mouth to RM 14.7 (Mount Storm Lake)	2015	No
Little Buffalo Creek	WVPNB-19-A	Aluminum (dis)	Unknown	0.6	From mouth to RM 0.6	2005	No
		Iron	Unknown	0.6	From mouth to RM 0.6	2005	No
		pH	Unknown	0.6	From mouth to RM 0.6	2005	No
Elk Run	WVPNB-22-A	Iron	Unknown	1.7	From mouth to RM 1.7	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
TYGART VALLEY WATERSHED - HUC# 05020001 - *39 streams 403 miles 1 Lake 1750 acres*							
Tygart Valley River	WVMT	Aluminum (dis)	Unknown	134.7	Entire length	2015	No
		Fecal Coliform	Unknown	78.7	From RM 65.1 to headwaters	2015	No
		Mercury	Unknown	49.8	From Tygart Lake (RM 33.2) to Elkins (RM 83)	2015	No
Tygart Lake	WVMT-(L1)	Mercury	Unknown	1750.0	Entire length	2015	No
Wickwire Run	WVMT-8	CNA-Biological	Unknown	8.0	Entire length	2015	Yes
Three Fork Creek	WVMT-12	Aluminum (dis)	Unknown	19.0	Entire length	2015	No
Raccoon Creek	WVMT-12-C	Aluminum (dis)	Unknown	8.8	Entire length	2015	No
Little Sandy Creek	WVMT-18-E	Aluminum (dis)	Unknown	10.6	Entire length	2015	No
		CNA-Biological	Unknown	10.6	Entire length	2015	No
Sugar Creek	WVMT-24-C	CNA-Biological	Unknown	12.0	Entire length	2015	No
Long Run	WVMT-24-C-4	CNA-Biological	Unknown	1.6	Entire length	2015	No
Hackers Creek	WVMT-26	CNA-Biological	Unknown	4.6	Entire length	2015	No
Foxgrape Run	WVMT-26-B	CNA-Biological	Unknown	3.4	Entire length	2015	No
Little Laurel Run	WVMT-40-A	pH	Unknown	3.8	Entire length	2015	Yes
Roaring Creek	WVMT-42	Aluminum (dis)	Unknown	15.0	Entire length	2015	No
UNT/Roaring Creek	WVMT-42-F	pH	Unknown	1.2	Entire length	2015	Yes
Craven Run	WVMT-43-A	CNA-Biological	Unknown	5.6	Entire length	2015	Yes
Davis Lick	WVMT-43-H	CNA-Biological	Unknown	3.8	Entire length	2015	Yes
Laurel Run	WVMT-43-O	CNA-Biological	Unknown	2.5	Entire length	2015	Yes
Glade Run	WVMT-64-C	Iron	Unknown	1.8	Entire length	2015	Yes
		pH	Unknown	1.8	Entire length	2015	Yes
Meatbox Run	WVMT-64-E	pH	Unknown	1.3	Entire length	2015	Yes
Potatohole Fork	WVMT-64-F	pH	Unknown	2.0	Entire length	2015	Yes
Riffle Creek	WVMT-66	CNA-Biological	Unknown	1.5	From mouth to RM 1.5	2015	Yes

2004 Section 303(d) List

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
BUCKHANNON RIVER SUBWATERSHED							
Buckhannon River	WVMTB	Aluminum (dis)	Unknown	48.6	From mouth to Right/Left Forks	2015	No
Childers Run	WVMTB-9	CNA-Biological	Unknown	2.3	Entire length	2015	Yes
Cutright Run	WVMTB-17	pH	Unknown	4.2	Entire length	2015	Yes
Sawmill Run	WVMTB-20	CNA-Biological	Unknown	1.6	Entire length	2015	No
Right Fork/Tenmile Creek	WVMTB-25-A	pH	Unknown	4.0	Entire length	2015	Yes
Marsh Fork	WVMTB-31-J	pH	Unknown	5.5	Entire length	2015	Yes
Smooth Rocklick Run	WVMTB-32-A	pH	Unknown	2.0	Entire length	2015	Yes
Bearcamp Run	WVMTB-32-D	pH	Unknown	5.5	Entire length	2015	Yes
Beech Run	WVMTB-32-H	pH	Unknown	5.2	Entire length	2015	Yes
MIDDLE FORK RIVER SUBWATERSHED							
Middle Fork River	WVMTM	Aluminum (dis)	Unknown	36.6	Entire length	2015	No
Laurel Run	WVMTM-2	pH	Unknown	2.0	Entire length	2015	Yes
Hooppole Run	WVMTM-3	CNA-Biological	Unknown	1.6	Entire length	2015	Yes
Service Run	WVMTM-5	pH	Unknown	1.0	Entire length	2015	Yes
Short Run	WVMTM-7	pH	Unknown	1.7	Entire length	2015	Yes
Right Fork Middle Fork River	WVMTM-11	Iron	Unknown	15.3	Entire length	2015	No
Cassity Fork	WVMTM-16	pH	Unknown	3.5	From RM 3.0 to headwaters	2015	Yes
Three Forks Run	WVMTM-17	CNA-Biological	Unknown	2.6	Entire length	2015	Yes
Birch Fork	WVMTM-26	pH	Unknown	6.6	Entire length	2015	Yes
Rocky Run	WVMTM-26-B	CNA-Biological	Unknown	5.8	Entire length	2015	Yes
Kittle Creek	WVMTM-28	pH	Unknown	6.2	Entire length	2015	Yes

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
HYDROLOGIC GROUP C							
GAULEY WATERSHED - HUC# 05050005 - *57 streams 441 miles 1 Lake 2700 acres*							
Gauley River	WVKG	Aluminum (dis)	Unknown	37.2	From mouth to RM 37.2 (Summersville Dam)	2016	No
Summersville Lake	WVKG-(L1)	Mercury	Unknown	2700.0	Entire length	2016	No
Scrabble Creek	WVKG-1	CNA-Biological	Unknown	3.1	Entire length	2006	Yes
		Iron	Mine Drainage	3.1	Entire length	2006	Yes
		Manganese	Mine Drainage	3.1	Entire length	2006	Yes
Twentymile Creek	WVKG-5	Aluminum (dis)	Unknown	27.1	Entire length	2016	No
Open Fork	WVKG-5-B-1	CNA-Biological	Unknown	5.7	Entire length	2006	Yes
Hughes Fork	WVKG-5-B-4	Selenium	Unknown	3.0	Entire length	2006	Yes
Campbell Fork	WVKG-5-B-7	CNA-Biological	Unknown	2.1	Entire length	2006	Yes
Rockcamp Fork	WVKG-5-F	CNA-Biological	Unknown	4.4	Entire length	2006	Yes
Spring Branch	WVKG-5-F-1	CNA-Biological	Unknown	1.2	Entire length	2006	Yes
Robinson Fork	WVKG-5-P	CNA-Biological	Unknown	3.6	Entire length	2006	Yes
Lick Branch	WVKG-6-A	CNA-Biological	Unknown	1.3	Entire length	2006	Yes
Peters Creek	WVKG-13	Fecal Coliform	Unknown	17.7	Entire length	2006	Yes
		Iron	Mine Drainage	17.7	Entire length	2006	Yes
		Manganese	Mine Drainage	17.7	Entire length	2006	Yes
Jerry Fork	WVKG-13-F	Iron	Mine Drainage	2.4	Entire length	2006	Yes
		Manganese	Mine Drainage	2.4	Entire length	2006	Yes
Buck Garden Creek	WVKG-13-K	Iron	Mine Drainage	5.1	Entire length	2006	Yes
		Manganese	Mine Drainage	5.1	Entire length	2006	Yes
Meadow River	WVKG-19	Fecal Coliform	Unknown	68.8	Entire length	2016	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Sewell Creek	WVKG-19-Q	Iron	Mine Drainage	14.1	Entire length	2006	Yes
		Manganese	Mine Drainage	14.1	Entire length	2006	Yes
Gould Hollow	WVKG-19-Q-5	CNA-Biological	Unknown	1.8	Entire length	2006	Yes
Briery Creek	WVKG-19-U-2-A	Manganese	Unknown	1.5	Entire length	2006	Yes
		pH	Unknown	1.5	Entire length	2006	Yes
Little Clear Creek	WVKG-19-V	Iron	Mine Drainage	16.3	Entire length	2006	Yes
		Manganese	Mine Drainage	16.3	Entire length	2006	Yes
Cutlip Branch	WVKG-19-V-4	pH	Unknown	1.3	Entire length	2006	Yes
Hominy Creek	WVKG-24	Iron	Mine drainage	1.8	From RM 17.3 to RM 19.1	2016	No
Brushy Meadow Creek	WVKG-24-E-2	Iron	Mine Drainage	6.0	Entire length	2006	Yes
		Manganese	Mine Drainage	6.0	Entire length	2006	Yes
Colt Branch	WVKG-24-I	Iron	Mine Drainage	2.2	Entire length	2006	Yes
		Manganese	Mine Drainage	2.2	Entire length	2006	Yes
Muddlety Creek	WVKG-26	Iron	Mine Drainage	27.0	Entire length	2006	Yes
		Manganese	Mine Drainage	27.0	Entire length	2006	Yes
Jones Run	WVKG-26-B-2	CNA-Biological	Unknown	1.6	Entire length	2006	Yes
Fockler Branch	WVKG-26-E	Iron	Mine Drainage	2.7	Entire length	2006	Yes
		Manganese	Mine Drainage	2.7	Entire length	2006	Yes
McMillion Creek	WVKG-26-I	Iron	Mine Drainage	7.0	Entire length	2006	Yes
		Manganese	Mine Drainage	7.0	Entire length	2006	Yes
Lower Spruce Run	WVKG-26-K-1	Iron	Mine Drainage	1.6	Entire length	2006	Yes
		Manganese	Mine Drainage	1.6	Entire length	2006	Yes
Spruce Run	WVKG-26-K-1-A	Iron	Mine Drainage	1.5	Entire length	2006	Yes
		Manganese	Mine Drainage	1.5	Entire length	2006	Yes
Clear Fork	WVKG-26-O	Iron	Mine Drainage	4.0	Entire length	2006	Yes
		Manganese	Mine Drainage	4.0	Entire length	2006	Yes

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Persinger Creek	WVKG-27	Iron	Mine Drainage	4.9	Entire length	2006	Yes
		Manganese	Mine Drainage	4.9	Entire length	2006	Yes
Big Beaver Creek	WVKG-30	Iron	Mine Drainage	16.4	Entire length	2006	Yes
		Manganese	Mine Drainage	16.4	Entire length	2006	Yes
Little Beaver Creek	WVKG-30-E	CNA-Biological	Unknown	6.0	Entire length	2006	Yes
		Iron	Mine Drainage	6.0	Entire length	2006	Yes
		Manganese	Mine Drainage	6.0	Entire length	2006	Yes
Bearpen Fork	WVKG-30-L	CNA-Biological	Unknown	2.5	Entire length	2006	Yes
		Iron	Mine Drainage	2.5	Entire length	2006	Yes
		Manganese	Mine Drainage	2.5	Entire length	2006	Yes
Lower Laurel Run	WVKG-30-N	CNA-Biological	Unknown	1.6	Entire length	2006	Yes
Little Laurel Creek	WVKG-31	CNA-Biological	Unknown	3.6	Entire length	2006	Yes
Windy Run	WVKG-34-H-8	pH	Unknown	2.0	Entire length	2006	Yes
Armstrong Run	WVKG-34-H-9	pH	Unknown	1.3	Entire length	2006	Yes
Carpenter Run	WVKG-34-H-11.5	pH	Unknown	1.3	Entire length	2006	Yes
Turkey Creek	WVKG-60	pH	Unknown	5.1	Entire length	2006	Yes
Right Fork/Turkey Creek	WVKG-60-A	pH	Unknown	2.4	Entire length	2006	Yes
Big Run	WVKG-70	pH	Unknown	4.4	Entire length	2006	Yes
CRANBERRY RIVER SUBWATERSHED							
Cranberry River	WVKGC	Aluminum (dis)	Unknown	27.6	Entire length	2016	No
Barrenshe Run	WVKGC-4	pH	Unknown	3.0	Entire length	2006	Yes
Aldrich Branch	WVKGC-9	pH	Unknown	2.5	Entire length	2006	Yes
Lick Branch	WVKGC-14	pH	Unknown	2.1	Entire length	2006	Yes
Little Rough Run	WVKGC-17.3	pH	Unknown	1.2	Entire length	2006	Yes
Cold Run	WVKGC-18	pH	Unknown	1.5	Entire length	2006	Yes
Dogway Fork	WVKGC-19	pH	Unknown	8.6	Entire length	2006	Yes

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Birchlog Run	WVKGC-21	pH	Unknown	2.3	Entire length	2006	Yes
Tumbling Rock Run	WVKGC-22	pH	Unknown	2.4	Entire length	2006	Yes
North Fork/Cranberry River	WVKGC-24	pH	Unknown	4.0	From mouth to RM 4.0	2006	Yes
Left Fork/North Fork/Cranberry River	WVKGC-24-C	pH	Unknown	1.0	Entire length	2006	Yes
WILLIAMS RIVER SUBWATERSHED							
Williams River	WVKGW	Aluminum (dis)	Unknown	34.9	Entire length	2016	No
		pH	Unknown	34.1	From RM 0.8 to headwaters	2016	No
Craig Run	WVKGW-1	pH	Unknown	3.0	Entire length	2006	Yes
Middle Fork	WVKGW-10	pH	Unknown	12.9	Entire length	2006	Yes
Tea Creek	WVKGW-20	pH	Unknown	5.7	Entire length	2006	Yes
Sugar Creek	WVKGW-21	Aluminum (dis)	Unknown	3.8	Entire length	2006	No
		pH	Unknown	3.8	Entire length	2006	Yes
LOWER GUYANDOTTE WATERSHED - HUC# 05070102 - *28 streams 170 miles*							
Davis Creek	WVOG-3	CNA-Biological	Unknown	2.8	Entire length	2016	Yes
Merritt Creek	WVOG-10	CNA-Biological	Unknown	3.3	Entire length	2016	Yes
Smith Creek	WVOG-11	CNA-Biological	Unknown	3.7	Entire length	2016	Yes
Madison Creek	WVOG-17	CNA-Biological	Unknown	4.0	Entire length	2016	No
Lick Branch	WVOG-34-A	CNA-Biological	Unknown	2.3	Entire length	2016	Yes
Aarons Creek	WVOG-35	CNA-Biological	Unknown	3.0	Entire length	2016	Yes
Dry Run	WVOG-41	CNA-Biological	Unknown	1.3	Entire length	2016	Yes
Short Bend Fork	WVOG-42-A	CNA-Biological	Unknown	1.2	Entire length	2016	Yes
Laurel Fork	WVOG-42-C	CNA-Biological	Unknown	1.7	Entire length	2016	Yes
Bulwark Branch	WVOG-44-K	CNA-Biological	Unknown	1.6	Entire length	2016	No
Vickers Branch	WVOG-49-C	CNA-Biological	Unknown	1.2	Entire length	2016	Yes

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Big Creek	WVOG-49-C.1	CNA-Biological	Unknown	0.3	Entire length	2016	Yes
Perrys Branch	WVOG-49-E-1	CNA-Biological	Unknown	1.0	Entire length	2016	Yes
South Fork	WVOG-51-G.5	CNA-Biological	Unknown	1.8	Entire length	2016	Yes
Fowler Branch	WVOG-51.5	CNA-Biological	Unknown	1.1	Entire length	2016	Yes
Mill Creek	WVOG-59	CNA-Biological	Unknown	2.4	Entire length	2016	Yes
MUD RIVER SUBWATERSHED							
Mud River	WVOGM	CNA-Biological	Unknown	79.0	Entire length	2016	Yes
Little Cabell Creek	WVOGM-3	CNA-Biological	Unknown	3.3	Entire length	2016	Yes
Right Fork/Mill Creek	WVOGM-8-C	CNA-Biological	Unknown	2.8	Entire length	2016	Yes
Indian Fork	WVOGM-12	CNA-Biological	Unknown	6.5	Entire length	2016	Yes
Trace Fork	WVOGM-20	CNA-Biological	Unknown	17.9	From RM 6.4 to headwaters	2016	Yes
Coon Creek	WVOGM-20-A	CNA-Biological	Unknown	3.3	Entire length	2016	Yes
Straight Fork	WVOGM-22-A	CNA-Biological	Unknown	1.9	Entire length	2016	Yes
Meadow Branch	WVOGM-25-A	CNA-Biological	Unknown	1.8	Entire length	2016	Yes
Valley Fork	WVOGM-25-H-1	CNA-Biological	Unknown	2.9	Entire length	2016	Yes
Sugartree Fork	WVOGM-25-I	CNA-Biological	Unknown	3.0	From mouth to RM 3.0	2016	Yes
Left Fork/Mud River	WVOGM-39	CNA-Biological	Unknown	12.2	Entire length	2016	No
Ballard Fork	WVOGM-49	CNA-Biological	Unknown	2.3	Entire length	2016	Yes

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
MIDDLE OHIO NORTH WATERSHED - HUC# 05030201 - *14 streams 243 miles*							
Ohio River (Middle North)	WVO-mn	Dioxin	Unknown	58.4	Ohio R from mp 172.2 (mouth of Muskingham R) to mp 113.8 (mouth of Fish Creek)	2012	No
		Bacteria	Unknown	58.4	Ohio R from mp 172.2 (mouth of Muskingham R) to mp 113.8 (mouth of Fish Creek)	2012	No
		Phenols	Unknown	10.5	Ohio R from mp 172.2 (mouth of Muskingham R) to mp 161.7	2012	No
French Creek	WVO-57	CNA-Biological	Unknown	7.6	Entire length	2016	No
Little Fishing Creek	WVO-69-C	CNA-Biological	Unknown	5.6	From mouth to RM 5.6	2016	Yes
South Fork	WVO-69-N	CNA-Biological	Unknown	20.4	Entire length	2016	Yes
MIDDLE ISLAND CREEK SUBWATERSHED							
Middle Island Creek	WVOMI	CNA-Biological	Unknown	56.3	From RM 22.4 to headwaters	2016	No
		Fecal Coliform	Unknown	78.7	Entire length	2016	Yes
		Iron	Unknown	78.7	Entire length	2016	Yes
		Mercury	Unknown	78.7	Entire length	2016	No
Elk Fork	WVOMI-23-B	CNA-Biological	Unknown	14.8	Entire length	2016	Yes
Mudlick Run	WVOMI-23-B-3	CNA-Biological	Unknown	2.1	Entire length	2016	Yes
Peach Fork	WVOMI-23-G	CNA-Biological	Unknown	0.4	From mouth to RM 0.4	2016	Yes
Indian Creek	WVOMI-29	CNA-Biological	Unknown	3.8	From mouth to RM 3.8	2016	Yes

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Big Run	WVOMI-29-A	CNA-Biological	Unknown	4.9	Entire length	2016	Yes
McElroy Creek	WVOMI-30	CNA-Biological	Unknown	22.1	Entire length	2016	Yes
Wilhelm Run	WVOMI-40-E	CNA-Biological	Unknown	3.5	Entire length	2016	Yes
Meathouse Fork	WVOMI-46	CNA-Biological	Unknown	15.4	From mouth to RM 15.4	2016	Yes
Buckeye Run	WVOMI-47-C	CNA-Biological	Unknown	5.4	Entire length	2016	No
MIDDLE OHIO SOUTH WATERSHED - HUC# 05030202 - *12 streams 177 miles 1 Lake 278 acres*							
Ohio River (Middle South)	WVO-ms	Bacteria	Unknown	16.1	From mp 255.5 to mp 250.4 and from mp 183.5 to mp 172.2 (mouth of Muskingham R)	2012	No
		Dioxin	Unknown	65.3	From mp 237.5 to mp 172.2 (mouth of Muskingham R)	2012	No
		CNA-Biological	Unknown	1.8	From mp 262.1 to mp 260.3	2012	No
UNT/Robinson Run	WVO-21-B-0.9	CNA-Biological	Unknown	0.2	Entire length	2016	No
		Iron	Unknown	0.2	Entire length	2016	Yes
		Manganese	Unknown	0.2	Entire length	2016	Yes
Sliding Hill Creek	WVO-24	CNA-Biological	Unknown	4.8	Entire length	2016	Yes
Little Mill Creek	WVO-31	CNA-Biological	Unknown	10.0	Entire length	2016	Yes
Grasslick Creek	WVO-32-L-7	CNA-Biological	Unknown	10.3	From RM 3.0 to headwaters	2016	Yes
Elk Fork Lake	WVO-32-M-(L1)	Mercury	Unknown	278.0	Entire length	2016	No
Spring Creek	WVO-33	CNA-Biological	Unknown	2.5	Entire length	2016	Yes

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Sandy Creek	WVO-36	CNA-Biological	Unknown	22.0	Entire length	2016	Yes
Nesselroad Run	WVO-36-J-5	CNA-Biological	Unknown	7.6	Entire length	2016	Yes
Pond Creek	WVO-43	CNA-Biological	Unknown	5.8	From mouth to RM 5.8	2016	Yes
South Fork	WVO-44-A	CNA-Biological	Unknown	11.2	Entire length	2016	Yes
North Fork	WVO-44-B	CNA-Biological	Unknown	20.0	Entire length	2016	Yes
Big Run	WVO-50	CNA-Biological	Unknown	10.1	Entire length	2016	Yes
POTOMAC DIRECT DRAINS WATERSHED - HUC# 02070004 - *15 streams 107 miles*							
Elk Branch	WVP-1-A	CNA-Biological	Unknown	4.5	Entire length	2006	Yes
UNT/Potomac River RM 12.8 (	WVP-2.2	CNA-Biological	Unknown	1.5	Entire length	2006	Yes
Opequon Creek	WVP-4	Aluminum (dis)	Unknown	30.7	Entire length	2016	No
		CNA-Biological	Unknown	30.7	Entire length	2006	Yes
		Fecal Coliform	Unknown	30.7	Entire length	2006	Yes
Eagle Run	WVP-4-B	CNA-Biological	Unknown	1.2	Entire length	2006	Yes
Tuscarora Creek	WVP-4-C	CNA-Biological	Unknown	11.6	Entire length	2006	Yes
Dry Run	WVP-4-C-1	CNA-Biological	Unknown	4.6	Entire length	2006	Yes
Evans Run	WVP-4-D	CNA-Biological	Unknown	5.8	Entire length	2006	Yes
Hopewell Run	WVP-4-I	CNA-Biological	Unknown	3.5	Entire length	2006	Yes
Middle Creek	WVP-4-J	CNA-Biological	Unknown	11.7	Entire length	2006	Yes
Goose Creek	WVP-4-J-1	CNA-Biological	Unknown	3.0	Entire length	2006	Yes
Mill Creek	WVP-4-M	CNA-Biological	Unknown	11.4	Entire length	2006	Yes
Sylvan Run	WVP-4-M-1	CNA-Biological	Unknown	4.5	Entire length	2006	Yes
Torytown Run	WVP-4-M-2	CNA-Biological	Unknown	2.4	Entire length	2006	Yes
Silver Spring Run	WVP-4-P	CNA-Biological	Unknown	3.2	Entire length	2006	Yes
Harlan Run	WVP-5	CNA-Biological	Unknown	7.2	Entire length	2006	Yes

2004 Section 303(d) List

TUG FORK WATERSHED - HUC# 05070201 - *13 streams 175 miles*

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Tug Fork River	WVBST	CNA-Biological	Unknown	103.4	RM 51.6 to headwaters	2016	Yes
Silver Creek	WVBST-16	CNA-Biological	Unknown	2.5	Entire length	2016	Yes
Pigeon Creek	WVBST-24	Aluminum (dis)	Unknown	32.0	Entire length	2016	No
Rockhouse Fork	WVBST-24-Q	Aluminum (dis)	Unknown	9.6	Entire length	2016	No
Mate Creek	WVBST-40	Aluminum (dis)	Unknown	9.9	Entire length	2016	No
Sulphur Creek	WVBST-41	CNA-Biological	Unknown	1.7	Entire length	2016	Yes
Greenbrier Fork	WVBST-60-A	CNA-Biological	Unknown	3.5	Entire length	2016	Yes
Grapevine Branch	WVBST-70-F	CNA-Biological	Unknown	1.8	Entire length	2016	Yes
Wolfpen Branch	WVBST-70-M-3	CNA-Biological	Unknown	1.6	Entire length	2016	No
Mountain Fork	WVBST-70-W-1-A	CNA-Biological	Unknown	3.6	Entire length	2016	Yes
Badway Branch	WVBST-78-G	CNA-Biological	Unknown	1.3	Entire length	2016	Yes
Upper Shannon Branch	WVBST-95	CNA-Biological	Unknown	2.4	Entire length	2016	Yes
Rock Narrows Branch	WVBST-103	CNA-Biological	Unknown	1.7	Entire length	2016	Yes

HYDROLOGIC GROUP D

GREENBRIER WATERSHED - HUC# 05050003 - *9 streams 249 miles*

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Greenbrier River	WVKNG	Aluminum (dis)	Unknown	159.8	Entire length	2017	No
Muddy Creek	WVKNG-22	CNA-Biological	Unknown	20.9	Entire length	2007	Yes
Second Creek	WVKNG-23	Fecal Coliform	Unknown	28.3	Entire length	2007	Yes
Kitchen Creek	WVKNG-23-G	CNA-Biological	Unknown	6.2	Entire length	2007	No
Meadow Creek	WVKNG-28-Q	CNA-Biological	Unknown	16.0	Entire length	2007	Yes
Possum Hollow	WVKNG-53-E	CNA-Biological	Unknown	2.8	Entire length	2007	Yes
Stony Creek	WVKNG-55	CNA-Biological	Unknown	7.0	Entire length	2007	Yes
Shock Run	WVKNG-66-D	CNA-Biological	Unknown	3.8	Entire length	2007	Yes
Buffalo Run	WVKNG-68-F	CNA-Biological	Unknown	4.3	Entire length	2007	Yes

LITTLE KANAWHA WATERSHED - HUC# 05030203 - *24 streams 238 miles 1 Lake 968 acres*

Little Kanawha River	WVLK	pH	Unknown	6.9	From RM 162.1 to HW	2017	Yes
Burnsville Lake	WVLK-(L1)	Mercury	Unknown	968.0	Entire length	2017	No
Leading Creek	WVLK-40	CNA-Biological	Unknown	5.6	From mouth to RM 5.6	2017	No
Tanner Creek	WVLK-66	CNA-Biological	Unknown	15.3	Entire length	2017	No
Jones Cabin Run	WVLK-66-E-4	CNA-Biological	Unknown	1.9	Entire length	2017	Yes
Duck Creek	WVLK-82	CNA-Biological	Unknown	3.7	Entire length	2007	Yes
		Iron	Mine Drainage	3.7	Entire length	2007	Yes
		Manganese	Mine Drainage	3.7	Entire length	2007	Yes
Lynch Run	WVLK-85	CNA-Biological	Unknown	2.4	Entire length	2007	Yes
		Iron	Mine Drainage	2.4	Entire length	2007	Yes
		Manganese	Mine Drainage	2.4	Entire length	2007	Yes
Sand Fork	WVLK-86	Aluminum (dis)	Unknown	18.7	Entire length	2017	No

2004 Section 303(d) List

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Duskcamp Run	WVLK-88	CNA-Biological	Unknown	3.5	Entire length	2007	Yes
		Iron	Mine Drainage	3.5	Entire length	2007	Yes
		Manganese	Mine Drainage	3.5	Entire length	2007	Yes
Saltlick Creek	WVLK-95	Aluminum (dis)	Unknown	17.7	Entire length	2017	No
Right Fork/Little Kanawha River	WVLK-115	pH	Unknown	14.1	Entire length	2017	Yes
Left Fork/Right Fork/Little Kanawha River	WVLK-115-H	pH	Unknown	7.2	Entire length	2017	Yes
UNT/Little Kanawha River RM 171.2 (Ellis Run)	WVLK-130.5	pH	Unknown	2.6	Entire length	2017	Yes
Getout Run	WVLK-131	pH	Unknown	2.5	Entire length	2017	Yes
HUGHES RIVER SUBWATERSHED							
Hughes River	WVLKH	Mercury	Unknown	13.8	Entire length	2017	No
Goose Creek	WVLKH-4	CNA-Biological	Unknown	10.0	From mouth to RM 10.0	2017	No
South Fork	WVLKH-9	CNA-Biological	Unknown	31.0	From RM 1.0 to RM 32.0	2017	No
Indian Creek	WVLKH-9-J	CNA-Biological	Unknown	7.5	From mouth to RM 7.5	2017	Yes
Middle Fork	WVLKH-9-AA	CNA-Biological	Unknown	11.0	Entire length	2017	No
STEER CREEK SUBWATERSHED							
Rush Run	WVLKS-4	CNA-Biological	Unknown	3.0	Entire length	2017	No
Right Fork/Steer Creek	WVLKS-9	CNA-Biological	Unknown	25.4	Entire length	2017	Yes
Left Fork/Steer Creek	WVLKS-10	CNA-Biological	Unknown	24.5	Entire length	2017	Yes
Whiteoak Run	WVLKS-10-D	CNA-Biological	Unknown	1.9	Entire length	2017	Yes
Steer Run	WVLKS-10-E	CNA-Biological	Unknown	5.1	Entire length	2017	No
Bender Run	WVLKS-10-P	CNA-Biological	Unknown	2.5	Entire length	2017	Yes

2004 Section 303(d) List

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
LOWER NEW WATERSHED - HUC# 05050004 - *27 streams 242 miles*							
New River (Lower)	WVKN-lo	Aluminum (dis)	Unknown	68.2	From mouth to RM 68.2	2017	No
		Fecal Coliform	Unknown	57.0	From RM 1.2 to RM 58.2	2007	No
Osborne Creek	WVKN-7-B	CNA-Biological	Unknown	4.8	Entire length	2007	Yes
Marr Branch	WVKN-9	CNA-Biological	Unknown	2.8	Entire length	2007	Yes
		Fecal Coliform	Unknown	2.8	Entire length	2007	Yes
Wolf Creek	WVKN-10	CNA-Biological	Unknown	10.0	Entire length	2007	Yes
		Fecal Coliform	Unknown	10.0	Entire length	2007	No
Keeney Creek	WVKN-15	Fecal Coliform	Unknown	4.8	Entire length	2007	Yes
Coal Run	WVKN-16	Fecal Coliform	Unknown	2.6	Entire length	2007	Yes
UNT/Glade Creek RM 2.0	WVKN-17-A-0.5	pH	Unknown	0.7	Entire length	2007	Yes
Laurel Creek	WVKN-17-A-2	CNA-Biological	Unknown	5.8	Entire length	2007	Yes
Floyd Creek	WVKN-17-B	CNA-Biological	Unknown	3.0	Entire length	2007	Yes
		Iron	Mine Drainage	3.0	Entire length	2007	Yes
		Manganese	Mine Drainage	3.0	Entire length	2007	Yes
Arbuckle Creek	WVKN-21	CNA-Biological	Unknown	6.2	Entire length	2007	Yes
		Fecal Coliform	Unknown	6.2	Entire length	2007	Yes
Mill Creek	WVKN-22-K	CNA-Biological	Unknown	5.0	Entire length	2007	Yes
Slater Creek	WVKN-24	Fecal Coliform	Unknown	0.5	From mouth to RM 0.5	2007	No
Piney Creek	WVKN-26	Fecal Coliform	Unknown	33.5	Entire length	2007	Yes
Batoff Creek	WVKN-26-A	Iron	Mine Drainage	3.6	Entire length	2007	Yes
		Manganese	Mine Drainage	3.6	Entire length	2007	Yes
		pH	Mine Drainage	3.6	Entire length	2007	Yes
Cranberry Creek	WVKN-26-E	CNA-Biological	Unknown	6.0	Entire length	2007	No
Little Whitestick Creek	WVKN-26-E-1	Fecal Coliform	Unknown	4.0	Entire length	2007	Yes
Little Beaver Creek	WVKN-26-F-2	CNA-Biological	Unknown	9.9	Entire length	2007	Yes

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Whitestick Creek	WVKN-26-G	CNA-Biological	Unknown	5.9	Entire length	2007	Yes
Bowyer Creek	WVKN-26-M	Iron	Mine Drainage	4.4	Entire length	2007	Yes
		Manganese	Mine Drainage	4.4	Entire length	2007	Yes
Laurel Creek	WVKN-26-N	CNA-Biological	Unknown	5.5	Entire length	2007	Yes
		Iron	Mine Drainage	5.5	Entire length	2007	Yes
		Manganese	Mine Drainage	5.5	Entire length	2007	Yes
Glade Creek	WVKN-29	CNA-Biological	Unknown	9.2	From RM 8.4 to headwaters	2007	Yes
Meadow Creek	WVKN-32	Fecal Coliform	Unknown	11.8	Entire length	2007	Yes
Farleys Creek	WVKN-34	CNA-Biological	Unknown	5.0	Entire length	2007	Yes
Lick Creek	WVKN-35	Fecal Coliform	Unknown	13.9	Entire length	2007	Yes
Red Spring Branch	WVKN-35-D	CNA-Biological	Unknown	3.8	Entire length	2007	Yes
Brooks Branch	WVKN-42	CNA-Biological	Unknown	4.6	Entire length	2007	Yes
Madam Creek	WVKN-44	Fecal Coliform	Unknown	6.2	Entire length	2007	Yes
MONONGAHELA WATERSHED - HUC# 05020003 - *15 streams 166 miles*							
Monongahela River	WVM	Fecal Coliform	Unknown	37.5	Entire length	2017	Yes
UNT/Camp Run RM 0.8	WVM-2.1-A	CNA-Biological	Unknown	1.5	Entire length	2017	Yes
Scott Run	WVM-6	Aluminum (dis)	Unknown	6.0	Entire length	2017	No
Dents Run	WVM-7	Aluminum (dis)	Unknown	9.2	Entire length	2017	No
Deckers Creek	WVM-8	Aluminum (dis)	Unknown	24.7	Entire length	2017	No
UNT/Kanes Creek RM 2.6	WVM-8-I-1	Iron	Unknown	0.8	Entire length	2017	No
		pH	Unknown	0.8	Entire length	2017	No
UNT/Deckers Creek RM 18.6	WVM-8-J	Lead	Unknown	1.5	Entire length	2017	No
Cobun Creek	WVM-9	pH	Unknown	2.4	From RM 7.9 to headwaters	2017	Yes

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Booths Creek	WVM-10	Aluminum (dis)	Unknown	9.6	Entire length	2017	No
Indian Creek	WVM-17	Aluminum (dis)	Unknown	9.4	Entire length	2017	No
		CNA-Biological	Unknown	9.4	Entire length	2017	No
		Iron	Unknown	9.4	Entire length	2017	No
Grassy Run	WVM-19-E	CNA-Biological	Unknown	2.5	Entire length	2017	Yes
Paw Paw Creek	WVM-22	Aluminum (dis)	Unknown	14.4	Entire length	2017	No
		CNA-Biological	Unknown	12.7	RM 1.7 to headwaters	2017	No
Buffalo Creek	WVM-23	Aluminum (dis)	Unknown	30.2	Entire length	2017	No
		CNA-Biological	Unknown	30.2	Entire length	2017	No
Pyles Fork	WVM-23-O	CNA-Biological	Unknown	11.0	Entire length	2017	Yes
Dents Run	WVM-23-P	CNA-Biological	Unknown	5.1	Entire length	2017	Yes
UPPER NEW WATERSHED - HUC# 05050002 - *12 streams 157 miles*							
Hans Creek	WVKN-51-D	CNA-Biological	Unknown	15.8	Entire length	2007	Yes
Adair Run	WVKN-59	CNA-Biological	Unknown	5.5	Entire length - from state border upstream to headwaters	2007	No
Dry Creek	WVKN-61-E	CNA-Biological	Unknown	6.0	Entire length	2007	Yes
BLUESTONE RIVER SUBWATERSHED							
Bluestone River	WVKNB	Fecal Coliform	Unknown	67.1	Entire length	2007	Yes
Pipestem Creek	WVKNB-1	CNA-Biological	Unknown	2.4	RM 7.2 to headwaters	2007	Yes
Little Bluestone River	WVKNB-3	Fecal Coliform	Unknown	9.2	Entire length	2007	No

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Mountain Creek	WVKNB-5	Fecal Coliform	Unknown	9.8	Entire length	2007	No
Brush Creek	WVKNB-12	CNA-Biological	Unknown	16.2	From RM 4.1 to headwaters	2007	Yes
South Fork	WVKNB-12-J	CNA-Biological	Unknown	7.0	Entire length	2007	Yes
Righthand Fork	WVKNB-28-B	CNA-Biological	Unknown	7.8	Entire length	2007	Yes
Crane Creek	WVKNB-30	CNA-Biological	Unknown	6.8	Entire length	2007	Yes
Simmons Creek	WVKNB-33	CNA-Biological	Unknown	3.0	Entire length	2007	Yes

HYDROLOGIC GROUP E

BIG SANDY WATERSHED - HUC# 05070204 - *9 streams 21 miles*

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Miller Creek	WVBS-1	CNA-Biological	Unknown	1.7	Entire length	2018	Yes
Cedar Run	WVBS-4	CNA-Biological	Unknown	1.1	RM 0.4 to headwaters (RM 1.5)	2018	No
Whites Creek	WVBS-5	Aluminum (dis)	Unknown	8.8	Entire length	2018	No
		CNA-Biological	Unknown	8.8	Entire length	2018	Yes
Balangee Branch	WVBS-5-A.9	CNA-Biological	Unknown	1.6	Entire length	2018	No
Elijah Creek	WVBS-7	CNA-Biological	Unknown	2.2	Entire length	2018	Yes
Gilkerson Branch	WVBS-7-B	CNA-Biological	Unknown	1.2	Entire length	2018	Yes
Sugar Branch	WVBS-8-0.7A	CNA-Biological	Unknown	0.8	Entire length	2018	Yes
Tabor Creek	WVBS-10	CNA-Biological	Unknown	2.6	from RM 1.0 to Headwaters	2018	No
Redhead Branch	WVBS-13	CNA-Biological	Unknown	0.7	Entire length	2018	Yes

CACAPON WATERSHED - HUC# 02070003 - *5 streams 105 miles*

Little Cacapon River	WVP-19	CNA-Biological	Unknown	23.3	From RM 5.7 to headwaters	2018	Yes
Cacapon River	WVPC	Aluminum (dis)	Unknown	70.8	Entire length	2018	No
Hiett Run	WVPC-7-C	CNA-Biological	Unknown	5.7	Entire length	2018	No
UNT/Bear Wallow Creek	WVPC-7-F-1-B	CNA-Biological	Unknown	3.4	Entire length	2018	Yes
Upper Cove Run	WVPC-24-K	CNA-Biological	Unknown	1.9	From mouth to RM 1.9	2018	Yes

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
DUNKARD WATERSHED - HUC# 05020005 - *15 streams 67 miles*							
Dunkard Creek	WVM-1	CNA-Biological	Unknown	17.9	From PA/WV border (RM 18.7) border upstream to RM 36.6 (Forks of WV and PA)	2008	Yes
		Iron	Mine Drainage	8.6	From PA/WV border (RM 18.7) border upstream to RM 27.3	2008	Yes
Dolls Run	WVM-1-A	CNA-Biological	Unknown	3.5	From mouth to RM 3.5	2018	Yes
Smoky Drain	WVM-1-A-2	CNA-Biological	Unknown	1.7	Entire length	2018	No
Ripleys Run	WVM-1-B	CNA-Biological	Unknown	0.5	Entire length	2018	Yes
Jakes Run	WVM-1-B.1	CNA-Biological	Unknown	9.2	Entire length	2018	Yes
Blacks Run	WVM-1-B.3	CNA-Biological	Unknown	0.4	Entire length	2018	Yes
Days Run	WVM-1-C	CNA-Biological	Unknown	8.4	Entire length	2018	Yes
UNT/Days Run RM 5.8	WVM-1-C-4	CNA-Biological	Unknown	1.2	Entire length	2018	Yes
UNT/Days Run RM 7.3	WVM-1-C-7	CNA-Biological	Unknown	1.6	Entire length	2018	Yes
Miracle Run	WVM-1-E	CNA-Biological	Unknown	7.6	Entire length	2018	Yes
Honey Run	WVM-1-E-2-A	CNA-Biological	Unknown	1.8	Entire length	2018	Yes
Building Run	WVM-1-E-5	CNA-Biological	Unknown	1.3	Entire length	2018	Yes
West Virginia Fork/Dunkard Creek	WVM-1-F	CNA-Biological	Unknown	5.8	From mouth to RM 5.8	2018	Yes
Wise Run	WVM-1-F-3	CNA-Biological	Unknown	2.2	Entire length	2018	Yes
Range Run	WVM-1-F-5	CNA-Biological	Unknown	3.5	Entire length	2018	Yes

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WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
LOWER OHIO WATERSHED - HUC# 05090101 - *13 streams 84 miles*							
Ohio River (Lower)	WVO-lo	Bacteria	Unknown	15.1	mp 317.1 to mp 302.0	2012	Yes
Fourpole Creek	WVO-3	CNA-Biological	Unknown	11.7	Entire length	2018	No
Sevenmile Creek	WVO-6	CNA-Biological	Unknown	5.9	Entire length	2018	Yes
Ninemile Creek	WVO-7	CNA-Biological	Unknown	3.2	From mouth to RM 3.2	2018	Yes
Guyan Creek	WVO-9	CNA-Biological	Unknown	7.2	From RM 5.3 to RM 12.5	2018	Yes
Spurlock Creek	WVO-9-A	CNA-Biological	Unknown	5.5	Entire length	2018	Yes
McCowan Branch	WVO-9-B	CNA-Biological	Unknown	2.5	Entire length	2018	Yes
Mud Run	WVO-10-D	CNA-Biological	Unknown	1.5	From mouth to RM 1.5	2018	Yes
Sixteenmile Creek	WVO-11	CNA-Biological	Unknown	13.2	From mouth to RM 13.2	2018	Yes
Stonecoal Run	WVO-11-A	CNA-Biological	Unknown	2.5	Entire length	2018	Yes
Crab Creek	WVO-13	CNA-Biological	Unknown	6.7	From mouth to RM 6.7	2018	Yes
Mud Run	WVO-13-A	CNA-Biological	Unknown	4.4	Entire length	2018	No
Middle Fork	WVO-13-D	CNA-Biological	Unknown	4.3	Entire length	2018	Yes
TWELVEPOLE WATERSHED - HUC# 05090102 - *35 streams 204 miles 1 Lake 720 acres*							
Twelvepole Creek	WVO-2	CNA-Biological	Unknown	28.8	From mouth to RM 28.8	2018	Yes
		Iron	Unknown	33.0	Entire length	2018	Yes
Krout Creek	WVO-2-0.1A	CNA-Biological	Unknown	2.4	Entire length	2018	Yes
UNT/Twelvepole Creek	WVO-2-0.8A	CNA-Biological	Unknown	2.0	Entire length	2018	Yes
Buffalo Creek	WVO-2-C	CNA-Biological	Unknown	4.5	From mouth to RM 4.5	2018	Yes
Camp Creek	WVO-2-G	CNA-Biological	Unknown	3.4	Entire length	2018	Yes
Right Fork/Camp Creek	WVO-2-G-1	CNA-Biological	Unknown	2.6	Entire length	2018	Yes
Beech Fork	WVO-2-H	CNA-Biological	Unknown	20.2	Entire length	2018	Yes
Beech Fork Lake	WVO-2-H-(L1)	Mercury	Unknown	720.0	Entire length	2018	No

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Rubens Branch	WVO-2-H-3	CNA-Biological	Unknown	1.3	From RM 0.7 to headwaters	2018	Yes
Long Branch	WVO-2-H-7	CNA-Biological	Unknown	3.6	Entire length	2018	Yes
Butler Branch	WVO-2-H-8	CNA-Biological	Unknown	1.8	Entire length	2018	Yes
Shoal Branch	WVO-2-M	CNA-Biological	Unknown	1.1	Entire length	2018	Yes
Left Fork/Wilson Creek	WVO-2-N-1	CNA-Biological	Unknown	2.2	Entire length	2018	Yes
Toms Creek	WVO-2-O	CNA-Biological	Unknown	2.6	Entire length	2018	Yes
West Fork	WVO-2-P	Aluminum (dis)	Unknown	34.2	From mouth to RM 34.2	2018	No
		CNA-Biological	Unknown	26.8	From mouth to RM 16.1 and from RM 30.2 to RM 40.9	2018	Yes
Big Branch	WVO-2-P-1	CNA-Biological	Unknown	2.2	Entire length	2018	Yes
Trace Fork	WVO-2-P-4	CNA-Biological	Unknown	4.5	Entire length	2018	Yes
Billy Branch	WVO-2-P-12	CNA-Biological	Unknown	2.8	Entire length	2018	No
Wells Branch	WVO-2-P-19	CNA-Biological	Unknown	1.7	Entire length	2018	Yes
Moses Fork	WVO-2-P-21	CNA-Biological	Unknown	3.7	From mouth to RM 3.7	2018	Yes
Right Fork/Moses Fork	WVO-2-P-21-C	CNA-Biological	Unknown	1.7	Entire length	2018	Yes
Moses Fork	WVO-2-P-43	CNA-Biological	Unknown	2.5	Entire length	2018	Yes
East Fork Twelvepole Creek	WVO-2-Q	CNA-Biological	Unknown	27.8	From RM 22.9 (East Lynn Lake) to headwaters	2018	Yes
Camp Creek	WVO-2-Q-8	Iron	Mine Drainage	1.0	Entire length	2008	Yes
		Manganese	Mine Drainage	1.0	Entire length	2008	Yes
		pH	Mine Drainage	1.0	Entire length	2008	Yes
Left Fork/Camp Creek	WVO-2-Q-8-A	Iron	Mine Drainage	4.4	Entire length	2008	Yes
		Manganese	Mine Drainage	4.4	Entire length	2008	Yes
		pH	Mine Drainage	4.4	Entire length	2008	Yes
Tiger Fork	WVO-2-Q-8-A-1	CNA-Biological	Unknown	1.7	Entire length	2018	Yes

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Right Fork/Camp Creek	WVO-2-Q-8-B	CNA-Biological	Unknown	3.6	Entire length	2018	Yes
Lynn Creek	WVO-2-Q-9	CNA-Biological	Unknown	1.9	Entire length	2018	Yes
Cove Creek	WVO-2-Q-17	CNA-Biological	Unknown	4.8	Entire length	2018	Yes
Kiah Creek	WVO-2-Q-18	CNA-Biological	Unknown	11.7	From mouth to RM 11.7	2018	Yes
Parker Branch	WVO-2-Q-18-D	CNA-Biological	Unknown	1.4	From mouth upstream 1.4 mi to impoundment	2018	Yes
Rollem Fork	WVO-2-Q-18-E	CNA-Biological	Unknown	1.9	Entire length	2018	No
Copley Trace Branch	WVO-2-Q-18-G	CNA-Biological	Unknown	0.9	From mouth to RM 0.9	2018	Yes
Maynard Branch	WVO-2-Q-23	CNA-Biological	Unknown	0.4	From mouth to impoundment (RM 0.4)	2018	Yes
Honey Branch	WVO-2-Q-29	CNA-Biological	Unknown	0.2	From mouth to impoundment (RM 0.2)	2018	Yes
Right Fork/Cub Branch	WVO-2-Q-31-A	CNA-Biological	Unknown	1.1	Entire length	2018	Yes
UPPER GUYANDOTTE WATERSHED - HUC# 05070101 - *37 streams 145 miles*							
Island Creek	WVOG-65	CNA-Biological	Unknown	18.1	Entire length	2018	Yes
Rockhouse Branch	WVOG-65-B-1-F	CNA-Biological	Unknown	2.3	Entire length	2018	Yes
Whitman Creek	WVOG-65-B-2	CNA-Biological	Unknown	6.8	Entire length	2018	Yes
Curry Branch	WVOG-65-B-5	CNA-Biological	Unknown	0.9	Entire length	2018	No
Mill Creek	WVOG-65-C	CNA-Biological	Unknown	1.6	Entire length	2018	Yes
Right Fork/Pine Creek	WVOG-65-H-1	CNA-Biological	Unknown	2.9	Entire length	2018	Yes
Cow Creek	WVOG-65-J	CNA-Biological	Unknown	6.5	Entire length	2018	Yes
Lower Dempsey Branch	WVOG-65-L.5	CNA-Biological	Unknown	1.1	Entire length	2018	No
Rum Creek	WVOG-70	Aluminum (dis)	Unknown	8.8	Entire length	2018	No
Righthand Fork	WVOG-70-A	CNA-Biological	Unknown	4.0	Entire length	2018	Yes
Camp Branch	WVOG-71.5	CNA-Biological	Unknown	1.9	Entire length	2018	Yes
Buffalo Creek	WVOG-75	CNA-Biological	Unknown	9.9	From mouth to RM 9.9	2018	Yes

2004 Section 303(d) List

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Right Fork/Buffalo Creek	WVOG-75-A	CNA-Biological	Unknown	8.1	Entire length	2018	Yes
Robinette Branch	WVOG-75-D	CNA-Biological	Unknown	1.5	Entire length	2018	Yes
Middle Fork/Buffalo Creek	WVOG-75-L	CNA-Biological	Unknown	2.2	Entire length	2018	Yes
Paynter Branch	WVOG-76-M	CNA-Biological	Unknown	2.5	Entire length	2018	Yes
Lefthand Fork	WVOG-77-D	CNA-Biological	Unknown	2.4	Entire length	2018	Yes
Right Fork/Sandlick Creek	WVOG-78-A	CNA-Biological	Unknown	1.3	Entire length	2018	Yes
Spice Creek	WVOG-82	CNA-Biological	Unknown	1.8	Entire length	2018	Yes
Stafford Branch	WVOG-88	CNA-Biological	Unknown	1.4	Entire length	2018	Yes
Browning Fork	WVOG-89-B-1	CNA-Biological	Unknown	4.4	Entire length	2018	Yes
Little Huff Creek	WVOG-92	CNA-Biological	Unknown	15.3	Entire length	2018	Yes
Little Cub Creek	WVOG-92-B	CNA-Biological	Unknown	2.8	Entire length	2018	Yes
Suke Creek	WVOG-92-M	CNA-Biological	Unknown	2.4	Entire length	2018	Yes
Long Branch	WVOG-97	CNA-Biological	Unknown	2.7	Entire length	2018	Yes
Rockcastle Creek	WVOG-123	CNA-Biological	Unknown	4.0	From mouth to RM 4.0	2018	Yes
Sugar Run	WVOG-125	CNA-Biological	Unknown	2.1	Entire length	2018	Yes
Marsh Fork	WVOG-127-D	CNA-Biological	Unknown	3.5	Entire length	2018	Yes
Mill Branch	WVOG-131-C	CNA-Biological	Unknown	2.6	Entire length	2018	Yes
Marsh Fork	WVOG-134-C	CNA-Biological	Unknown	3.9	Entire length	2018	No
Big Branch	WVOG-136	CNA-Biological	Unknown	2.0	Entire length	2018	Yes
Mullens Branch	WVOG-138-E	CNA-Biological	Unknown	1.4	Entire length	2018	Yes
Tommy Creek	WVOG-139-A	CNA-Biological	Unknown	4.8	Entire length	2018	Yes
CLEAR FORK SUBWATERSHED							
Chestnut Flats Branch	WVOGC-16-B-1	CNA-Biological	Unknown	1.0	Entire length	2018	Yes
Cabin Branch	WVOGC-16-C	CNA-Biological	Unknown	2.0	Entire length	2018	Yes
Tom Bailey Branch	WVOGC-16-J-1	CNA-Biological	Unknown	2.0	Entire length	2018	Yes
Franks Fork	WVOGC-16-U	CNA-Biological	Unknown	1.8	Entire length	2018	Yes

2004 Section 303(d) List

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UPPER OHIO SOUTH WATERSHED - HUC# 05030106 - *38 streams 191 miles*							
Ohio River (Upper South)	WVO-us	Bacteria	Unknown	42.4	Ohio River from mp 113.8 (mouth of Fish Ck) to mp 71.4 (mouth of Cross Creek)	2012	Yes
		Dioxin	Unknown	42.4	Ohio River from mp 113.8 (mouth of Fish Ck) to mp 71.4 (mouth of Cross Creek)	2012	Yes
Conner Run	WVO-77-A	CNA-Biological	Unknown	3.2	Entire length	2018	Yes
Whetstone Creek	WVO-77-E	CNA-Biological	Unknown	9.0	Entire length	2018	Yes
Lynn Camp Run	WVO-77-H	CNA-Biological	Unknown	4.0	From mouth to RM 4.0	2018	Yes
Bark Camp Run	WVO-77-H-0.8	CNA-Biological	Unknown	1.6	Entire length	2018	No
Maggoty Run	WVO-77-K	CNA-Biological	Unknown	5.2	Entire length	2018	Yes
Long Drain	WVO-77-O-8	CNA-Biological	Unknown	8.8	Entire length	2018	Yes
Grave Creek	WVO-83	CNA-Biological	Unknown	19.5	from RM 2.5 to headwaters	2018	Yes
Middle Grave Creek	WVO-83-A	CNA-Biological	Unknown	12.2	Entire length	2018	No
		Fecal Coliform	Unknown	12.2	Entire length	2018	Yes
Wells Run	WVO-83-A-1.5	Iron	Mine Drainage	1.1	Entire length	2008	Yes
		Manganese	Mine Drainage	1.1	Entire length	2008	Yes
		pH	Mine Drainage	1.1	Entire length	2008	Yes
French Run	WVO-83-B.8	CNA-Biological	Unknown	2.9	Entire length	2018	Yes
North Fork/Grave Creek	WVO-83-E	CNA-Biological	Unknown	5.0	Entire length	2018	Yes
Molleys Hollow	WVO-84-A	CNA-Biological	Unknown	1.0	Entire length	2018	No
Jim Run	WVO-85	CNA-Biological	Unknown	1.6	From mouth to RM 1.6	2018	Yes
Boggs Run	WVO-86	CNA-Biological	Unknown	4.2	Entire length	2018	Yes
Browns Run	WVO-86-A	CNA-Biological	Unknown	1.7	Entire length	2018	No

2004 Section 303(d) List

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Caldwell Run	WVO-87	CNA-Biological	Unknown	2.7	Entire length	2018	Yes
Long Run	WVO-88-B	Iron	Mine Drainage	4.3	Entire length	2008	Yes
		Manganese	Mine Drainage	4.3	Entire length	2008	Yes
		pH	Mine Drainage	4.3	Entire length	2008	Yes
Waddles Run	WVO-88-B-1	CNA-Biological	Unknown	2.8	Entire length	2008	Yes
		Iron	Mine Drainage	2.8	Entire length	2008	Yes
		Manganese	Mine Drainage	2.8	Entire length	2008	Yes
		pH	Mine Drainage	2.8	Entire length	2008	Yes
Pogue Run	WVO-88-B-2	CNA-Biological	Unknown	3.2	Entire length	2008	Yes
		Iron	Mine Drainage	3.2	Entire length	2008	Yes
		Manganese	Mine Drainage	3.2	Entire length	2008	Yes
		pH	Mine Drainage	3.2	Entire length	2008	Yes
Little Wheeling Creek	WVO-88-D	Aluminum (dis)	Unknown	10.0	Entire length	2018	No
Peters Run	WVO-88-D-1	CNA-Biological	Unknown	4.0	From RM 0.9 to headwaters	2018	Yes
Laidley Run	WVO-88-D-2-D	CNA-Biological	Unknown	1.6	Entire length	2018	Yes
Todd Run	WVO-88-D-2-F	CNA-Biological	Unknown	2.2	Entire length	2018	No
Point Run	WVO-88-D-5	CNA-Biological	Unknown	2.1	Entire length	2018	Yes
Roneys Point Run	WVO-88-D-6	CNA-Biological	Unknown	2.2	Entire length	2018	No
Britt Run	WVO-88-E.9	CNA-Biological	Unknown	1.4	From mouth to RM 1.4	2008	Yes
		Iron	Mine Drainage	2.4	Entire length	2008	Yes
		Manganese	Mine Drainage	2.4	Entire length	2008	Yes
		pH	Mine Drainage	2.4	Entire length	2008	Yes
Wherry Run	WVO-88-H-2	CNA-Biological	Unknown	1.9	Entire length	2018	Yes
Hollidays Hollow	WVO-88-H.5	Iron	Mine Drainage	1.7	Entire length	2008	Yes
		Manganese	Mine Drainage	1.7	Entire length	2008	Yes
		pH	Mine Drainage	1.7	Entire length	2008	Yes

2004 Section 303(d) List

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Burch Run	WVO-88-I	CNA-Biological	Unknown	0.7	From mouth to RM 0.7	2018	Yes
Glenns Run	WVO-89	CNA-Biological	Unknown	2.4	Entire length	2008	Yes
		Iron	Mine Drainage	2.4	Entire length	2008	Yes
		pH	Mine Drainage	2.4	Entire length	2008	Yes
Graeb Hollow	WVO-89-A	CNA-Biological	Unknown	1.3	Entire length	2008	No
Short Creek	WVO-90	Aluminum (dis)	Unknown	10.3	Entire length	2008	No
		CNA-Biological	Unknown	10.3	Entire length	2008	Yes
		Iron	Mine Drainage	10.3	Entire length	2008	Yes
		pH	Mine Drainage	10.3	Entire length	2008	Yes
North Fork	WVO-90-D	CNA-Biological	Unknown	4.4	Entire length	2018	Yes
UNT/North Fork/Short Creek	WVO-90-D-0.8	CNA-Biological	Unknown	1.3	Entire length	2018	Yes
Huff Run	WVO-90-D-1	CNA-Biological	Unknown	2.0	Entire length	2018	Yes
Harrison Run	WVO-91	CNA-Biological	Unknown	1.0	Entire length	2018	Yes
Castleman Run	WVO-92-L	CNA-Biological	Unknown	3.5	from RM 1.7 to headwaters	2018	Yes
WEST FORK WATERSHED - HUC# 05020002 - ***34 streams 300 miles 1 Lake 2650 acres***							
West Fork River	WVMW	CNA-Biological	Unknown	74.4	From mouth to Stonewall Jackson Dam (RM 74.4)	2018	Yes
		Fecal Coliform	Unknown	74.4	From mouth to Stonewall Jackson Dam (RM 74.4)	2018	Yes
		Zinc (dis)	Unknown	74.4	From mouth to Stonewall Jackson Dam (RM 74.4)	2018	No
Stonewall Jackson Lake	WVMW-(L1)	Mercury	Unknown	2650.0	Entire length	2018	No
Booths Creek	WVMW-2	Aluminum (dis)	Unknown	8.6	Entire length	2018	No

2004 Section 303(d) List

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Bingamon Creek	WVMW-7	Aluminum (dis)	Unknown	14.6	Entire length	2018	No
		CNA-Biological	Unknown	14.6	Entire length	2018	No
Long Run	WVMW-7-B	CNA-Biological	Unknown	2.0	Entire length	2018	No
Cunningham Run	WVMW-7-D	CNA-Biological	Unknown	2.4	Entire length	2018	No
Glade Fork	WVMW-7-F	CNA-Biological	Unknown	5.0	Entire length	2018	Yes
Coal Lick Run	WVMW-7-F-1	CNA-Biological	Unknown	2.2	Entire length	2018	No
Browns Run	WVMW-10	CNA-Biological	Unknown	1.0	Entire length	2018	Yes
Robinson Run	WVMW-12	CNA-Biological	Unknown	5.4	Entire length	2018	No
Tenmile Creek	WVMW-13	Aluminum (dis)	Unknown	26.4	entire length	2018	No
Little Tenmile Creek	WVMW-13-B	Aluminum (dis)	Unknown	13.0	Entire length	2018	No
Middle Run	WVMW-13-B-7	CNA-Biological	Unknown	3.8	Entire length	2018	Yes
Mudlick Run	WVMW-13-B-9	CNA-Biological	Unknown	2.4	Entire length	2018	Yes
Salem Fork	WVMW-13-I	CNA-Biological	Unknown	9.2	Entire length	2018	Yes
Cherrycamp Run	WVMW-13-I-2	CNA-Biological	Unknown	3.2	Entire length	2018	Yes
Patterson Fork	WVMW-13-I-3	CNA-Biological	Unknown	2.4	Entire length	2018	Yes
Halls Run	WVMW-13-J	CNA-Biological	Unknown	4.6	Entire length	2018	Yes
Davisson Run	WVMW-15-D	CNA-Biological	Unknown	3.0	Entire length	2018	Yes
Ann Run	WVMW-15-E	CNA-Biological	Unknown	3.6	Entire length	2018	Yes
Beards Run	WVMW-15-G	Aluminum (dis)	Unknown	2.8	Entire length	2018	No
Johnson Fork	WVMW-20-C	CNA-Biological	Unknown	1.5	Entire length	2018	Yes
Turkey Run	WVMW-21-E	CNA-Biological	Unknown	1.7	Entire length	2018	Yes
Brushy Fork	WVMW-21-G	Aluminum (dis)	Unknown	14.0	Entire length	2018	No
Gnatty Creek	WVMW-21-M	Aluminum (dis)	Unknown	8.9	Entire length	2018	No
Lost Creek	WVMW-26	Aluminum (dis)	Unknown	11.4	Entire length	2018	No
Bonds Run	WVMW-26-A	CNA-Biological	Unknown	1.4	Entire length	2018	Yes
Isaacs Creek	WVMW-29	CNA-Biological	Unknown	6.2	Entire length	2018	Yes

2004 Section 303(d) List

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Hackers Creek	WVMW-31	Aluminum (dis)	Unknown	25.4	Entire length	2018	No
Kincheloe Creek	WVMW-32	Aluminum (dis)	Unknown	10.2	Entire length	2018	No
Freemans Creek	WVMW-36	Aluminum (dis)	Unknown	5.6	Entire length	2018	No
Right Fork/Stonecoal Creek	WVMW-38-G	CNA-Biological	Unknown	8.7	Entire length	2018	Yes
Pringle Fork	WVMW-38-G-3	CNA-Biological	Unknown	0.9	From mouth to RM 0.9	2018	Yes
Skin Creek	WVMW-46	CNA-Biological	Unknown	11.7	From mouth to RM 11.7	2018	Yes
Hughes Fork	WVMW-46-G	CNA-Biological	Unknown	2.6	Entire length	2018	Yes

Supplemental Table A-

Previoulsy Listed Waters-

No TMDL Developed

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for Delisting
HYDROLOGIC GROUP A			
CHEAT WATERSHED - HUC# 05020004			
UNT#1/Beaver Creek	WVMC-12-B-1-B	CNA-Biological	Data used for (previous) listing has been deemed inappropriate
UPPER KANAWHA WATERSHED - HUC# 05050006			
Coal Fork	WVK-49-D	CNA-Biological	Data used for (previous) listing has been deemed inappropriate
Left Fork/Lens Creek	WVK-53-A	Aluminum (tot)	Water quality criteria revised
		Manganese	New water quality data does not support listing
Ring Hollow	WVK-53-B	CNA-Biological	New biological data does not support listing
Counterfeit Branch	WVK-57-D	Aluminum (tot)	Water quality criteria revised
		Manganese	New water quality data does not support listing
Fields Creek	WVK-58	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Mill Branch	WVK-58-A	Aluminum (tot)	Data used for (previous) listing has been deemed inappropriate
		Iron	Data used for (previous) listing has been deemed inappropriate
		Manganese	Data used for (previous) listing has been deemed inappropriate
Wolfpen Hollow	WVK-58-B.1	Aluminum (tot)	Water quality criteria revised
New West Hollow	WVK-58-B.8-1	Aluminum (tot)	Water quality criteria revised
Carroll Branch	WVK-59	Aluminum (tot)	Water quality criteria revised
Slaughter Creek	WVK-60	Aluminum (tot)	Water quality criteria revised
		CNA-Biological	New biological data does not support listing
		Iron	New water quality data does not support listing
Cabin Creek	WVK-61	Aluminum (tot)	Water quality criteria revised
Dry Branch	WVK-61-B	CNA-Biological	New biological data does not support listing
Greens Branch	WVK-61-G	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Laurel Fork	WVK-61-H-1	pH	New water quality data does not support listing
Bear Hollow	WVK-61-I	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for Delisting
Cane Fork	WVK-61-J	Aluminum (tot)	Water quality criteria revised
Tenmile Fork	WVK-61-L	Aluminum (tot)	Water quality criteria revised
		Manganese	New water quality data does not support listing
Fifteenmile Fork	WVK-61-O	Aluminum (tot)	Water quality criteria revised
Abbott Creek	WVK-61-O-1	Aluminum (tot)	Water quality criteria revised
Long Branch	WVK-61-O-2	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
		pH	New water quality data does not support listing
Hicks Hollow	WVK-61.5	Aluminum (tot)	Water quality criteria revised
Watson Branch	WVK-62	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
Mile Branch	WVK-63	Aluminum (tot)	Water quality criteria revised
		Manganese	New water quality data does not support listing
West Hollow	WVK-68.5	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Morris Creek	WVK-70	Aluminum (tot)	Water quality criteria revised
Staten Run	WVK-71	Aluminum (tot)	Water quality criteria revised
		Manganese	New water quality data does not support listing
Smithers Creek	WVK-72	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Fishhook Fork	WVK-72-A-1	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
Armstrong Creek	WVK-73	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Jenkins Fork	WVK-73-D	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for Delisting
Powellton Fork	WVK-73-E	Aluminum (tot)	Water quality criteria revised
		Manganese	New water quality data does not support listing
Laurel Branch	WVK-73-E-1	Aluminum (tot)	Water quality criteria revised
Right Fork/Armstrong Creek	WVK-73-F	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
Left Fork/Armstrong Creek	WVK-73-G	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Boomer Branch	WVK-74	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
		pH	New water quality data does not support listing
Jarrett Branch	WVK-75	Aluminum (tot)	Water quality criteria revised
Beards Fork	WVK-76-D	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Right Fork/Beards Fork	WVK-76-D-1	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Robinson Branch	WVK-76-E	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Molly Kincaid Branch	WVK-76-G	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Camp Branch	WVK-76-J	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Ingram Branch	WVK-76-K	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for Delisting
UPPER OHIO NORTH WATERSHED - HUC# 05030101			
Ohio River (Upper North)	WVO-un	Mercury	Revised listing methodology
North Potrock Run	WVO-95-C	CNA-Biological	New biological data does not support listing
Sappingtons Run	WVO-97-A	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
		pH	New water quality data does not support listing
Alexanders Run	WVO-97-B	Aluminum (tot)	Water quality criteria revised
		pH	New water quality data does not support listing
Mechling Run	WVO-97-C	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Deep Gut Run	WVO-101	Aluminum (tot)	Water quality criteria revised
YOUGHIOGHENY WATERSHED - HUC# 05020006			
Laurel Run	WVMY-2-0.2A	Aluminum (tot)	Water quality criteria revised
Little Laurel Run	WVMY-2-0.2A-1	CNA-Biological	Data used for (previous) listing has been deemed inappropriate

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for Delisting
HYDROLOGIC GROUP B			
COAL WATERSHED - HUC# 05050009			
Spruce Fork	WVKC-10-T	CNA-Biological	New biological data does not support listing
Rockhouse Creek	WVKC-10-T-13	Selenium	New water quality data does not support listing
Beech Creek	WVKC-10-T-15	CNA-Biological	New biological data does not support listing
Adkins Fork	WVKC-10-T-21	CNA-Biological	New biological data does not support listing
Lacey Branch	WVKC-10-U-21	CNA-Biological	New biological data does not support listing
Joes Creek	WVKC-29	CNA-Biological	New biological data does not support listing
White Oak Creek	WVKC-35	CNA-Biological	New biological data does not support listing
Marsh Fork	WVKC-46	CNA-Biological	New biological data does not support listing
Peachtree	WVKC-46-G	Aluminum (tot)	Water quality criteria revised and new data does not support listing
Drews Creek	WVKC-46-G-1	Aluminum (tot)	Water quality criteria revised and new data does not support listing
Martin Fork	WVKC-46-G-2	Aluminum (tot)	Water quality criteria revised and new data does not support listing
		Iron	New water quality data does not support listing
Shockley Branch	WVKC-46-Q-3	Aluminum (tot)	Water quality criteria revised
Jehu Branch	WVKC-46-Q-5	Aluminum (tot)	Water quality criteria revised
Long Branch	WVKC-47-G	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
Dow Fork	WVKC-47-G-1	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
Buffalo Fork	WVKC-47-L-1	Selenium	New water quality data does not support listing
LOWER KANAWHA - HUC# 05050008			
Poplar Fork	WVK-22-B	CNA-Biological	New biological data does not support listing
Woodward Branch	WVK-41-A	CNA-Biological	Data used for (previous) listing has been deemed inappropriate
Rich Fork	WVK-41-D.5	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
POCATALICO RIVER SUBWATERSHED			
Heizer Creek	WVKP-1	Aluminum (tot)	Water quality criteria revised
		pH	New water quality data does not support listing
Manila Creek	WVKP-1-A	Aluminum (tot)	Water quality criteria revised

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for	Delisting
Tupper Creek	WVKP-13	Aluminum (tot)	Water quality criteria revised	

NORTH BRANCH POTOMAC WATERSHED - HUC# 02070002

Slaughterhouse Run	WVPNB-10	Aluminum (tot)	Water quality criteria revised	
		Iron	New water quality data does not support listing	
		pH	New water quality data does not support listing	
Montgomery Run	WVPNB-11	Aluminum (tot)	Water quality criteria revised	
		Manganese	New water quality data does not support listing	
Piney Swamp Run	WVPNB-12	Aluminum (tot)	Water quality criteria revised	
Abram Creek	WVPNB-16	Aluminum (tot)	Water quality criteria revised	
Emory Creek	WVPNB-16-A	Aluminum (tot)	Water quality criteria revised	
Glade Run	WVPNB-16-B.5	Aluminum (tot)	Water quality criteria revised	
Laurel Run	WVPNB-16-C	CNA-Biological	New biological data does not support listing	
Little Creek	WVPNB-16-D	Aluminum (tot)	Water quality criteria revised	
Little Buffalo Creek	WVPNB-19-A	CNA-Biological	New biological data does not support listing	
Elk Run	WVPNB-21	CNA-Biological	New biological data does not support listing	
		Iron	New water quality data does not support listing	
UNT/North Branch Potomac RM 99.0 (Deakin F	WVPNB-22	Aluminum (tot)	Water quality criteria revised	
		CNA-Biological	New biological data does not support listing	
		Iron	New water quality data does not support listing	
		Manganese	New water quality data does not support listing	
		pH	New water quality data does not support listing	

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for Delisting
HYDROLOGIC GROUP C			
GAULEY WATERSHED - HUC# 05050005			
Scrabble Creek	WVKG-1	Aluminum (tot)	Water quality criteria revised
Peters Creek	WVKG-13	Aluminum (tot)	Water quality criteria revised
Jerry Fork	WVKG-13-F	Aluminum (tot)	Water quality criteria revised
Buck Garden Creek	WVKG-13-K	Aluminum (tot)	Water quality criteria revised
Sewell Creek	WVKG-19-Q	Aluminum (tot)	Water quality criteria revised
Little Clear Creek	WVKG-19-V	Aluminum (tot)	Water quality criteria revised
Brushy Meadow Creek	WVKG-24-E-2	Aluminum (tot)	Water quality criteria revised
Colt Branch	WVKG-24-I	Aluminum (tot)	Water quality criteria revised
Muddlety Creek	WVKG-26	Aluminum (tot)	Water quality criteria revised
Fockler Branch	WVKG-26-E	Aluminum (tot)	Water quality criteria revised
McMillion Creek	WVKG-26-I	Aluminum (tot)	Water quality criteria revised
Lower Spruce Run	WVKG-26-K-1	Aluminum (tot)	Water quality criteria revised
Spruce Run	WVKG-26-K-1-A	Aluminum (tot)	Water quality criteria revised
Clear Fork	WVKG-26-O	Aluminum (tot)	Water quality criteria revised
Persinger Creek	WVKG-27	Aluminum (tot)	Water quality criteria revised
Big Beaver Creek	WVKG-30	Aluminum (tot)	Water quality criteria revised
Little Beaver Creek	WVKG-30-E	Aluminum (tot)	Water quality criteria revised
Bearpen Fork	WVKG-30-L	Aluminum (tot)	Water quality criteria revised
Panther Creek	WVKG-32	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing
LOWER GUYANDOTTE WATERSHED - HUC# 05070102			
Guyandotte River (Lower)	WVOG-lo	Aluminum (tot)	Water quality criteria revised and new data does not support listing
Limestone Branch	WVOG-48	Aluminum (tot)	Water quality criteria revised
Ed Stone Branch	WVOG-49-A	Aluminum (tot)	Water quality criteria revised
North Branch	WVOG-49-A-1	Aluminum (tot)	Water quality criteria revised
Godby Branch	WVOG-53	Aluminum (tot)	Water quality criteria revised
Buffalo Creek	WVOG-61	Aluminum (tot)	Water quality criteria revised

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for Delisting
MIDDLE OHIO NORTH WATERSHED - HUC# 05030201			
Ohio River (Middle North)	WVO-mn	Mercury	Revised Listing Methodology
MIDDLE OHIO SOUTH WATERSHED - HUC# 05030202			
Ohio River (Middle South)	WVO-ms	Mercury	Revised listing methodology
UNT/Robinson Run	WVO-21-B-0.9	Aluminum (tot)	Water quality criteria revised and new data does not support listing
TUG FORK WATERSHED - HUC# 05070201			
Tug Fork River	WVBST	Fecal Coliform	New water quality data does not support listing

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for Delisting
HYDROLOGIC GROUP D			
LITTLE KANAWHA WATERSHED - HUC# 05030203			
Little Kanawha River	WVLK	Fecal Coliform	New water quality data does not support listing
Duck Creek	WVLK-82	Aluminum (tot)	Water quality criteria revised
Lynch Run	WVLK-85	Aluminum (tot)	Water quality criteria revised
Duskcamp Run	WVLK-88	Aluminum (tot)	Water quality criteria revised
POCATALICO RIVER SUBWATERSHED			
Hughes River	WVLKH	Fecal Coliform	New water quality data does not support listing
LOWER NEW WATERSHED - HUC# 05050004			
Floyd Creek	WVKN-17-B	Aluminum (tot)	Water quality criteria revised
Batoff Creek	WVKN-26-A	Aluminum (tot)	Water quality criteria revised
Bowyer Creek	WVKN-26-M	Aluminum (tot)	Water quality criteria revised
Laurel Creek	WVKN-26-N	Aluminum (tot)	Water quality criteria revised
UPPER NEW WATERSHED - HUC# 05050002			
Rich Creek	WVKNB-18	Aluminum (tot)	Water quality criteria revised
		Iron	New water quality data does not support listing
		Manganese	New water quality data does not support listing

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for Delisting
HYDROLOGIC GROUP E			
DUNKARD WATERSHED - HUC# 05020005			
Dunkard Creek	WVM-1	Aluminum (tot)	Water quality criteria revised
LOWER OHIO WATERSHED - HUC# 05090101			
Ohio River (Lower)	WVO-lo	Mercury	Revised Listing Methodology
TWELVEPOLE WATERSHED - HUC# 05090102			
Twelvepole Creek	WVO-2	Fecal Coliform	New water quality data does not support listing
Lynn Creek	WVO-2-I	CNA-Biological	New biological data does not support listing
Camp Creek	WVO-2-Q-8	Aluminum (tot)	Water quality criteria revised
Left Fork/Camp Creek	WVO-2-Q-8-A	Aluminum (tot)	Water quality criteria revised
UPPER GUYANDOTTE WATERSHED - HUC# 05070101			
Guyandotte River (Upper)	WVOG-up	Aluminum (tot)	Water quality criteria revised
Coal Branch	WVOG-65-A	Aluminum (tot)	Water quality criteria revised
Copperas Mine Fork	WVOG-65-B	Aluminum (tot)	Water quality criteria revised
Mud Fork	WVOG-65-B-1	Aluminum (tot)	Water quality criteria revised
Lower Dempsey Branch	WVOG-65-B-1-A	Aluminum (tot)	Water quality criteria revised
Ellis Branch	WVOG-65-B-1-B	Aluminum (tot)	Water quality criteria revised
Upper Dempsey Branch	WVOG-65-B-1-E	Aluminum (tot)	Water quality criteria revised
Trace Fork	WVOG-65-B-4	Aluminum (tot)	Water quality criteria revised
Hall Fork	WVOG-65-J-3-A	Selenium	New water quality data does not support listing
Proctor Hollow	WVOG-75-C.5	Aluminum (tot)	Water quality criteria revised
Huff Creek	WVOG-76	Aluminum (tot)	Water quality criteria revised
Toney Fork	WVOG-76-L	Aluminum (tot)	Water quality criteria revised
Oldhouse Branch	WVOG-77-A.5	Aluminum (tot)	Water quality criteria revised
Muzzle Creek	WVOG-92-I	Aluminum (tot)	Water quality criteria revised
Buffalo Creek	WVOG-92-K	Aluminum (tot)	Water quality criteria revised
Kezee Fork	WVOG-92-K-1	Aluminum (tot)	Water quality criteria revised
Mudlick Fork	WVOG-92-K-2	Aluminum (tot)	Water quality criteria revised
Pad Fork	WVOG-92-Q	Aluminum (tot)	Water quality criteria revised

Supplemental Table A - Previously Listed Waters - No TMDL Developed - 2004

Stream Name	Stream Code	Criteria	Reason for Delisting
Righthand Fork	WVOG-92-Q-1	Aluminum (tot)	Water quality criteria revised
Sturgeon Branch	WVOG-96-A	Aluminum (tot)	Water quality criteria revised
Road Branch	WVOG-96-B	Aluminum (tot)	Water quality criteria revised
Elk Trace Branch	WVOG-96-C	Aluminum (tot)	Water quality criteria revised
Toler Hollow	WVOG-96-F	Aluminum (tot)	Water quality criteria revised
McDonald Fork	WVOG-96-H	Aluminum (tot)	Water quality criteria revised
Reedy Branch	WVOG-99	Aluminum (tot)	Water quality criteria revised
Indian Creek	WVOG-110	Aluminum (tot)	Water quality criteria revised
Brier Creek	WVOG-110-A	Aluminum (tot)	Water quality criteria revised
Marsh Fork	WVOG-110-A-2	Aluminum (tot)	Water quality criteria revised
Pinnacle Creek	WVOG-124	Aluminum (tot)	Water quality criteria revised
Smith Branch	WVOG-124-D	Aluminum (tot)	Water quality criteria revised
Laurel Branch	WVOG-124-H	Aluminum (tot)	Water quality criteria revised
Spider Creek	WVOG-124-I	Aluminum (tot)	Water quality criteria revised
Cabin Creek	WVOG-127	Aluminum (tot)	Water quality criteria revised
Joe Branch	WVOG-128	Aluminum (tot)	Water quality criteria revised
Long Branch	WVOG-129	Aluminum (tot)	Water quality criteria revised
Still Run	WVOG-130	Aluminum (tot)	Water quality criteria revised
Barkers Creek	WVOG-131	Aluminum (tot)	Water quality criteria revised
Hickory Branch	WVOG-131-B	Aluminum (tot)	Water quality criteria revised
Gooney Otter Creek	WVOG-131-F	Aluminum (tot)	Water quality criteria revised
Jims Branch	WVOG-131-F-1	Aluminum (tot)	Water quality criteria revised
Noseman Branch	WVOG-131-F-2	Aluminum (tot)	Water quality criteria revised
Slab Fork	WVOG-134	Aluminum (tot)	Water quality criteria revised
Measle Fork	WVOG-134-D	Aluminum (tot)	Water quality criteria revised
Left Fork/Allen Creek	WVOG-135-A	Aluminum (tot)	Water quality criteria revised
Devils Fork	WVOG-137	Aluminum (tot)	Water quality criteria revised
Winding Gulf	WVOG-138	Aluminum (tot)	Water quality criteria revised
Stonecoal Creek	WVOG-139	Aluminum (tot)	Water quality criteria revised

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Stream Name	Stream Code	Criteria	Reason for Delisting
CLEAR FORK SUBWATERSHED			
Lower Road Branch	WVOGC-12	Aluminum (tot)	Water quality criteria revised
Laurel Fork	WVOGC-16	Aluminum (tot)	Water quality criteria revised
Milam Branch	WVOGC-16-M	Aluminum (tot)	Water quality criteria revised
Trough Fork	WVOGC-16-P	Aluminum (tot)	Water quality criteria revised
Toney Fork	WVOGC-19	Aluminum (tot)	Water quality criteria revised
Crane Fork	WVOGC-26	Aluminum (tot)	Water quality criteria revised
UPPER OHIO SOUTH WATERSHED - HUC# 05030106			
Ohio River (Upper South)	WVO-us	Mercury	Revised listing methodology
Wells Run	WVO-83-A-1.5	Aluminum (tot)	Water quality criteria revised
Long Run	WVO-88-B	Aluminum (tot)	Water quality criteria revised
Waddles Run	WVO-88-B-1	Aluminum (tot)	Water quality criteria revised
Pogue Run	WVO-88-B-2	Aluminum (tot)	Water quality criteria revised
Britt Run	WVO-88-E.9	Aluminum (tot)	Water quality criteria revised
Hollidays Hollow	WVO-88-H.5	Aluminum (tot)	Water quality criteria revised
Glenns Run	WVO-89	Aluminum (tot)	Water quality criteria revised and new data does not support listing

Supplemental Table B-

Previously Listed Waters-

TMDL Developed

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
HYDROLOGIC GROUP A			
CHEAT WATERSHED - HUC# 05020004			
Cheat River	WVMC	Iron	2001
		pH	2001
		Zinc	2001
UNT/Cheat Lake RM 4.0	WVMC-0.5	Iron	2001
		Manganese	2001
		pH	2001
Bull Run	WVMC-11	Iron	2001
		Manganese	2001
		pH	2001
UNT/Bull Run RM 1.6	WVMC-11-0.1A	pH	2001
Middle Run	WVMC-11-A	Iron	2001
		Manganese	2001
		pH	2001
Mountain Run	WVMC-11-B	Iron	2001
		Manganese	2001
		pH	2001
Lick Run	WVMC-11-B-1	Iron	2001
		Manganese	2001
		pH	2001
UNT/Bull Run RM 2.1	WVMC-11-C	Iron	2001
		Manganese	2001
		pH	2001
Right Fork Bull Run	WVMC-11-E	Iron	2001
		Manganese	2001
		pH	2001
Big Sandy Creek	WVMC-12	Iron	2001
		Manganese	2001
		pH	2001
UNT/Big Sandy Creek RM 2.9	WVMC-12-0.2A	Iron	2001
		Manganese	2001
		pH	2001

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Stream Name	Stream Code	Criteria	TMDL Date
Sovern Run	WVMC-12-0.5A	Iron	2001
		Manganese	2001
		pH	2001
Little Sandy Creek	WVMC-12-B	Iron	2001
		Manganese	2001
		pH	2001
Webster Run	WVMC-12-B-0.5	Iron	2001
		Manganese	2001
		pH	2001
Beaver Creek	WVMC-12-B-1	Iron	2001
		Manganese	2001
		pH	2001
Glade Run	WVMC-12-B-1-A	Iron	2001
		Manganese	2001
		pH	2001
UNT/Beaver Creek RM 1.68	WVMC-12-B-1-C	Iron	2001
		Manganese	2001
		pH	2001
Hog Run	WVMC-12-B-3	Iron	2001
		Manganese	2001
		pH	2001
Cherry Run	WVMC-12-B-5	Iron	2001
		Manganese	2001
		pH	2001
Hazel Run	WVMC-12-C	Iron	2001
		Manganese	2001
		pH	2001
Conner Run	WVMC-13.5	Iron	2001
		Manganese	2001
		pH	2001
Greens Run	WVMC-16	Iron	2001
		Manganese	2001
		pH	2001
South Fork/Greens Run	WVMC-16-A	Iron	2001
		Manganese	2001

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
UNT/South Fork RM 0.6	WVMC-16-A-1	Iron	2001
		Manganese	2001
		pH	2001
Muddy Creek	WVMC-17	Iron	2001
		Manganese	2001
		pH	2001
Martin Creek	WVMC-17-A	Iron	2001
		Manganese	2001
		pH	2001
Fickey Run	WVMC-17-A-0.5	Iron	2001
		Manganese	2001
		pH	2001
Glade Run	WVMC-17-A-1	Iron	2001
		Manganese	2001
		pH	2001
UNT/Glade Run RM 1.06	WVMC-17-A-1-A	Iron	2001
		Manganese	2001
		pH	2001
UNT/Glade Run RM 1.36	WVMC-17-A-1-B	Iron	2001
		Manganese	2001
		pH	2001
Roaring Creek	WVMC-18	Iron	2001
		Manganese	2001
		pH	2001
UNT/Cheat Lake RM 7.7	WVMC-2.3	Iron	2001
		Manganese	2001
		pH	2001
UNT/Cheat Lake RM 8.5	WVMC-2.4	Iron	2001
		Manganese	2001
		pH	2001
Morgan Run	WVMC-23	Iron	2001
		Manganese	2001
		pH	2001
UNT/Morgan Run RM 1.1	WVMC-23-0.2A	Manganese	2001
		pH	2001

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Church Creek	WVMC-23-A	Iron	2001
		Manganese	2001
		pH	2001
UNT/Church Creek RM 1.2	WVMC-23-A-1	Iron	2001
		Manganese	2001
		pH	2001
Heather Run	WVMC-24	Iron	2001
		Manganese	2001
		pH	2001
UNT/Heather Run RM 1.5	WVMC-24-A	Iron	2001
		Manganese	2001
		pH	2001
Lick Run	WVMC-25	Iron	2001
		Manganese	2001
		pH	2001
Joes Run	WVMC-26	Iron	2001
		Manganese	2001
Pringle Run	WVMC-27	Iron	2001
		Manganese	2001
		pH	2001
Left Fork/Pringle Run	WVMC-27-A	Iron	2001
		Manganese	2001
		pH	2001
Right Fork/Pringle Run	WVMC-27-B	Iron	2001
		Manganese	2001
		pH	2001
Crammeys Run	WVMC-3	Iron	2001
		Manganese	2001
Blackwater River	WVMC-60-D	Iron	2001
		Oxygen, Dissolved	1998
Tub Run	WVMC-60-D-2	Iron	2001
		Manganese	2001
		pH	2001
Finley Run	WVMC-60-D-2.7	Iron	2001
		Manganese	2001
		pH	2001

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
North Fork/Blackwater River	WVMC-60-D-3	Iron	2001
		Manganese	2001
		pH	2001
Long Run	WVMC-60-D-3-A	Iron	2001
		Manganese	2001
		pH	2001
Middle Run	WVMC-60-D-3-B	Iron	2001
		Manganese	2001
		pH	2001
Snyder Run	WVMC-60-D-3-C	Iron	2001
		Manganese	2001
		pH	2001
Beaver Creek	WVMC-60-D-5	Iron	2001
		Manganese	2001
		pH	2001
Hawkins Run	WVMC-60-D-5-C	Iron	2001
		Manganese	2001
		pH	2001
SHENANDOAH (JEFFERSON) WATERSHED - HUC# 02070007			
Shenandoah River	WVS	Polychlorinated biphenyls	2001
SOUTH BRANCH POTOMAC WATERSHED - HUC# 02070001			
South Branch Potomac River	WVPSB	Fecal Coliform	1998
Anderson Run	WVPSB-18	Fecal Coliform	1998
Mill Creek	WVPSB-25	Fecal Coliform	1998
Lunice Creek	WVPSB-26	Fecal Coliform	1998

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
UPPER KANAWHA WATERSHED - HUC# 05050006			
Paint Creek	WVK-65	pH	2001
Jones Branch	WVK-65-C	Iron	2001
		Manganese	2001
Packs Branch	WVK-65-DD	Iron	2001
		Manganese	2001
Big Fork	WVK-65-DD-2	Iron	2001
		Manganese	2001
Tenmile Fork	WVK-65-M	Iron	2001
		Manganese	2001
		pH	2001
Long Branch	WVK-65-M-1	Iron	2001
		Manganese	2001
		pH	2001
Hickory Camp Branch	WVK-65-P	CNA-Biological	2001
		Iron	2001
		Manganese	2001
		pH	2001
Cedar Creek	WVK-65-Q	pH	2001
UNT/Paint Creek RM 17.2	WVK-65-Q.3	Iron	2001
		Manganese	2001
		pH	2001
UNT/Paint Creek RM 17.6	WVK-65-Q.5	Iron	2001
		Manganese	2001
		pH	2001
Fifteenmile Creek	WVK-65-R	Iron	2001
		Manganese	2001

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Stream Name	Stream Code	Criteria	TMDL Date
Spring Branch	WVK-65-S	pH	2001
Skitter Creek	WVK-65-T	Iron	2001
		Manganese	2001
Lykins Creek	WVK-65-W	Iron	2001
		Manganese	2001
		pH	2001
Long Branch	WVK-65-Y-2	Iron	2001
		Manganese	2001
UPPER OHIO NORTH WATERSHED - HUC# 05030101			
Ohio River (Upper North)	WVO-un	Polychlorinated biphenyls	2002
Tomlinson Run Lake	WVO-102-(L1)	Sedimentation/Siltation	1998

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
HYDROLOGIC GROUP B			
ELK WATERSHED - HUC# 05050007			
Elk River	WVKE	Iron	2001
		Lead	2001
Morris Creek	WVKE-26	Iron	2001
		Manganese	2001
		pH	2001
Left Fork/Morris Creek	WVKE-26-A	Iron	2001
		Manganese	2001
		pH	2001
Buffalo Creek	WVKE-50	Iron	2001
		Manganese	2001
Pheasant Run	WVKE-50-T	Iron	2001
		Manganese	2001
		pH	2001
LOWER KANAWHA WATERSHED - HUC# 05050008			
Kanawha River (Lower)	WVK-lo	Dioxin	2000
Hurricane W S Rs	WVK-22-(L1)	Iron	1998
		Sedimentation/Siltation	1998
		Tropic State Index	1998
Armour Creek	WVK-30	Dioxin	2000
Ridenour Lake	WVK-30-A-(L1)	Iron	1999
		Sedimentation/Siltation	1999
		Tropic State Index	1999
POCATALICO RIVER SUBWATERSHED			
Pocatalico River	WVKP	Dioxin	2000
Flat Fork	WVKP-33	Polychlorinated biphenyls	2001

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
NORTH BRANCH POTOMAC WATERSHED - HUC# 02070002			
Stony River	WVPNB-17	Iron	2001
		Manganese	2001
		pH	2001
Laurel Run	WVPNB-17-B.5	pH	2001
Fourmile Run	WVPNB-17-C	Iron	2001
		Manganese	2001
		pH	2001
Laurel Run	WVPNB-17-D	Iron	2001
		Manganese	2001
		pH	2001
Helmick Run	WVPNB-17-E	Iron	2001
		Manganese	2001
		pH	2001
TYGART VALLEY WATERSHED - HUC# 05020001			
Tygart Valley River	WVMT	Iron	2001
		Manganese	2001
		pH	2001
Berkely Run	WVMT-11	Iron	2001
		Manganese	2001
		pH	2001
Shelby Run	WVMT-11-A	Iron	2001
		Manganese	2001
		pH	2001
Long Run	WVMT-11-B	Iron	2001
		Manganese	2001
		pH	2001
Berry Run	WVMT-11-B-1	Iron	2001
		Manganese	2001
		pH	2001

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Three Fork Creek	WVMT-12	Iron	2001
		Manganese	2001
		pH	2001
Raccoon Creek	WVMT-12-C	Iron	2001
		Manganese	2001
		pH	2001
Little Racoon Run	WVMT-12-C-2	Iron	2001
		Manganese	2001
Brains Creek	WVMT-12-G-2	Iron	2001
		Manganese	2001
		pH	2001
Birds Creek	WVMT-12-H	Iron	2001
		Manganese	2001
		pH	2001
Squires Creek	WVMT-12-H-1	Iron	2001
		Manganese	2001
		pH	2001
Sandy Creek	WVMT-18	Iron	2001
		Manganese	2001
		pH	2001
Glade Run	WVMT-18-C	Iron	2001
		Manganese	2001
		pH	2001
Little Sandy Creek	WVMT-18-E	Iron	2001
		Manganese	2001
		pH	2001
Maple Run	WVMT-18-E-1	Iron	2001
		Manganese	2001
		pH	2001
Left Fork/Little Sandy Creek	WVMT-18-E-3	Iron	2001
		Manganese	2001
		pH	2001
Left Fork/Sandy Creek	WVMT-18-G	Iron	2001
		Manganese	2001

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Frost Run	WVMT-24-A	Iron	2001
		Manganese	2001
		pH	2001
Ford Run	WVMT-27	Iron	2001
		Manganese	2001
		pH	2001
Anglins Run	WVMT-29	Iron	2001
		Manganese	2001
		pH	2001
Island Run	WVMT-36	Iron	2001
		Manganese	2001
		pH	2001
Beaver Creek	WVMT-37	Iron	2001
		Manganese	2001
		pH	2001
Laurel Run	WVMT-39	Iron	2001
		Manganese	2001
		pH	2001
Goose Creek	WVMT-4	Iron	2001
		Manganese	2001
		pH	2001
UNT/Tygart Valley River RM 75.2 (Harding)	WVMT-40.5	Iron	2001
		Manganese	2001
		pH	2001
Grassy Run	WVMT-41	Iron	2001
		Manganese	2001
		pH	2001
Roaring Creek	WVMT-42	Iron	2001
		Manganese	2001
		pH	2001
Lost Run	WVMT-5	Iron	2001
		Manganese	2001
		pH	2001

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
BUCKHANNON RIVER SUBWATERSHED			
Buckhannon River	WVMTB	Iron	1998
Turkey Run	WVMTB-10	Iron	2001
		Manganese	2001
		pH	2001
Sugar Run	WVMTB-10-A	Iron	2001
		Manganese	2001
Fink Run	WVMTB-11	Iron	2001
		Manganese	2001
		pH	2001
Mud Lick Run	WVMTB-11-B	Iron	2001
		Manganese	2001
Bridge Run	WVMTB-11-B.7	Iron	2001
		Manganese	2001
		pH	2001
Bull Run	WVMTB-18-B	Iron	2001
Blacklick Run	WVMTB-18-B-2	Iron	2001
Mudlick Run	WVMTB-18-B-3	Iron	2001
Tenmile Creek	WVMTB-25	Iron	1998
Panther Fork	WVMTB-27	pH	1998
Swamp Run	WVMTB-29	Iron	2001
		Manganese	2001
		pH	2001
Herods Run	WVMTB-30	pH	2001
Left Fork/Buckhannon River	WVMTB-32	Iron	1998
Pecks Run	WVMTB-5	Iron	2001
		Manganese	2001
		pH	2001
UNT/Pecks Run RM 3.62	WVMTB-5-0.8A	Iron	2001
		Manganese	2001
		pH	2001
Little Pecks Run	WVMTB-5-B	Iron	2001
		Manganese	2001

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Mud Run	WVMTB-5-C	Iron	2001
		Manganese	2001
MIDDLE FORK RIVER SUBWATERSHED			
Middle Fork River	WVMTM	pH	2001
Cassity Fork	WVMTM-16	Iron	2001
		Manganese	2001
		pH	2001
Panther Run	WVMTM-16-A	Iron	2001
		Manganese	2001
		pH	2001
Devil Run	WVMTM-4	Iron	2001
		Manganese	2001
		pH	2001
Hell Run	WVMTM-6	Iron	2001
		Manganese	2001
		pH	2001
Whiteoak Run	WVMTM-8	Iron	2001
		Manganese	2001
		pH	2001

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
HYDROLOGIC GROUP C			
LOWER GUYANDOTTE WATERSHED - HUC# 05070102			
Guyandotte River (Lower)	WVOG-lo	Fecal Coliform	2004
		Iron	2004
Right Fork/Merritt Creek	WVOG-10-A	CNA-Biological	2004
		Iron	2004
Limestone Branch	WVOG-48	Iron	2004
		Manganese	2004
		pH	2004
Big Creek	WVOG-49	Aluminum (dis)	2004
Ed Stone Branch	WVOG-49-A	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
North Branch	WVOG-49-A-1	Iron	2004
		Manganese	2004
		pH	2004
Crawley Creek	WVOG-51	Aluminum (dis)	2004
Godby Branch	WVOG-53	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
Buffalo Creek	WVOG-61	Aluminum (dis)	2004
		Iron	2004
		Manganese	2004
		pH	2004
Right Fork/Buffalo Creek	WVOG-61-A	Iron	2004
		pH	2004

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
MUD RIVER SUBWATERSHED			
Mud River	WVOGM	Selenium	2004
Sugartree Branch	WVOGM-47	CNA-Biological	2004
		Selenium	2004
Stanley Fork	WVOGM-48	CNA-Biological	2004
		Selenium	2004
MIDDLE OHIO NORTH WATERSHED - HUC# 05030201			
Ohio River (Middle North)	WVO-mn	Polychlorinated biphenyls	2002
MIDDLE OHIO SOUTH WATERSHED - HUC# 05030202			
Ohio River (Middle South)	WVO-ms	Dioxin	2000
		Polychlorinated biphenyls	2002
Turkey Run Lake	WVO-37-(L1)	Iron	1999
		Sedimentation/Siltation	1999
		Tropic State Index	1999
TUG FORK WATERSHED - HUC# 05070201			
Tug Fork River	WVBST	Iron	2002
Little Indian Creek	WVBST-100	Iron	2002
		Manganese	2002
Jed Branch	WVBST-102	Iron	2002
		Manganese	2002
Rock Narrows Branch	WVBST-103	Iron	2002
		Manganese	2002
Harris Branch	WVBST-104	Iron	2002
		Manganese	2002
Mitchell Branch	WVBST-105	Iron	2002
		Manganese	2002
Sugarcamp Branch	WVBST-106	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Grapevine Branch	WVBST-107	Iron	2002
		Manganese	2002
Sandlick Creek	WVBST-109	Iron	2002
		Manganese	2002
Right Fork/Sandlick Creek	WVBST-109-A	Iron	2002
		Manganese	2002
Left Fork/Sandlick Creek	WVBST-109-B	Iron	2002
		Manganese	2002
Adkin Branch	WVBST-110	Iron	2002
		Manganese	2002
Belcher Branch	WVBST-111	Iron	2002
		Manganese	2002
Turnhole Branch	WVBST-112	Iron	2002
		Manganese	2002
Harmon Branch	WVBST-113	Iron	2002
		Manganese	2002
South Fork/Tug Fork River	WVBST-115	Iron	2002
		Manganese	2002
Tea Branch	WVBST-115-A	Iron	2002
		Manganese	2002
McClure Branch	WVBST-115-B	Iron	2002
		Manganese	2002
Jump Branch	WVBST-115-D	Iron	2002
		Manganese	2002
Spice Creek	WVBST-115-E	Iron	2002
		Manganese	2002
Laurel Branch	WVBST-115-F	Iron	2002
		Manganese	2002
Road Fork	WVBST-115-G	Iron	2002
		Manganese	2002
Belcher Branch	WVBST-116	Iron	2002
		Manganese	2002
Loop Branch	WVBST-117	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Mill Branch	WVBST-118	Iron	2002
		Manganese	2002
Dry Branch	WVBST-119	Iron	2002
		Manganese	2002
Little Creek	WVBST-120	Iron	2002
		Manganese	2002
Indian Grave Branch	WVBST-120-A	Iron	2002
		Manganese	2002
Puncheoncamp Branch	WVBST-120-B	Iron	2002
		Manganese	2002
Millseat Branch	WVBST-121	Iron	2002
		Manganese	2002
Ballard Harmon Branch	WVBST-122	Iron	2002
		Manganese	2002
Sams Branch	WVBST-123	Iron	2002
		Manganese	2002
Pigeon Creek	WVBST-24	Iron	2002
		Manganese	2002
		pH	2002
Millstone Branch	WVBST-24-O	Iron	2002
		Manganese	2002
PowderMill Branch	WVBST-3	Iron	2002
		Manganese	2002
Sugartree Creek	WVBST-32	Iron	2002
		Manganese	2002
Williamson Creek	WVBST-33	Iron	2002
		Manganese	2002
Sprouse Creek	WVBST-38	Iron	2002
Rutherford Branch	WVBST-40-B	Iron	2002
		Manganese	2002
		pH	2002
Mitchell Branch	WVBST-40-C	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Chafin Branch	WVBST-40-D	Iron	2002
		Manganese	2002
Thacker Creek	WVBST-42	Iron	2002
		Manganese	2002
		pH	2002
Scissorsville Branch	WVBST-42-A	Iron	2002
		Manganese	2002
		pH	2002
Mauchlinville Branch	WVBST-42-B	Iron	2002
		Manganese	2002
		pH	2002
Grapevine Creek	WVBST-43	Iron	2002
		Manganese	2002
Lick Fork	WVBST-43-A	Iron	2002
		Manganese	2002
Panther Creek	WVBST-60	Iron	2002
		Manganese	2002
Cub Branch	WVBST-60-D	Iron	2002
		Manganese	2002
Grapevine Branch	WVBST-70-F	Iron	2002
		Manganese	2002
Beartown Branch	WVBST-70-I	Iron	2002
		Manganese	2002
Atwell Branch	WVBST-70-O	Iron	2002
		Manganese	2002
Clear Fork	WVBST-76	Iron	2002
		Manganese	2002
Shabbyroom Branch	WVBST-78-B	Iron	2002
		Manganese	2002
HoneyCamp Branch	WVBST-78-D	Iron	2002
		Manganese	2002
Coontree Branch	WVBST-78-E	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Stonecoal Branch	WVBST-78-F	Iron	2002
		Manganese	2002
Badway Branch	WVBST-78-G	Iron	2002
		Manganese	2002
Newson Branch	WVBST-78-H	Iron	2002
		Manganese	2002
Moorecamp Branch	WVBST-78-I	Iron	2002
		Manganese	2002
Left Fork/Davy Branch	WVBST-85-A	Iron	2002
		Manganese	2002
Shannon Branch	WVBST-94	Iron	2002
		Manganese	2002
Upper Shannon Branch	WVBST-95	Iron	2002
		Manganese	2002
Puncheoncamp Branch	WVBST-98-A	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
HYDROLOGIC GROUP D			
LITTLE KANAWHA WATERSHED - HUC# 05030203			
Little Kanawha River	WVLK	Iron	2000
Mountwood Park Lake	WVLK-10-(L1)	Sedimentation/Siltation	1998
Reedy Creek	WVLK-25	Iron	2000
Spring Creek	WVLK-31	Iron	2000
Sand Fork	WVLK-86	Iron	2000
Saltlick Creek	WVLK-95	Iron	2000
Saltlick Pond 9	WVLK-95-(L1)	Sedimentation/Siltation	2000
LOWER NEW WATERSHED - HUC# 05050004			
Dunloup Creek	WVKN-22	Fecal Coliform	2002
		Iron	2002
Meadow Fork	WVKN-22-B	Iron	2002
		Manganese	2002
		pH	2002
MONONGAHELA WATERSHED - HUC# 05020003			
Booths Creek	WVM-10	Iron	2002
		Manganese	2002
		pH	2002
Owl Creek	WVM-10-D	Iron	2002
		Manganese	2002
		pH	2002
Mays Run	WVM-10-E	Iron	2002
		Manganese	2002
		pH	2002
UNT/Booths Creek RM 6.24	WVM-10-F	Iron	2002
		Manganese	2002
		pH	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Brand Run	WVM-11	Iron	2002
		Manganese	2002
		pH	2002
Flaggy Meadow Run	WVM-14	Iron	2002
Birchfield Run	WVM-15	Iron	2002
		Manganese	2002
		pH	2002
Camp Run	WVM-2.1	Iron	2002
		Manganese	2002
		pH	2002
UNT/Monongahela River RM 92.0	WVM-2.6	Iron	2002
		Manganese	2002
		pH	2002
Laurel Run	WVM-2.7	Iron	2002
		Manganese	2002
		pH	2002
Parker Run	WVM-20	Iron	2002
		Manganese	2002
		pH	2002
UNT/Monongahela River RM 121.8	WVM-20.2	Iron	2002
		Manganese	2002
		pH	2002
Pharaoh Run	WVM-21	Iron	2002
Robinson Run	WVM-22-C	Iron	2002
		Manganese	2002
		pH	2002
Sugar Run	WVM-22-K	Iron	2002
		Manganese	2002
		pH	2002
UNT/Monongahela River	WVM-23.5	Iron	2001
		Manganese	2001
Mod Run	WVM-23-K	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Fleming Fork	WVM-23-N-1	Iron	2002
		Manganese	2002
Whetstone Run	WVM-23-Q	Iron	2002
		Manganese	2002
		pH	2002
Joes Run	WVM-23-R	Iron	2002
		Manganese	2002
		pH	2002
UNT/Monongahela River RM 128.55	WVM-25.9	Iron	2002
		Manganese	2002
		pH	2002
West Run	WVM-3	Iron	2002
		Manganese	2002
		pH	2002
Robinson Run	WVM-4	Iron	2004
		Manganese	2004
		pH	2004
Crafts Run	WVM-4-A	Iron	2002
		Manganese	2002
		pH	2002
UNT/Robinson Run RM 1.09	WVM-4-B	Iron	2002
		Manganese	2002
		pH	2002
Scott Run	WVM-6	Iron	2002
		Manganese	2002
Dents Run	WVM-7	Iron	2002
		Manganese	2002
UNT/Dents Run RM 3.57	WVM-7-C	Iron	2002
		Manganese	2002
		pH	2002
Deckers Creek	WVM-8	Iron	2002
		Manganese	2002
		pH	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Hartman Run	WVM-8-0.5A	Iron	2002
		Manganese	2002
		pH	2002
Deep Hollow	WVM-8-A.7	Iron	2002
		Manganese	2002
		pH	2002
Glady Run	WVM-8-D	Iron	2002
		Manganese	2002
		pH	2002
Slabcamp Run	WVM-8-F	Iron	2002
		Manganese	2002
		pH	2002
Dillan Creek	WVM-8-G	Iron	2002
		Manganese	2002
Laurel Run	WVM-8-H	Iron	2002
		Manganese	2002
		pH	2002
Kanes Creek	WVM-8-I	Iron	2002
		Manganese	2002
		pH	2002
Cobun Creek	WVM-9	pH	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
HYDROLOGIC GROUP E			
CACAPON WATERSHED - HUC# 02070003			
Lost River	WVPC-24	Fecal Coliform	1998
LOWER OHIO WATERSHED - HUC# 05090101			
Ohio River (Lower)	WVO-lo	Dioxin	2000
		Polychlorinated biphenyls	2002
UPPER GUYANDOTTE WATERSHED - HUC# 05070101			
Guyandotte River (Upper)	WVOG-up	Aluminum (dis)	2004
		CNA-Biological	2004
		Fecal Coliform	2004
		Iron	2004
Big Cub Creek	WVOG-96	Aluminum (dis)	2004
Little Cub Creek	WVOG-108	Iron	2004
Indian Creek	WVOG-110	Iron	2004
		Manganese	2004
Brier Creek	WVOG-110-A	Iron	2004
		Manganese	2004
Marsh Fork	WVOG-110-A-2	Iron	2004
		Manganese	2004
Pinnacle Creek	WVOG-124	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Smith Branch	WVOG-124-D	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Laurel Branch	WVOG-124-H	Iron	2004
		Manganese	2004

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Spider Creek	WVOG-124-I	Iron	2004
		Manganese	2004
Cabin Creek	WVOG-127	Iron	2004
		Manganese	2004
Joe Branch	WVOG-128	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Long Branch	WVOG-129	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Still Run	WVOG-130	Iron	2004
		Manganese	2004
Barkers Creek	WVOG-131	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Hickory Branch	WVOG-131-B	Iron	2004
		Manganese	2004
Gooney Otter Creek	WVOG-131-F	Iron	2004
		Manganese	2004
Jims Branch	WVOG-131-F-1	Iron	2004
		Manganese	2004
Noseman Branch	WVOG-131-F-2	Iron	2004
		Manganese	2004
Slab Fork	WVOG-134	Aluminum (dis)	2004
		CNA-Biological	2004
		Iron	2004
		Manganese	2004
Measle Fork	WVOG-134-D	Iron	2004
		Manganese	2004
		pH	2004
Left Fork/Allen Creek	WVOG-135-A	CNA-Biological	2004
		Iron	2004
		Manganese	2004

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Devils Fork	WVOG-137	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Winding Gulf	WVOG-138	Aluminum (dis)	2004
		CNA-Biological	2004
		Iron	2004
		Manganese	2004
Stonecoal Creek	WVOG-139	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Island Creek	WVOG-65	Aluminum (dis)	2004
Coal Branch	WVOG-65-A	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
Copperas Mine Fork	WVOG-65-B	Aluminum (dis)	2004
		CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
Mud Fork	WVOG-65-B-1	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
Lower Dempsey Branch	WVOG-65-B-1-A	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
Ellis Branch	WVOG-65-B-1-B	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Upper Dempsey Branch	WVOG-65-B-1-E	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
Trace Fork	WVOG-65-B-4	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
Buffalo Creek	WVOG-75	Aluminum (dis)	2004
Proctor Hollow	WVOG-75-C.5	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
Huff Creek	WVOG-76	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Toney Fork	WVOG-76-L	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Oldhouse Branch	WVOG-77-A.5	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
Gilbert Creek	WVOG-89	Aluminum (dis)	2004
Muzzle Creek	WVOG-92-I	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Buffalo Creek	WVOG-92-K	CNA-Biological	2004
		Iron	2004
		Manganese	2004
		pH	2004
Kezee Fork	WVOG-92-K-1	Iron	2004
		Manganese	2004

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Mudlick Fork	WVOG-92-K-2	Iron	2004
		Manganese	2004
Pad Fork	WVOG-92-Q	Iron	2004
		Manganese	2004
Righthand Fork	WVOG-92-Q-1	Iron	2004
		Manganese	2004
Sturgeon Branch	WVOG-96-A	Iron	2004
		Manganese	2004
Road Branch	WVOG-96-B	Iron	2004
		Manganese	2004
Elk Trace Branch	WVOG-96-C	Iron	2004
		Manganese	2004
Toler Hollow	WVOG-96-F	CNA-Biological	2004
		Iron	2004
		Manganese	2004
McDonald Fork	WVOG-96-H	Iron	2004
		Manganese	2004
Reedy Branch	WVOG-99	Iron	2004
		Manganese	2004
CLEAR FORK SUBWATERSHED			
Clear Fork	WVOGC	Aluminum (dis)	2004
		CNA-Biological	2004
		Iron	2004
Lower Road Branch	WVOGC-12	Iron	2004
		Manganese	2004
Laurel Fork	WVOGC-16	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Milam Branch	WVOGC-16-M	CNA-Biological	2004
		Iron	2004
		Manganese	2004

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Trough Fork	WVOGC-16-P	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Toney Fork	WVOGC-19	CNA-Biological	2004
		Iron	2004
		Manganese	2004
Crane Fork	WVOGC-26	CNA-Biological	2004
		Iron	2004
		Manganese	2004
UPPER OHIO SOUTH WATERSHED - HUC# 05030106			
Ohio River (Upper South)	WVO-us	Polychlorinated biphenyls	2002
Burches Run Lake	WVO-83-C-(L1)	Sedimentation/Siltation	1998
		Tropic State Index	1998
Bear Rock Lake	WVO-88-D-2-F-(L1)	Oxygen, Dissolved	1999
		Sedimentation/Siltation	1999
		Tropic State Index	1999
Castleman Run Lake	WVO-92-L-(L1)	Sedimentation/Siltation	1999
		Tropic State Index	1999
WEST FORK WATERSHED - HUC# 05020002			
West Fork River	WVMW	Iron	2002
Browns Run	WVMW-10	Iron	2002
		Manganese	2002
Shinns Run	WVMW-11	Iron	2002
		Manganese	2002
		pH	2002
Robinson Run	WVMW-12	Iron	2002
		Manganese	2002
Pigotts Run	WVMW-12-A	Iron	2002
		Manganese	2002
UNT/Robinson Run RM 1.08	WVMW-12-B	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Tenmile Creek	WVMW-13	Iron	2002
		Manganese	2002
Jack Run	WVMW-13-0.5A	Iron	2002
		Manganese	2002
Jones Run	WVMW-13-A	Iron	2002
		Manganese	2002
Little Tenmile Creek	WVMW-13-B	Iron	2002
		Manganese	2002
Peters Run	WVMW-13-B-1	Iron	2002
		Manganese	2002
UNT/Little Tenmile Creek RM 2.0	WVMW-13-B-1.5	Iron	2002
		Manganese	2002
Bennett Run	WVMW-13-B-2	Iron	2002
		Manganese	2002
		pH	2002
Laurel Run	WVMW-13-B-4	Iron	2002
		Manganese	2002
Big Elk Creek	WVMW-13-B-6	Iron	2002
		Manganese	2002
Mudlick Run	WVMW-13-B-9	Iron	2002
		Manganese	2002
		pH	2002
Isaacs Creek	WVMW-13-C	Iron	2002
		Manganese	2002
Little Isaacs Creek	WVMW-13-C-1	Iron	2002
		Manganese	2002
Gregory Run	WVMW-13-D	Iron	2002
		Manganese	2002
Katys Lick Creek	WVMW-13-E	Iron	2002
		Manganese	2002
UNT/Tenmile Creek RM 10.82	WVMW-13-E.7	Iron	2002
		Manganese	2002
Rockcamp Run	WVMW-13-F	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Little Rockcamp Run	WVMW-13-F-1	Iron	2002
		Manganese	2002
Cherrycamp Run	WVMW-13-I-2	Iron	2002
		Manganese	2002
Patterson Fork	WVMW-13-I-3	Iron	2002
		Manganese	2002
Coburn Fork	WVMW-13-N	Iron	2002
		Manganese	2002
		pH	2002
Shaw Run	WVMW-13-N-1	Iron	2002
		Manganese	2002
		pH	2002
UNT/West Fork River RM 20.42	WVMW-14.2	Iron	2002
		Manganese	2002
		pH	2002
Simpson Creek	WVMW-15	Iron	2002
		Manganese	2002
UNT/Simpson Creek RM 1.23	WVMW-15-0.5A	Iron	2002
		Manganese	2002
		pH	2002
Jack Run	WVMW-15-A	Iron	2002
		Manganese	2002
		pH	2002
Smith Run	WVMW-15-B	Iron	2002
		Manganese	2002
		pH	2002
Jerry Run	WVMW-15-H	Iron	2002
		Manganese	2002
		pH	2002
Berry Run	WVMW-15-I	Iron	2002
		Manganese	2002
		pH	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Right Fork/Simpson Creek	WVMW-15-J	Iron	2002
		Manganese	2002
		pH	2002
UNT/Simpson Creek RM 21.92	WVMW-15-J.5	Iron	2002
		Manganese	2002
		pH	2002
UNT/Right Fork RM 1.97/Simpson Creek	WVMW-15-J-0.3	Iron	2002
		Manganese	2002
		pH	2002
Buck Run	WVMW-15-J-1	Iron	2002
		Manganese	2002
		pH	2002
Sand Lick Run	WVMW-15-J-2	Iron	2002
		Manganese	2002
		pH	2002
Gabe Fork	WVMW-15-J-3	Iron	2002
		Manganese	2002
		pH	2002
Bartlett Run	WVMW-15-K	Iron	2002
		Manganese	2002
		pH	2002
UNT/Simpson Creek RM 23.1	WVMW-15-K.7	Iron	2002
		Manganese	2002
		pH	2002
West Branch	WVMW-15-L	Iron	2002
		Manganese	2002
		pH	2002
UNT/West Branch RM 0.6	WVMW-15-L-0.5	Iron	2002
		Manganese	2002
		pH	2002
Stillhouse Run	WVMW-15-L-1	Iron	2002
		Manganese	2002
		pH	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Right Branch	WVMW-15-L-2	Iron	2002
		Manganese	2002
		pH	2002
Camp Run	WVMW-15-M	Iron	2002
		Manganese	2002
		pH	2002
UNT/Simpson Creek RM 26.94	WVMW-15-N	Iron	2002
		Manganese	2002
		pH	2002
Lambert Run	WVMW-16	Iron	2002
		Manganese	2002
		pH	2002
Jack Run	WVMW-17	Iron	2002
		Manganese	2002
Fall Run	WVMW-18	Iron	2002
		Manganese	2002
		pH	2002
Crooked Run	WVMW-19	Iron	2002
		Manganese	2002
		pH	2002
Booths Creek	WVMW-2	Iron	2002
		Manganese	2002
UNT/Booths Creek RM 1.4	WVMW-2-0.1A	Iron	2002
		Manganese	2002
		pH	2002
UNT/Booths Creek RM 3.5	WVMW-2-0.5A	Iron	2002
		Manganese	2002
		pH	2002
Simpson Fork	WVMW-20-B	Iron	2002
		Manganese	2002
Elk Creek	WVMW-21	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Murphy Run	WVMW-21-A	Iron	2002
		Manganese	2002
		pH	2002
Nutter Run	WVMW-21-D	Iron	2002
		Manganese	2002
Turkey Run	WVMW-21-E	Iron	2002
		Manganese	2002
Hooppole Run	WVMW-21-F	Iron	2002
		Manganese	2002
Brushy Fork	WVMW-21-G	Iron	2002
		Manganese	2002
Coplin Run	WVMW-21-G-1	Iron	2002
		Manganese	2002
Gnatty Creek	WVMW-21-M	Iron	2002
		Manganese	2002
Right Branch	WVMW-21-M-5	Iron	2002
		Manganese	2002
Charity Fork	WVMW-21-M-5-A	Iron	2002
		Manganese	2002
Birds Run	WVMW-21-O	Iron	2002
		Manganese	2002
Arnold Run	WVMW-21-P	Iron	2002
		Manganese	2002
Isaacs Run	WVMW-21-Q	Iron	2002
		Manganese	2002
Stewart Run	WVMW-21-S	Iron	2002
		Manganese	2002
Washburncamp Run	WVMW-22-A	Iron	2002
		Manganese	2002
Browns Creek	WVMW-23	Iron	2002
		Manganese	2002
Coburns Creek	WVMW-24	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Sycamore Creek	WVMW-25	Iron	2002
		Manganese	2002
Lost Creek	WVMW-26	Iron	2002
		Manganese	2002
UNT/Lost Creek RM 3.32	WVMW-26-0.5A	Iron	2002
		Manganese	2002
Bonds Run	WVMW-26-A	Iron	2002
		Manganese	2002
Buffalo Creek	WVMW-27	Iron	2002
		Manganese	2002
Hog Lick Run	WVMW-2-A	Iron	2002
		Manganese	2002
Sweep Run	WVMW-2-C	Iron	2002
		Manganese	2002
Horners Run	WVMW-2-D	Iron	2002
		Manganese	2002
		pH	2002
UNT/Booths Creek RM 8.3	WVMW-2-D.5	Iron	2002
		Manganese	2002
Purdys Run	WVMW-2-D-1	Iron	2002
		Manganese	2002
		pH	2002
Coons Run	WVMW-3	Iron	2002
		Manganese	2002
		pH	2002
Hackers Creek	WVMW-31	Iron	2002
		Manganese	2002
		pH	2002
Mare Run	WVMW-36-C.5	Iron	2002
		Manganese	2002
Grass Run	WVMW-38-E	Iron	2002
		Manganese	2002
Stone Lick	WVMW-44	Iron	2002
		Manganese	2002

Supplemental Table B - Previously Listed Waters - TMDL Developed - 2004

Stream Name	Stream Code	Criteria	TMDL Date
Fitz Run	WVMW-50-C	Iron	2002
		Manganese	2002
		pH	2002
Ward Run	WVMW-50-D	Iron	2002
		Manganese	2002
Bingamon Creek	WVMW-7	Iron	2002
UNT/West Fork River RM 11.44	WVMW-7.1	Iron	2002
		Manganese	2002
		pH	2002
Elklick Run	WVMW-7-C	Iron	2002
		Manganese	2002
Cunningham Run	WVMW-7-D	Iron	2002
Laurel Run	WVMW-8	Iron	2002
		Manganese	2002
UNT/West Fork RM 13.1 (at Viropa)	WVMW-8.5	Iron	2002
		Manganese	2002
		pH	2002
Mudlick Run	WVMW-9	Iron	2002
		Manganese	2002
		pH	2002
UNT/West Fork RM 13.9	WVMW-9.5	Iron	2002
		Manganese	2002
		pH	2002

Supplemental Table C-

TMDL Developed-

Below Listing Criteria

Supplemental Table C - TMDL Developed - Below Listing Criteria - 2004

ID#	Stream Name	Stream Code	Criteria	TMDL Date
HYDROLOGIC GROUP A				
	SOUTH BRANCH POTOMAC WATERSHED - HUC# 02070001			
	South Fork/South Branch Potomac River	WVPSB-21	Fecal coliform	1998
	North Fork/South Branch Potomac River	WVPSB-28	Fecal coliform	1998

Supplemental Table D-

Impaired Waters-

TMDLs Not Required

Supplemental D - Category 4b and 4c

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	2002 list?

CATEGORY 4b - Impaired or threatened for one or more designated uses but does not require the development of a TMDL: Other pollution control requirements are reasonably expected to result in the attainment of the water quality standard in the near future.

HYDROLOGIC GROUP C

LOWER GUYANDOTTE WATERSHED - HUC# 05070102

Pats Branch	WVOG-0.5	Fluoride	Industrial Point Source Discharge	0.2	From mouth to RM 0.2	No

Supplemental D - Category 4b and 4c

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	2002 list?

CATEGORY 4c - Impaired or threatened for one or more designated uses but does not require the development of a TMDL: Impairment is not caused by a pollutant.

HYDROLOGIC GROUP B

COAL WATERSHED - HUC# 05050009

Spruce Laurel Fork	WVKC-10-T-11	Low Flow Alterations	Coal Mining	7.6	From RM 6.1 to RM 13.7	No
Sycamore Fork	WVKC-10-T-11-F	Low Flow Alterations	Coal Mining	2.4	From mouth to RM 2.4	No
UNT/Sycamore Fork RM 1.4	WVKC-10-T-11-F-2	Low Flow Alterations	Coal Mining	0.4	Entire length	No
UNT/Sycamore Fork RM 1.7	WVKC-10-T-11-F-3	Low Flow Alterations	Coal Mining	0.4	Entire length	No
UNT/Sycamore Fork RM 2.0	WVKC-10-T-11-F-4	Low Flow Alterations	Coal Mining	0.3	From mouth to RM 0.3	No
UNT/Sycamore Fork RM 2.3	WVKC-10-T-11-F-5	Low Flow Alterations	Coal Mining	0.1	Entire length	No
Skin Poplar Branch	WVKC-10-T-11-G	Low Flow Alterations	Coal Mining	2.5	From mouth to RM 2.5	No
Jigly Branch	WVKC-10-T-11-G-1	Low Flow Alterations	Coal Mining	1.5	Entire length	No
UNT/Jigly Branch RM 0.8	WVKC-10-T-11-G-1-B	Low Flow Alterations	Coal Mining	0.5	Entire length	No
UNT/Skin Poplar Branch RM 2.5	WVKC-10-T-11-G-4	Low Flow Alterations	Coal Mining	0.3	From mouth to RM 0.3	No
Lower Lick Branch	WVKC-10-T-11-I	Low Flow Alterations	Coal Mining	0.7	From mouth to RM 0.7	No
UNT/James Branch RM 0.5	WVKC-10-U-16-A	Low Flow Alterations	Coal Mining	0.9	From RM 0.5 to RM 1.4	No
UNT/UNT RM 0.5/James Branch RM 0.5	WVKC-10-U-16-A-1	Low Flow Alterations	Coal Mining	0.6	Entire length	No
UNT/UNT RM 1.1/James Branch RM 0.5	WVKC-10-U-16-A-2	Low Flow Alterations	Coal Mining	0.6	Entire length	No
West Fork/Pond Fork	WVKC-10-U-7	Low Flow Alterations	Coal Mining	6.5	From RM 9.7 to RM 16.2	No
Bandy Branch	WVKC-10-U-7-E	Low Flow Alterations	Coal Mining	2.6	From mouth to RM 2.6	No
Mudlick Branch	WVKC-10-U-7-E-1	Low Flow Alterations	Coal Mining	1.7	From mouth to RM 1.7	No
UNT/Mudlick Branch RM 1.0	WVKC-10-U-7-E-1-A	Low Flow Alterations	Coal Mining	0.4	Entire length	No
Still Hollow	WVKC-10-U-7-E-2	Low Flow Alterations	Coal Mining	0.6	From mouth to RM 1.7	No
James Creek	WVKC-10-U-7-I	Low Flow Alterations	Coal Mining	0.7	From RM 0.16 to RM 0.84	No
Ducky Ferrel Hollow	WVKC-10-U-7-I.5	Low Flow Alterations	Coal Mining	1.2	Entire length	No

Supplemental D - Category 4b and 4c

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	2002 list?
UNT/James Creek RM 0.23	WVKC-10-U-7-I-1	Low Flow Alterations	Coal Mining	0.8	From mouth to RM 0.8	No
Matts Creek	WVKC-10-U-7-J	Low Flow Alterations	Coal Mining	2.0	From mouth to RM 2.0	No
UNT/ Matts Creek RM 0.2	WVKC-10-U-7-J-1	Low Flow Alterations	Coal Mining	0.2	Entire length	No
UNT/ Matts Creek RM 0.9	WVKC-10-U-7-J-2	Low Flow Alterations	Coal Mining	0.6	From mouth to RM 0.6	No
UNT/UNT RM 0.2/ Matts Creek RM 0.9	WVKC-10-U-7-J-2-A	Low Flow Alterations	Coal Mining	0.3	Entire length	No
UNT/ Matts Creek RM 1.4	WVKC-10-U-7-J-3	Low Flow Alterations	Coal Mining	0.4	Entire length	No
UNT/West Fork RM 10.6	WVKC-10-U-7-K	Low Flow Alterations	Coal Mining	0.6	Entire length	No
UNT/West Fork RM 11.6	WVKC-10-U-7-L	Low Flow Alterations	Coal Mining	0.5	Entire length	No
UNT/West Fork RM 11.8	WVKC-10-U-7-M	Low Flow Alterations	Coal Mining	0.5	Entire length	No
UNT/West Fork RM 11.9	WVKC-10-U-7-N	Low Flow Alterations	Coal Mining	0.5	Entire length	No
UNT/West Fork RM 12.1	WVKC-10-U-7-O	Low Flow Alterations	Coal Mining	0.4	From mouth to RM 0.4	No
UNT/West Fork RM 13.0	WVKC-10-U-7-P	Low Flow Alterations	Coal Mining	0.8	Entire length	No
UNT/West Fork RM 14.3	WVKC-10-U-7-Q	Low Flow Alterations	Coal Mining	1.1	Entire length	No
UNT/West Fork RM 14.5	WVKC-10-U-7-R	Low Flow Alterations	Coal Mining	1.0	Entire length	No
UNT/West Fork RM 15.5	WVKC-10-U-7-S	Low Flow Alterations	Coal Mining	0.9	From mouth to RM 0.9	No
UNT/UNT RM 0.3/West Fork RM 15.5	WVKC-10-U-7-S-1	Low Flow Alterations	Coal Mining	0.3	From mouth to RM 0.3	No
UNT/West Fork RM 15.7	WVKC-10-U-7-T	Low Flow Alterations	Coal Mining	0.5	Entire length	No
UNT/West Fork RM 16.0	WVKC-10-U-7-U	Low Flow Alterations	Coal Mining	0.4	Entire length	No

Supplemental Table E-

Total Aluminum TMDLs Developed

Supplemental E - Total Aluminum TMDLs - 2004

HYDROLOGIC GROUP A

CHEAT WATERSHED - HUC# 05020004

Stream Name	Stream Code	Criteria	TMDL Date
Cheat River	WVMC	Aluminum (tot)	2001
UNT/Cheat Lake RM 4.0	WVMC-0.5	Aluminum (tot)	2001
UNT/Cheat Lake RM 7.7	WVMC-2.3	Aluminum (tot)	2001
UNT/Cheat Lake RM 8.5	WVMC-2.4	Aluminum (tot)	2001
Crammeys Run	WVMC-3	Aluminum (tot)	2001
Bull Run	WVMC-11	Aluminum (tot)	2001
UNT/Bull Run RM 1.6	WVMC-11-0.1A	Aluminum (tot)	2001
Middle Run	WVMC-11-A	Aluminum (tot)	2001
Mountain Run	WVMC-11-B	Aluminum (tot)	2001
Lick Run	WVMC-11-B-1	Aluminum (tot)	2001
Right Fork Bull Run	WVMC-11-E	Aluminum (tot)	2001
Big Sandy Creek	WVMC-12	Aluminum (tot)	2001
UNT/Big Sandy Creek RM 2.9	WVMC-12-0.2A	Aluminum (tot)	2001
Sovern Run	WVMC-12-0.5A	Aluminum (tot)	2001
Little Sandy Creek	WVMC-12-B	Aluminum (tot)	2001
Webster Run	WVMC-12-B-0.5	Aluminum (tot)	2001
Beaver Creek	WVMC-12-B-1	Aluminum (tot)	2001
Glade Run	WVMC-12-B-1-A	Aluminum (tot)	2001
UNT/Beaver Creek RM 1.68	WVMC-12-B-1-C	Aluminum (tot)	2001
Hog Run	WVMC-12-B-3	Aluminum (tot)	2001
Cherry Run	WVMC-12-B-5	Aluminum (tot)	2001
Hazel Run	WVMC-12-C	Aluminum (tot)	2001
Conner Run	WVMC-13.5	Aluminum (tot)	2001
Greens Run	WVMC-16	Aluminum (tot)	2001
South Fork/Greens Run	WVMC-16-A	Aluminum (tot)	2001
UNT/South Fork RM 0.6	WVMC-16-A-1	Aluminum (tot)	2001
Muddy Creek	WVMC-17	Aluminum (tot)	2001
Martin Creek	WVMC-17-A	Aluminum (tot)	2001
Fickey Run	WVMC-17-A-0.5	Aluminum (tot)	2001
Glade Run	WVMC-17-A-1	Aluminum (tot)	2001
UNT/Glade Run RM 1.06	WVMC-17-A-1-A	Aluminum (tot)	2001
UNT/Glade Run RM 1.36	WVMC-17-A-1-B	Aluminum (tot)	2001

Supplemental E - Total Aluminum TMDLs - 2004

WEST VIRGINIA

Stream Name	Stream Code	Criteria	TMDL Date
Roaring Creek	WVMC-18	Aluminum (tot)	2001
Morgan Run	WVMC-23	Aluminum (tot)	2001
UNT/Morgan Run RM 1.1	WVMC-23-0.2A	Aluminum (tot)	2001
Church Creek	WVMC-23-A	Aluminum (tot)	2001
UNT/Church Creek RM 1.2	WVMC-23-A-1	Aluminum (tot)	2001
Heather Run	WVMC-24	Aluminum (tot)	2001
UNT/Heather Run RM 1.5	WVMC-24-A	Aluminum (tot)	2001
Lick Run	WVMC-25	Aluminum (tot)	2001
Joes Run	WVMC-26	Aluminum (tot)	2001
Pringle Run	WVMC-27	Aluminum (tot)	2001
Left Fork/Pringle Run	WVMC-27-A	Aluminum (tot)	2001
Right Fork/Pringle Run	WVMC-27-B	Aluminum (tot)	2001
Blackwater River	WVMC-60-D	Aluminum (tot)	2001
Tub Run	WVMC-60-D-2	Aluminum (tot)	2001
Finley Run	WVMC-60-D-2.7	Aluminum (tot)	2001
North Fork/Blackwater River	WVMC-60-D-3	Aluminum (tot)	2001
Long Run	WVMC-60-D-3-A	Aluminum (tot)	2001
Middle Run	WVMC-60-D-3-B	Aluminum (tot)	2001
Snyder Run	WVMC-60-D-3-C	Aluminum (tot)	2001
Beaver Creek	WVMC-60-D-5	Aluminum (tot)	2001
Hawkins Run	WVMC-60-D-5-C	Aluminum (tot)	2001

Supplemental E - Total Aluminum TMDLs - 2004

WEST VIRGINIA

Stream Name	Stream Code	Criteria	TMDL Date
UPPER KANAWHA WATERSHED - HUC# 05050006			
Paint Creek	WVK-65	Aluminum (tot)	2001
Jones Branch	WVK-65-C	Aluminum (tot)	2001
Tenmile Fork	WVK-65-M	Aluminum (tot)	2001
Long Branch	WVK-65-M-1	Aluminum (tot)	2001
Hickory Camp Branch	WVK-65-P	Aluminum (tot)	2001
UNT/Paint Creek RM 17.2	WVK-65-Q.3	Aluminum (tot)	2001
UNT/Paint Creek RM 17.6	WVK-65-Q.5	Aluminum (tot)	2001
Fifteenmile Creek	WVK-65-R	Aluminum (tot)	2001
Skitter Creek	WVK-65-T	Aluminum (tot)	2001
Lykins Creek	WVK-65-W	Aluminum (tot)	2001
Long Branch	WVK-65-Y-2	Aluminum (tot)	2001
Packs Branch	WVK-65-DD	Aluminum (tot)	2001
Big Fork	WVK-65-DD-2	Aluminum (tot)	2001

Supplemental E - Total Aluminum TMDLs - 2004

Stream Name	Stream Code	Criteria	TMDL Date
HYDROLOGIC GROUP B			
ELK WATERSHED - HUC# 05050007			
Elk River	WVKE	Aluminum (tot)	2001
Morris Creek	WVKE-26	Aluminum (tot)	2001
Left Fork/Morris Creek	WVKE-26-A	Aluminum (tot)	2001
Buffalo Creek	WVKE-50	Aluminum (tot)	2001
Pheasant Run	WVKE-50-T	Aluminum (tot)	2001
LOWER KANAWHA WATERSHED - HUC# 05050008			
Ridenour Lake	WVK-30-A-(L1)	Aluminum (tot)	1999
NORTH BRANCH POTOMAC WATERSHED - HUC# 02070002			
Stony River	WVPNB-17	Aluminum (tot)	2001
Fourmile Run	WVPNB-17-C	Aluminum (tot)	2001
Laurel Run	WVPNB-17-D	Aluminum (tot)	2001
Helmick Run	WVPNB-17-E	Aluminum (tot)	2001

Supplemental E - Total Aluminum TMDLs - 2004

Stream Name	Stream Code	Criteria	TMDL Date
TYGART VALLEY WATERSHED - HUC# 05020001			
Tygart Valley River	WVMT	Aluminum (tot)	2001
Goose Creek	WVMT-4	Aluminum (tot)	2001
Lost Run	WVMT-5	Aluminum (tot)	2001
Berkely Run	WVMT-11	Aluminum (tot)	2001
Shelby Run	WVMT-11-A	Aluminum (tot)	2001
Long Run	WVMT-11-B	Aluminum (tot)	2001
Berry Run	WVMT-11-B-1	Aluminum (tot)	2001
Three Fork Creek	WVMT-12	Aluminum (tot)	2001
Raccoon Creek	WVMT-12-C	Aluminum (tot)	2001
Little Racoon Run	WVMT-12-C-2	Aluminum (tot)	2001
Brains Creek	WVMT-12-G-2	Aluminum (tot)	2001
Birds Creek	WVMT-12-H	Aluminum (tot)	2001
Squires Creek	WVMT-12-H-1	Aluminum (tot)	2001
Sandy Creek	WVMT-18	Aluminum (tot)	2001
Glade Run	WVMT-18-C	Aluminum (tot)	2001
Little Sandy Creek	WVMT-18-E	Aluminum (tot)	2001
Maple Run	WVMT-18-E-1	Aluminum (tot)	2001
Left Fork/Little Sandy Creek	WVMT-18-E-3	Aluminum (tot)	2001
Left Fork/Sandy Creek	WVMT-18-G	Aluminum (tot)	2001
Frost Run	WVMT-24-A	Aluminum (tot)	2001
Foxgrape Run	WVMT-26-B	Aluminum (tot)	2001
Little Hackers Creek	WVMT-26-C	Aluminum (tot)	2001
Ford Run	WVMT-27	Aluminum (tot)	2001
Anglins Run	WVMT-29	Aluminum (tot)	2001
Pecks Run	WVMTB-5	Aluminum (tot)	2001
UNT/Pecks Run RM 3.62	WVMTB-5-0.8A	Aluminum (tot)	2001
Mud Run	WVMTB-5-C	Aluminum (tot)	2001
Turkey Run	WVMTB-10	Aluminum (tot)	2001
Sugar Run	WVMTB-10-A	Aluminum (tot)	2001
Fink Run	WVMTB-11	Aluminum (tot)	2001
Bridge Run	WVMTB-11-B.7	Aluminum (tot)	2001
Tenmile Creek	WVMTB-25	Aluminum (tot)	1998
Swamp Run	WVMTB-29	Aluminum (tot)	2001
Middle Fork River	WVMTM	Aluminum (tot)	2001

Supplemental E - Total Aluminum TMDLs - 2004

WEST VIRGINIA

Stream Name	Stream Code	Criteria	TMDL Date
Devil Run	WVMTM-4	Aluminum (tot)	2001
Hell Run	WVMTM-6	Aluminum (tot)	2001
Whiteoak Run	WVMTM-8	Aluminum (tot)	2001
Cassity Fork	WVMTM-16	Aluminum (tot)	2001
Panther Run	WVMTM-16-A	Aluminum (tot)	2001
Island Run	WVMT-36	Aluminum (tot)	2001
Beaver Creek	WVMT-37	Aluminum (tot)	2001
Laurel Run	WVMT-39	Aluminum (tot)	2001
UNT/Tygart Valley River RM 75.2 (Harding)	WVMT-40.5	Aluminum (tot)	2001
Grassy Run	WVMT-41	Aluminum (tot)	2001
Roaring Creek	WVMT-42	Aluminum (tot)	2001

Supplemental E - Total Aluminum TMDLs - 2004

Stream Name	Stream Code	Criteria	TMDL Date
HYDROLOGIC GROUP C			
MIDDLE OHIO SOUTH WATERSHED - HUC# 05030202			
Turkey Run Lake	WVO-37-(L1)	Aluminum (tot)	1999
TUG FORK WATERSHED - HUC# 05070201			
Tug Fork River	WVBST	Aluminum (tot)	2002
PowderMill Branch	WVBST-3	Aluminum (tot)	2002
Pigeon Creek	WVBST-24	Aluminum (tot)	2002
Millstone Branch	WVBST-24-O	Aluminum (tot)	2002
Sugartree Creek	WVBST-32	Aluminum (tot)	2002
Williamson Creek	WVBST-33	Aluminum (tot)	2002
Sprouse Creek	WVBST-38	Aluminum (tot)	2002
Mate Creek	WVBST-40	Aluminum (tot)	2002
Rutherford Branch	WVBST-40-B	Aluminum (tot)	2002
Mitchell Branch	WVBST-40-C	Aluminum (tot)	2002
Chafin Branch	WVBST-40-D	Aluminum (tot)	2002
Thacker Creek	WVBST-42	Aluminum (tot)	2002
Scissorsville Branch	WVBST-42-A	Aluminum (tot)	2002
Mauchlinville Branch	WVBST-42-B	Aluminum (tot)	2002
Grapevine Creek	WVBST-43	Aluminum (tot)	2002
Lick Fork	WVBST-43-A	Aluminum (tot)	2002
Panther Creek	WVBST-60	Aluminum (tot)	2002
Cub Branch	WVBST-60-D	Aluminum (tot)	2002
Grapevine Branch	WVBST-70-F	Aluminum (tot)	2002
Beartown Branch	WVBST-70-I	Aluminum (tot)	2002
Atwell Branch	WVBST-70-O	Aluminum (tot)	2002
Clear Fork	WVBST-76	Aluminum (tot)	2002
Shabbyroom Branch	WVBST-78-B	Aluminum (tot)	2002
HoneyCamp Branch	WVBST-78-D	Aluminum (tot)	2002
Coontree Branch	WVBST-78-E	Aluminum (tot)	2002
Stonecoal Branch	WVBST-78-F	Aluminum (tot)	2002
Badway Branch	WVBST-78-G	Aluminum (tot)	2002
Newson Branch	WVBST-78-H	Aluminum (tot)	2002

Supplemental E - Total Aluminum TMDLs - 2004

WEST VIRGINIA

Stream Name	Stream Code	Criteria	TMDL Date
Moorecamp Branch	WVBST-78-I	Aluminum (tot)	2002
Left Fork/Davy Branch	WVBST-85-A	Aluminum (tot)	2002
Shannon Branch	WVBST-94	Aluminum (tot)	2002
Upper Shannon Branch	WVBST-95	Aluminum (tot)	2002
Puncheoncamp Branch	WVBST-98-A	Aluminum (tot)	2002
Little Indian Creek	WVBST-100	Aluminum (tot)	2002
Jed Branch	WVBST-102	Aluminum (tot)	2002
Rock Narrows Branch	WVBST-103	Aluminum (tot)	2002
Harris Branch	WVBST-104	Aluminum (tot)	2002
Mitchell Branch	WVBST-105	Aluminum (tot)	2002
Sugarcamp Branch	WVBST-106	Aluminum (tot)	2002
Grapevine Branch	WVBST-107	Aluminum (tot)	2002
Sandlick Creek	WVBST-109	Aluminum (tot)	2002
Right Fork/Sandlick Creek	WVBST-109-A	Aluminum (tot)	2002
Left Fork/Sandlick Creek	WVBST-109-B	Aluminum (tot)	2002
Adkin Branch	WVBST-110	Aluminum (tot)	2002
Belcher Branch	WVBST-111	Aluminum (tot)	2002
Turnhole Branch	WVBST-112	Aluminum (tot)	2002
Harmon Branch	WVBST-113	Aluminum (tot)	2002
South Fork/Tug Fork River	WVBST-115	Aluminum (tot)	2002
Tea Branch	WVBST-115-A	Aluminum (tot)	2002
McClure Branch	WVBST-115-B	Aluminum (tot)	2002
Jump Branch	WVBST-115-D	Aluminum (tot)	2002
Spice Creek	WVBST-115-E	Aluminum (tot)	2002
Laurel Branch	WVBST-115-F	Aluminum (tot)	2002
Road Fork	WVBST-115-G	Aluminum (tot)	2002
Belcher Branch	WVBST-116	Aluminum (tot)	2002
Loop Branch	WVBST-117	Aluminum (tot)	2002
Mill Branch	WVBST-118	Aluminum (tot)	2002
Dry Branch	WVBST-119	Aluminum (tot)	2002
Little Creek	WVBST-120	Aluminum (tot)	2002
Indian Grave Branch	WVBST-120-A	Aluminum (tot)	2002
Puncheoncamp Branch	WVBST-120-B	Aluminum (tot)	2002
Millseat Branch	WVBST-121	Aluminum (tot)	2002
Ballard Harmon Branch	WVBST-122	Aluminum (tot)	2002
Sams Branch	WVBST-123	Aluminum (tot)	2002

HYDROLOGIC GROUP D

LITTLE KANAWHA WATERSHED - HUC# 05030203

Stream Name	Stream Code	Criteria	TMDL Date
Little Kanawha River	WVLK	Aluminum (tot)	2000
Reedy Creek	WVLK-25	Aluminum (tot)	2000
Spring Creek	WVLK-31	Aluminum (tot)	2000
Sand Fork	WVLK-86	Aluminum (tot)	2000
Oil Creek	WVLK-94	Aluminum (tot)	2000
Saltlick Creek	WVLK-95	Aluminum (tot)	2000

LOWER NEW WATERSHED - HUC# 05050004

Dunloup Creek	WVKN-22	Aluminum (tot)	2002
Meadow Fork	WVKN-22-B	Aluminum (tot)	2002

MONONGAHELA WATERSHED - HUC# 05020003

Monongahela River	WVM	Aluminum (tot)	2002
Camp Run	WVM-2.1	Aluminum (tot)	2002
UNT/Monongahela River RM 92.0	WVM-2.6	Aluminum (tot)	2002
Laurel Run	WVM-2.7	Aluminum (tot)	2002
West Run	WVM-3	Aluminum (tot)	2002
Robinson Run	WVM-4	Aluminum (tot)	2004
Crafts Run	WVM-4-A	Aluminum (tot)	2002
UNT/Robinson Run RM 1.09	WVM-4-B	Aluminum (tot)	2002
Scott Run	WVM-6	Aluminum (tot)	2002
Dents Run	WVM-7	Aluminum (tot)	2002
UNT/Dents Run RM 3.57	WVM-7-C	Aluminum (tot)	2002
Deckers Creek	WVM-8	Aluminum (tot)	2002
Hartman Run	WVM-8-0.5A	Aluminum (tot)	2002
Deep Hollow	WVM-8-A.7	Aluminum (tot)	2002
Glady Run	WVM-8-D	Aluminum (tot)	2002
Slabcamp Run	WVM-8-F	Aluminum (tot)	2002
Dillan Creek	WVM-8-G	Aluminum (tot)	2002
Laurel Run	WVM-8-H	Aluminum (tot)	2002

Supplemental E - Total Aluminum TMDLs - 2004

WEST VIRGINIA

Stream Name	Stream Code	Criteria	TMDL Date
Kanes Creek	WVM-8-I	Aluminum (tot)	2002
Booths Creek	WVM-10	Aluminum (tot)	2002
Owl Creek	WVM-10-D	Aluminum (tot)	2002
Mays Run	WVM-10-E	Aluminum (tot)	2002
UNT/Booths Creek RM 6.24	WVM-10-F	Aluminum (tot)	2002
Brand Run	WVM-11	Aluminum (tot)	2002
Flaggy Meadow Run	WVM-14	Aluminum (tot)	2002
Birchfield Run	WVM-15	Aluminum (tot)	2002
Indian Creek	WVM-17	Aluminum (tot)	2002
Parker Run	WVM-20	Aluminum (tot)	2002
UNT/Monongahela River RM 121.8	WVM-20.2	Aluminum (tot)	2002
Robinson Run	WVM-22-C	Aluminum (tot)	2002
Sugar Run	WVM-22-K	Aluminum (tot)	2002
Buffalo Creek	WVM-23	Aluminum (tot)	2002
Mod Run	WVM-23-K	Aluminum (tot)	2002
Fleming Fork	WVM-23-N-1	Aluminum (tot)	2002
Whetstone Run	WVM-23-Q	Aluminum (tot)	2002
Joes Run	WVM-23-R	Aluminum (tot)	2002
UNT/Monongahela River RM 128.55	WVM-25.9	Aluminum (tot)	2002

Supplemental E - Total Aluminum TMDLs - 2004

Stream Name	Stream Code	Criteria	TMDL Date
HYDROLOGIC GROUP E			
LOWER OHIO WATERSHED - HUC# 05090101			
Fourpole Creek	WVO-3	Aluminum (tot)	2002
WEST FORK WATERSHED - HUC# 05020002			
West Fork River	WVMW	Aluminum (tot)	2002
Booths Creek	WVMW-2	Aluminum (tot)	2002
UNT/Booths Creek RM 1.4	WVMW-2-0.1A	Aluminum (tot)	2002
UNT/Booths Creek RM 3.5	WVMW-2-0.5A	Aluminum (tot)	2002
Hog Lick Run	WVMW-2-A	Aluminum (tot)	2002
Sweep Run	WVMW-2-C	Aluminum (tot)	2002
Horners Run	WVMW-2-D	Aluminum (tot)	2002
Purdys Run	WVMW-2-D-1	Aluminum (tot)	2002
UNT/Booths Creek RM 8.3	WVMW-2-D.5	Aluminum (tot)	2002
Coons Run	WVMW-3	Aluminum (tot)	2002
Bingamon Creek	WVMW-7	Aluminum (tot)	2002
Elklick Run	WVMW-7-C	Aluminum (tot)	2002
Cunningham Run	WVMW-7-D	Aluminum (tot)	2002
UNT/West Fork River RM 11.44	WVMW-7.1	Aluminum (tot)	2002
Laurel Run	WVMW-8	Aluminum (tot)	2002
UNT/West Fork RM 13.1 (at Viropa)	WVMW-8.5	Aluminum (tot)	2002
Mudlick Run	WVMW-9	Aluminum (tot)	2002
UNT/West Fork RM 13.9	WVMW-9.5	Aluminum (tot)	2002
Browns Run	WVMW-10	Aluminum (tot)	2002
Shinns Run	WVMW-11	Aluminum (tot)	2002
Robinson Run	WVMW-12	Aluminum (tot)	2002
Pigotts Run	WVMW-12-A	Aluminum (tot)	2002
UNT/Robinson Run RM 1.08	WVMW-12-B	Aluminum (tot)	2002
Tenmile Creek	WVMW-13	Aluminum (tot)	2002
Jack Run	WVMW-13-0.5A	Aluminum (tot)	2002
Jones Run	WVMW-13-A	Aluminum (tot)	2002
Little Tenmile Creek	WVMW-13-B	Aluminum (tot)	2002
Peters Run	WVMW-13-B-1	Aluminum (tot)	2002

Supplemental E - Total Aluminum TMDLs - 2004

WEST VIRGINIA

Stream Name	Stream Code	Criteria	TMDL Date
UNT/Little Tenmile Creek RM 2.0	WVMW-13-B-1.5	Aluminum (tot)	2002
Bennett Run	WVMW-13-B-2	Aluminum (tot)	2002
Laurel Run	WVMW-13-B-4	Aluminum (tot)	2002
Big Elk Creek	WVMW-13-B-6	Aluminum (tot)	2002
Mudlick Run	WVMW-13-B-9	Aluminum (tot)	2002
Isaacs Creek	WVMW-13-C	Aluminum (tot)	2002
Little Isaacs Creek	WVMW-13-C-1	Aluminum (tot)	2002
Gregory Run	WVMW-13-D	Aluminum (tot)	2002
Katys Lick Creek	WVMW-13-E	Aluminum (tot)	2002
UNT/Tenmile Creek RM 10.82	WVMW-13-E.7	Aluminum (tot)	2002
Rockcamp Run	WVMW-13-F	Aluminum (tot)	2002
Little Rockcamp Run	WVMW-13-F-1	Aluminum (tot)	2002
Cherrycamp Run	WVMW-13-I-2	Aluminum (tot)	2002
Patterson Fork	WVMW-13-I-3	Aluminum (tot)	2002
Coburn Fork	WVMW-13-N	Aluminum (tot)	2002
Shaw Run	WVMW-13-N-1	Aluminum (tot)	2002
UNT/West Fork River RM 20.42	WVMW-14.2	Aluminum (tot)	2002
Simpson Creek	WVMW-15	Aluminum (tot)	2002
UNT/Simpson Creek RM 1.23	WVMW-15-0.5A	Aluminum (tot)	2002
Jack Run	WVMW-15-A	Aluminum (tot)	2002
Smith Run	WVMW-15-B	Aluminum (tot)	2002
Jerry Run	WVMW-15-H	Aluminum (tot)	2002
Berry Run	WVMW-15-I	Aluminum (tot)	2002
Right Fork/Simpson Creek	WVMW-15-J	Aluminum (tot)	2002
UNT/Right Fork RM 1.97/Simpson Creek	WVMW-15-J-0.3	Aluminum (tot)	2002
Buck Run	WVMW-15-J-1	Aluminum (tot)	2002
Sand Lick Run	WVMW-15-J-2	Aluminum (tot)	2002
Gabe Fork	WVMW-15-J-3	Aluminum (tot)	2002
UNT/Simpson Creek RM 21.92	WVMW-15-J.5	Aluminum (tot)	2002
Bartlett Run	WVMW-15-K	Aluminum (tot)	2002
UNT/Simpson Creek RM 23.1	WVMW-15-K.7	Aluminum (tot)	2002
West Branch	WVMW-15-L	Aluminum (tot)	2002
UNT/West Branch RM 0.6	WVMW-15-L-0.5	Aluminum (tot)	2002
Stillhouse Run	WVMW-15-L-1	Aluminum (tot)	2002
Right Branch	WVMW-15-L-2	Aluminum (tot)	2002
Camp Run	WVMW-15-M	Aluminum (tot)	2002

Supplemental E - Total Aluminum TMDLs - 2004

WEST VIRGINIA

Stream Name	Stream Code	Criteria	TMDL Date
UNT/Simpson Creek RM 26.94	WVMW-15-N	Aluminum (tot)	2002
Lambert Run	WVMW-16	Aluminum (tot)	2002
Jack Run	WVMW-17	Aluminum (tot)	2002
Fall Run	WVMW-18	Aluminum (tot)	2002
Crooked Run	WVMW-19	Aluminum (tot)	2002
Simpson Fork	WVMW-20-B	Aluminum (tot)	2002
Elk Creek	WVMW-21	Aluminum (tot)	2002
Murphy Run	WVMW-21-A	Aluminum (tot)	2002
Nutter Run	WVMW-21-D	Aluminum (tot)	2002
Turkey Run	WVMW-21-E	Aluminum (tot)	2002
Hooppole Run	WVMW-21-F	Aluminum (tot)	2002
Brushy Fork	WVMW-21-G	Aluminum (tot)	2002
Coplin Run	WVMW-21-G-1	Aluminum (tot)	2002
Gnatty Creek	WVMW-21-M	Aluminum (tot)	2002
Right Branch	WVMW-21-M-5	Aluminum (tot)	2002
Charity Fork	WVMW-21-M-5-A	Aluminum (tot)	2002
Birds Run	WVMW-21-O	Aluminum (tot)	2002
Arnold Run	WVMW-21-P	Aluminum (tot)	2002
Isaacs Run	WVMW-21-Q	Aluminum (tot)	2002
Stewart Run	WVMW-21-S	Aluminum (tot)	2002
Washburncamp Run	WVMW-22-A	Aluminum (tot)	2002
Browns Creek	WVMW-23	Aluminum (tot)	2002
Coburns Creek	WVMW-24	Aluminum (tot)	2002
Sycamore Creek	WVMW-25	Aluminum (tot)	2002
Lost Creek	WVMW-26	Aluminum (tot)	2002
UNT/Lost Creek RM 3.32	WVMW-26-0.5A	Aluminum (tot)	2002
Bonds Run	WVMW-26-A	Aluminum (tot)	2002
Buffalo Creek	WVMW-27	Aluminum (tot)	2002
Hackers Creek	WVMW-31	Aluminum (tot)	2002
Mare Run	WVMW-36-C.5	Aluminum (tot)	2002
Grass Run	WVMW-38-E	Aluminum (tot)	2002
Stone Lick	WVMW-44	Aluminum (tot)	2002
Fitz Run	WVMW-50-C	Aluminum (tot)	2002
Ward Run	WVMW-50-D	Aluminum (tot)	2002

Supplemental Table F-

New Listings for 2004

2004 Section 303(d) New Listings

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
HYDROLOGIC GROUP A							
Cheat Watershed - HUC# 05020004							
Cheat River	WVMC	Aluminum (dis)	Unknown	69.4	Entire length upstream of Cheat Lake headwater	2014	No
Cheat Lake	WVMC-(L1)	Mercury	Unknown	1730.0	Entire length	2014	No
Big Sandy Creek	WVMC-12	Aluminum (dis)	Unknown	19.0	Entire length	2014	No
Muddy Creek	WVMC-17	Aluminum (dis)	Unknown	15.6	Entire length	2014	No
Dry Fork	WVMC-60	Mercury	Unknown	40.2	Entire length	2014	No
North Fork/Blackwater River	WVMC-60-D-3	Aluminum (dis)	Unknown	8.0	Entire length	2014	No
Beaver Creek	WVMC-60-D-5	Aluminum (dis)	Unknown	13.8	Entire length	2014	No
UNT/Beaver Creek RM 11.0	WVMC-60-D-5-H	CNA-Biological	Unknown	2.1	Entire length	2014	No
SHENANDOAH (JEFFERSON) WATERSHED - HUC# 02070007							
Shenandoah River	WVS	Aluminum (dis)	Unknown	19.5	Entire length	2014	No
		Mercury	Unknown	19.5	Entire length	2014	No
SOUTH BRANCH POTOMAC WATERSHED - HUC# 02070001							
South Branch Potomac River	WVPSB	Aluminum (dis)	Unknown	154.1	Entire length	2014	No
		Fecal Coliform	Unknown	40.7	RM 14.2 (Springfield) to RM 54.9 (Old Fields)	2014	No
South Fork/South Branch Potomac River	WVPSB-21	Mercury	Unknown	74.0	Entire length	2014	No

2004 Section 303(d) New Listings

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UPPER KANAWHA WATERSHED - HUC# 05050006							
Kanawha River (Upper)	WVK-up	Aluminum (dis)	Unknown	48.0	From mouth (confluence with Elk River) to headwaters	2014	No
		Mercury	Unknown	9.8	From mouth (confluence with Elk River) to RM 67.7 (Marmet Lock)	2014	No
Campbells Creek	WVK-49	Fecal Coliform	Unknown	10.2	From mouth to RM 10.2	2004	No
Dry Branch	WVK-49-A	Aluminum (dis)	Unknown	1.3	Entire length	2004	No
		Fecal Coliform	Unknown	0.7	From mouth to RM 0.7	2004	No
Spring Fork	WVK-49-B	Aluminum (dis)	Unknown	3.8	Entire length	2004	No
		Fecal Coliform	Unknown	3.8	Entire length	2004	No
UNT/Left Fork RM 0.2/Spring Fork	WVK-49-B-2-A	Iron	Unknown	0.6	Entire length	2004	No
Coal Fork	WVK-49-D	Fecal Coliform	Unknown	3.0	Entire length	2004	No
Pointlick Fork	WVK-49-F	Fecal Coliform	Unknown	1.2	From mouth to RM 1.2	2004	No
Wash Branch	WVK-49-F.5	Fecal Coliform	Unknown	0.8	Entire length	2004	No
Cline Branch	WVK-49-G	Fecal Coliform	Unknown	1.1	Entire length	2004	No
Big Bottom Hollow	WVK-49-H	Fecal Coliform	Unknown	1.3	Entire length	2004	No
		Iron	Unknown	1.3	Entire length	2004	No
Rattlesnake Hollow	WVK-49-I	Manganese	Unknown	2.0	Entire length	2004	No
UNT/Campbells Creek RM 7.5 (Sprucepine Hollow)	WVK-49-J	Fecal Coliform	Unknown	1.7	Entire length	2004	No
Big Ninemile Fork	WVK-49-N	CNA-Biological	Unknown	1.8	Entire length	2014	No
Georges Creek	WVK-50	CNA-Biological	Unknown	2.8	Entire length	2014	No
Lens Creek	WVK-53	Fecal Coliform	Unknown	6.4	Entire length	2004	No
		Iron	Unknown	6.4	Entire length	2004	No
Left Fork/Lens Creek	WVK-53-A	Fecal Coliform	Unknown	5.4	Entire length	2004	No

2004 Section 303(d) New Listings

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Left Fork RM 1.8/Lens Creek	WVK-53-A-0.4	Aluminum (dis)	Unknown	1.5	Entire length	2004	No
		Iron	Unknown	1.5	Entire length	2004	No
		Manganese	Unknown	1.5	Entire length	2004	No
		pH	Unknown	1.5	Entire length	2004	No
Ring Hollow	WVK-53-B	Fecal Coliform	Unknown	1.7	Entire length	2004	No
Fourmile Fork	WVK-53-C	Fecal Coliform	Unknown	1.7	Entire length	2004	No
Simmons Creek	WVK-54	CNA-Biological	Unknown	2.7	Entire length	2014	No
Witcher Creek	WVK-57	Aluminum (dis)	Unknown	6.8	Entire length	2004	No
		CNA-Biological	Unknown	6.8	Entire length	2004	No
		Fecal Coliform	Unknown	6.8	Entire length	2004	No
		Iron	Unknown	0.9	From mouth to RM 0.9	2004	No
		Manganese	Unknown	5.9	From RM 0.9 to headwaters	2004	No
		pH	Unknown	5.9	From RM 0.9 to headwaters	2004	No
Dry Branch	WVK-57-A	Aluminum (dis)	Unknown	1.7	Entire length	2004	No
		Fecal Coliform	Unknown	1.7	Entire length	2004	No
		Iron	Unknown	1.7	Entire length	2004	No
Left Fork/Witcher Creek	WVK-57-C	Fecal Coliform	Unknown	4.6	Entire length	2004	No
UNT/Witcher Creek RM 5.2	WVK-57-D.5	Aluminum (dis)	Unknown	0.5	Entire length	2004	No
		pH	Unknown	0.5	Entire length	2004	No
Fields Creek	WVK-58	Aluminum (dis)	Unknown	1.5	From mouth to RM 1.5	2004	No
		Fecal Coliform	Unknown	4.9	Entire length	2004	No
Scott Branch	WVK-58-B	Fecal Coliform	Unknown	1.3	Entire length	2004	No
Wolfpen Hollow	WVK-58-B.1	Aluminum (dis)	Unknown	1.0	Entire length	2004	No
		CNA-Biological	Unknown	1.0	Entire length	2004	No
		Fecal Coliform	Unknown	1.0	Entire length	2004	No

2004 Section 303(d) New Listings

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Coopers Hollow	WVK-58-B.3	Fecal Coliform	Unknown	1.4	Entire length	2004	No
Mill Branch	WVK-58-B.8	Aluminum (dis)	Unknown	0.9	Entire length	2004	No
New West Hollow	WVK-58-B.8-1	Aluminum (dis)	Unknown	1.2	Entire length	2004	No
South Hollow	WVK-58-C	CNA-Biological	Unknown	1.2	Entire length	2004	No
Carroll Branch	WVK-59	Aluminum (dis)	Unknown	2.8	Entire length	2004	No
		CNA-Biological	Unknown	2.8	Entire length	2004	No
Slaughter Creek	WVK-60	Aluminum (dis)	Unknown	3.0	From mouth to RM 3.0	2004	No
Little Creek	WVK-60-A	Aluminum (dis)	Unknown	1.9	Entire length	2004	No
		Manganese	Unknown	1.9	Entire length	2004	No
		pH	Unknown	1.9	Entire length	2004	No
UNT/Little Creek RM 0.4 (Little Branch)	WVK-60-A-1	Aluminum (dis)	Unknown	0.8	Entire length	2004	No
		Manganese	Unknown	0.8	Entire length	2004	No
		pH	Unknown	0.8	Entire length	2004	No
Bradley Fork	WVK-60-B	Aluminum (dis)	Unknown	2.8	Entire length	2004	No
		Manganese	Unknown	2.8	Entire length	2004	No
		pH	Unknown	2.8	Entire length	2004	No
UNT/Slaughter Creek RM 3.0	WVK-60-B.1	Aluminum (dis)	Unknown	0.6	Entire length	2004	No
		Manganese	Unknown	0.6	Entire length	2004	No
		pH	Unknown	0.6	Entire length	2004	No
Cabin Creek	WVK-61	Aluminum (dis)	Unknown	10.5	From RM 4.7 to RM 15.2	2004	No
		Fecal Coliform	Unknown	15.0	From mouth to RM 12.7 and from RM 17.5 to RM 19.8	2004	No
Dry Branch	WVK-61-B	Fecal Coliform	Unknown	1.7	From mouth to RM 1.7	2004	No
		Iron	Unknown	1.7	From mouth to RM 1.7	2004	No

2004 Section 303(d) New Listings

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Dry Branch RM 0.7 (Coalburg Branch)	WVK-61-B-1	Aluminum (dis)	Unknown	1.5	Entire length	2004	No
		CNA-Biological	Unknown	1.5	Entire length	2004	No
		pH	Unknown	1.5	Entire length	2004	No
Paint Branch	WVK-61-E	Iron	Unknown	2.4	Entire length	2004	No
Longbottom Creek	WVK-61-F	Fecal Coliform	Unknown	0.8	From mouth to RM 0.8	2004	No
Left Fork/Longbottom Creek	WVK-61-F-1	CNA-Biological	Unknown	3.9	Entire length	2004	No
Greens Branch	WVK-61-G	Fecal Coliform	Unknown	2.0	Entire length	2004	No
Coal Fork	WVK-61-H	Aluminum (dis)	Unknown	4.8	From mouth to RM 4.8	2004	No
		CNA-Biological	Unknown	5.8	Entire length	2014	No
Laurel Fork	WVK-61-H-1	Aluminum (dis)	Unknown	3.5	Entire length	2004	No
		CNA-Biological	Unknown	1.1	From mouth to RM 1.1	2004	No
		Iron	Unknown	3.5	Entire length	2004	No
		Manganese	Unknown	3.5	Entire length	2004	No
Left Fork/Laurel Fork	WVK-61-H-1-A	CNA-Biological	Unknown	2.2	Entire length	2004	No
UNT/Coal Fork RM 4.6	WVK-61-H-3	Aluminum (dis)	Unknown	1.3	Entire length	2004	No
		Iron	Unknown	1.3	Entire length	2004	No
		Manganese	Unknown	1.3	Entire length	2004	No
Bear Hollow	WVK-61-I	Aluminum (dis)	Unknown	1.6	Entire length	2004	No
		Fecal Coliform	Unknown	1.6	Entire length	2004	No
UNT/Bear Hollow RM 0.3	WVK-61-I-1	Aluminum (dis)	Unknown	1.0	Entire length	2004	No
		CNA-Biological	Unknown	1.0	Entire length	2004	No
		Fecal Coliform	Unknown	1.0	Entire length	2004	No
		Manganese	Unknown	1.0	Entire length	2004	No
		pH	Unknown	1.0	Entire length	2004	No
Cane Fork	WVK-61-J	Aluminum (dis)	Unknown	2.7	Entire length	2004	No
		CNA-Biological	Unknown	2.7	Entire length	2004	No

2004 Section 303(d) New Listings

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Toms Fork	WVK-61-K	Aluminum (dis)	Unknown	1.8	Entire length	2004	No
Tenmile Fork	WVK-61-L	Aluminum (dis)	Unknown	4.7	From mouth to RM 4.7	2004	No
UNT/Tenmile Fork RM 1.2	WVK-61-L-0.5	Aluminum (dis)	Unknown	1.4	Entire length	2004	No
		CNA-Biological	Unknown	1.4	Entire length	2014	No
UNT/Tenmile Fork RM 4.2	WVK-61-L-5	Iron	Unknown	1.0	Entire length	2004	No
Fifteenmile Fork	WVK-61-O	Aluminum (dis)	Unknown	2.9	From mouth to RM 2.9	2004	No
Abbott Creek	WVK-61-O-1	Aluminum (dis)	Unknown	2.3	Entire length	2004	No
Hicks Hollow	WVK-61.5	Aluminum (dis)	Unknown	1.0	Entire length	2004	No
Watson Branch	WVK-62	Aluminum (dis)	Unknown	1.2	Entire length	2004	No
Mile Branch	WVK-63	Aluminum (dis)	Unknown	1.3	Entire length	2004	No
		CNA-Biological	Unknown	1.3	Entire length	2004	No
		Fecal Coliform	Unknown	1.3	Entire length	2004	No
Kellys Creek	WVK-64	Aluminum (dis)	Unknown	6.5	Entire length	2014	No
Paint Creek	WVK-65	Aluminum (dis)	Unknown	31.8	From mouth to RM 31.8	2014	No
Bishop Fork	WVK-65-X	CNA-Biological	Unknown	1.7	Entire length	2014	No
Plum Orchard Creek	WVK-65-Z	CNA-Biological	Unknown	1.6	Entire length (up to Plum Orchard Lake)	2014	No
Morris Creek	WVK-70	pH	Unknown	3.1	From RM 0.2 to RM 3.3	2004	No
Schuyler Fork	WVK-70-A	Aluminum (dis)	Unknown	2.6	Entire length	2004	No
		Manganese	Unknown	2.6	Entire length	2004	No
		pH	Unknown	2.6	Entire length	2004	No
Staten Run	WVK-71	CNA-Biological	Unknown	1.2	Entire length	2004	No
Smithers Creek	WVK-72	Aluminum (dis)	Unknown	3.9	From mouth to RM 3.9	2004	No
Blake Branch	WVK-72-A	Aluminum (dis)	Unknown	2.6	Entire length	2004	No
		Fecal Coliform	Unknown	2.6	Entire length	2004	No
Fishhook Fork	WVK-72-A-1	Aluminum (dis)	Unknown	1.5	Entire length	2004	No
Bullpush Fork	WVK-72-B	Aluminum (dis)	Unknown	1.4	From mouth to M 1.4	2004	No
Burnett Hollow	WVK-72-B-2	Aluminum (dis)	Unknown	1.2	Entire length	2004	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Armstrong Creek	WVK-73	Aluminum (dis)	Unknown	6.9	From mouth to RM 1.6 and from RM 3.3 to headwaters	2004	No
		CNA-Biological	Unknown	8.6	Entire length	2004	No
		pH	Unknown	2.7	From RM 5.9 to headwaters	2004	No
Tucker Hollow	WVK-73-A	Aluminum (dis)	Unknown	1.6	Entire length	2004	No
		pH	Unknown	1.6	Entire length	2004	No
Jenkins Fork	WVK-73-D	Aluminum (dis)	Unknown	2.1	Entire length	2004	No
		CNA-Biological	Unknown	2.1	Entire length	2004	No
Craig Hollow	WVK-73-D-1	Aluminum (dis)	Unknown	1.7	Entire length	2004	No
		Manganese	Unknown	1.7	Entire length	2004	No
		pH	Unknown	1.7	Entire length	2004	No
Powellton Fork	WVK-73-E	Aluminum (dis)	Unknown	4.4	Entire length	2004	No
Woodrum Branch	WVK-73-E-2	Iron	Unknown	1.1	Entire length	2004	No
Right Fork/Armstrong Creek	WVK-73-F	Aluminum (dis)	Unknown	2.5	Entire length	2004	No
		pH	Unknown	2.5	Entire length	2004	No
Boomer Branch	WVK-74	Aluminum (dis)	Unknown	2.6	Entire length	2004	No
Jarrett Branch	WVK-75	Aluminum (dis)	Unknown	1.3	From mouth to RM 1.3	2004	No
		pH	Unknown	1.3	From mouth to RM 1.3	2004	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Jarrett Branch RM 1.1	WVK-75-A	Aluminum (dis)	Unknown	1.0	Entire length	2004	No
		Manganese	Unknown	1.0	Entire length	2004	No
		pH	Unknown	1.0	Entire length	2004	No
Loop Creek	WVK-76	Fecal Coliform	Unknown	10.7	From RM 9.3 to headwaters	2004	No
Mulberry Fork	WVK-76-C	Fecal Coliform	Unknown	2.5	From mouth to RM 2.5	2004	No
Beards Fork	WVK-76-D	Aluminum (dis)	Unknown	4.3	Entire length	2004	No
Ingram Branch	WVK-76-K	Aluminum (dis)	Unknown	1.2	Entire length	2004	No
		CNA-Biological	Unknown	0.6	From mouth to RM 0.6	2004	No
		pH	Unknown	1.2	Entire length	2004	No
UPPER OHIO NORTH WATERSHED - HUC# 05030101							
Ohio River (Upper North)	WVO-un	Bacteria	Unknown	31.4	Ohio River from mp 71.4 (mouth of Cross Creek) to mp 40 (PA line)	2012	No
Cross Creek	WVO-95	Aluminum (dis)	Unknown	3.7	from RM 3.5 to headwaters	2014	No
		Fecal Coliform	Unknown	7.2	Entire length	2004	No
UNT/Cross Creek RM 1.7	WVO-95-0.5A	Fecal Coliform	Unknown	1.6	Entire length	2004	No
Bosley Run	WVO-95-A	Fecal Coliform	Unknown	3.2	Entire length	2004	No
North Potrock Run	WVO-95-C	Fecal Coliform	Unknown	2.9	Entire length	2004	No
Potrock Run	WVO-95-D	Fecal Coliform	Unknown	1.7	Entire length	2004	No
Alleghany Steel Run	WVO-95.5	Fecal Coliform	Unknown	1.9	Entire length	2004	No
UNT/Alleghany Steel Run RM 0.9	WVO-95.5-A	CNA-Biological	Unknown	0.6	Entire length	2004	No
		Fecal Coliform	Unknown	0.6	Entire length	2004	No
Harmon Creek	WVO-97	Fecal Coliform	Unknown	7.6	Entire length	2004	No
UNT/Harmon Creek RM 2.9	WVO-97-0.7A	Fecal Coliform	Unknown	1.7	Entire length	2004	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Harmon Creek RM 3.2	WVO-97-0.9A	Fecal Coliform	Unknown	1.3	Entire length	2004	No
Sappingtons Run	WVO-97-A	Fecal Coliform	Unknown	2.9	Entire length	2004	No
Alexanders Run	WVO-97-B	Fecal Coliform	Unknown	3.4	Entire length	2004	No
Mechling Run	WVO-97-C	Fecal Coliform	Unknown	1.7	Entire length	2004	No
Brown Hollow	WVO-97-D	Fecal Coliform	Unknown	1.4	Entire length	2004	No
Kings Creek	WVO-98	Fecal Coliform	Unknown	7.4	Entire length	2004	No
Turkeyfoot Run	WVO-98-0.5A	Fecal Coliform	Unknown	1.8	Entire length	2004	No
Rush Run	WVO-98-0.7A	CNA-Biological	Unknown	0.9	Entire length	2004	No
Rush Run	WVO-98-0.7A	Fecal Coliform	Unknown	0.9	Entire length	2004	No
North Fork/Kings Creek	WVO-98-A	Fecal Coliform	Unknown	4.7	Entire length	2004	No
Marrow Run	WVO-98-A.5	Fecal Coliform	Unknown	1.2	Entire length	2004	No
UNT/Kings Creek RM 6.8	WVO-98-C	Fecal Coliform	Unknown	1.5	Entire length	2004	No
Deep Gut Run	WVO-101	Aluminum (dis)	Unknown	2.0	From mouth to RM 2.0	2004	No
		pH	Unknown	1.2	From mouth to RM 1.2	2004	No
UNT/Deep Gut Run RM 1.8	WVO-101-E	Manganese	Unknown	0.4	Entire length	2004	No
South Fork/Tomlinson Run	WVO-102-B	Fecal Coliform	Unknown	5.1	Entire length	2004	No
North Fork/Tomlinson Run	WVO-102-C	Fecal Coliform	Unknown	6.0	Entire length	2004	No
Mercer Run	WVO-102-C-1	Fecal Coliform	Unknown	2.3	Entire length	2004	No
UNT/North Fork RM 4.4/Tomli	WVO-102-C-6	Fecal Coliform	Unknown	1.6	Entire length	2004	No
YOUGHIOGHENY WATERSHED - HUC# 05020006							
Youghiogheny River	WVMY	CNA-Biological	Unknown	6.2	Entire length	2008	No
Snowy Creek	WVMY-2	Aluminum (dis)	Unknown	6.2	Entire length	2008	No
		Iron	Unknown	6.2	Entire length	2008	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
HYDROLOGIC GROUP B							
COAL WATERSHED - HUC# 05050009							
Browns Creek	WVKC-2	CNA-Biological	Unknown	6.1	Entire length	2005	No
		Fecal Coliform	Unknown	6.1	Entire length	2005	No
Smith Creek	WVKC-4	CNA-Biological	Unknown	5.2	Entire length	2005	No
		Fecal Coliform	Unknown	5.2	Entire length	2005	No
Little Smith Creek	WVKC-4-C	CNA-Biological	Unknown	3.0	Entire length	2005	No
		Fecal Coliform	Unknown	3.0	Entire length	2005	No
Falls Creek	WVKC-5	Fecal Coliform	Unknown	3.6	Entire length	2005	No
Fuquay Creek	WVKC-8	Fecal Coliform	Unknown	5.4	Entire length	2005	No
Crooked Creek	WVKC-9	Fecal Coliform	Unknown	3.3	Entire length	2005	No
Cobb Creek	WVKC-10-E	Fecal Coliform	Unknown	3.8	Entire length	2005	No
Dicks Creek	WVKC-10-F	Iron	Unknown	1.9	Entire length	2005	No
Little Hewitt Creek	WVKC-10-H	Aluminum (dis)	Unknown	2.1	Entire length	2005	No
		pH	Unknown	2.1	Entire length	2005	No
Big Horse Creek	WVKC-10-I	Fecal Coliform	Unknown	10.1	Entire length	2005	No
Laurel Fork	WVKC-10-I-2	Fecal Coliform	Unknown	4.3	Entire length	2005	No
		Iron	Unknown	4.3	Entire length	2005	No
Peters Cave Fork	WVKC-10-I-3	Fecal Coliform	Unknown	3.0	Entire length	2005	No
Dodson Fork	WVKC-10-I-6	CNA-Biological	Unknown	4.0	Entire length	2005	No
		Fecal Coliform	Unknown	4.0	Entire length	2005	No
Rich Hollow	WVKC-10-I-8	Manganese	Unknown	1.1	Entire length	2005	No
Little Horse Creek	WVKC-10-J	Fecal Coliform	Unknown	2.5	From mouth to RM 2.5	2005	No
		Manganese	Unknown	3.3	Entire length	2005	No
UNT/Little Horse Creek RM 2.4	WVKC-10-J-8	Fecal Coliform	Unknown	0.4	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Camp Creek	WVKC-10-L	Fecal Coliform	Unknown	5.4	Entire length	2005	No
Rock Creek	WVKC-10-N	Fecal Coliform	Unknown	5.1	Entire length	2005	No
Hubbard Fork	WVKC-10-N-2	CNA-Biological	Unknown	1.8	Entire length	2005	No
		Fecal Coliform	Unknown	1.8	Entire length	2005	No
Right Fork/Rock Creek	WVKC-10-N-3	CNA-Biological	Unknown	2.4	Entire length	2005	No
		Fecal Coliform	Unknown	2.4	Entire length	2005	No
Left Fork/Rock Creek	WVKC-10-N-4	CNA-Biological	Unknown	3.8	Entire length	2005	No
		Fecal Coliform	Unknown	3.8	Entire length	2005	No
Lick Creek	WVKC-10-O	CNA-Biological	Unknown	5.1	Entire length	2005	No
		Fecal Coliform	Unknown	5.1	Entire length	2005	No
Turtle Creek	WVKC-10-P	CNA-Biological	Unknown	7.0	Entire length	2005	No
		Fecal Coliform	Unknown	7.0	Entire length	2005	No
Spruce Fork	WVKC-10-T	Aluminum (dis)	Unknown	11.4	from mouth upstream to RM 11.4	2005	No
		Fecal Coliform	Unknown	18.1	From mouth to RM 18.1	2005	No
Sparrow Creek	WVKC-10-T-1	Fecal Coliform	Unknown	2.4	Entire length	2005	No
Laurel Branch	WVKC-10-T-2	Fecal Coliform	Unknown	1.1	Entire length	2005	No
Low Gap Creek	WVKC-10-T-3	Fecal Coliform	Unknown	1.9	Entire length	2005	No
Hunters Branch	WVKC-10-T-5	Aluminum (dis)	Unknown	2.0	Entire length	2005	No
		pH	Unknown	2.0	Entire length	2005	No
Sixmile Creek	WVKC-10-T-7	Fecal Coliform	Unknown	4.6	Entire length	2005	No
Bias Branch	WVKC-10-T-8	CNA-Biological	Unknown	2.7	Entire length	2005	No
		Fecal Coliform	Unknown	2.7	Entire length	2005	No
Hewett Creek	WVKC-10-T-9	Aluminum (dis)	Unknown	6.0	Entire length	2005	No
		Fecal Coliform	Unknown	6.0	Entire length	2005	No
		Iron	Unknown	6.0	Entire length	2005	No
Meadow Fork	WVKC-10-T-9-A	Fecal Coliform	Unknown	3.4	Entire length	2005	No
Missouri Fork	WVKC-10-T-9-B	Fecal Coliform	Unknown	3.3	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Isom Branch	WVKC-10-T-9-B.5	Fecal Coliform	Unknown	0.8	From mouth to RM 0.8	2005	No
Craddock Fork	WVKC-10-T-9-C	Fecal Coliform	Unknown	2.5	Entire length	2005	No
Sycamore Branch	WVKC-10-T-9-C-2	Fecal Coliform	Unknown	0.8	From mouth to RM 0.8	2005	No
Baldwin Fork	WVKC-10-T-9-D	CNA-Biological	Unknown	2.0	Entire length	2005	No
		Fecal Coliform	Unknown	2.0	Entire length	2005	No
Stollings Branch	WVKC-10-T-10	Fecal Coliform	Unknown	0.4	From mouth to RM 0.4	2005	No
Spruce Laurel Fork	WVKC-10-T-11	Aluminum (dis)	Unknown	6.1	From mouth to RM 6.1	2005	No
		Iron	Unknown	2.6	From RM 3.5 to RM 6.1	2005	No
Rockhouse Creek	WVKC-10-T-13	Fecal Coliform	Unknown	0.8	From mouth to RM 0.8	2005	No
Trace Branch	WVKC-10-T-19	Selenium	Unknown	1.0	Entire length	2005	No
Little White Oak Branch	WVKC-10-T-22.5	pH	Unknown	1.3	Entire length	2005	No
Brushy Fork	WVKC-10-T-24	Iron	Unknown	3.8	Entire length	2005	No
Pond Fork	WVKC-10-U	Aluminum (dis)	Unknown	15.8	From mouth to RM 15.8	2005	No
		Fecal Coliform	Unknown	20.3	From RM 6.3 to RM 26.6	2005	No
Robinson Creek	WVKC-10-U-3	Aluminum (dis)	Unknown	5.3	Entire length	2005	No
West Fork	WVKC-10-U-7	Aluminum (dis)	Unknown	7.9	From mouth to RM 7.9	2005	No
Whites Branch	WVKC-10-U-7-B	Fecal Coliform	Unknown	3.8	Entire length	2005	No
Browns Branch	WVKC-10-U-7-D	Manganese	Unknown	3.2	Entire length	2005	No
James Creek	WVKC-10-U-7-I	Selenium	Unknown	0.2	From mouth to RM 0.16	2005	No
Casey Creek	WVKC-10-U-8	CNA-Biological	Unknown	5.3	Entire length	2005	No
		Selenium	Unknown	5.3	Entire length	2005	No
Beaver Pond Branch	WVKC-10-U-9	Selenium	Unknown	2.0	Entire length	2005	No
James Branch	WVKC-10-U-16	CNA-Biological	Unknown	4.2	Entire length	2005	No
Lacey Branch	WVKC-10-U-21	Iron	Unknown	1.4	From mouth to RM 1.4	2005	No
Alum Creek	WVKC-11	Fecal Coliform	Unknown	3.9	Entire length	2005	No
UNT/Alum Creek RM 1.5	WVKC-11-A	Fecal Coliform	Unknown	1.0	Entire length	2005	No
Little Alum Creek	WVKC-11-B	Fecal Coliform	Unknown	2.0	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Brier Creek	WVKC-13	Fecal Coliform	Unknown	8.4	Entire length	2005	No
Lick Creek	WVKC-19	CNA-Biological	Unknown	4.0	Entire length	2005	No
		Fecal Coliform	Unknown	4.0	Entire length	2005	No
Brush Creek	WVKC-21	Fecal Coliform	Unknown	3.8	Entire length	2005	No
Ridgeview Hollow	WVKC-21-C	CNA-Biological	Unknown	1.0	Entire length	2005	No
		Fecal Coliform	Unknown	1.0	Entire length	2005	No
Drawdy Creek	WVKC-24	Fecal Coliform	Unknown	5.9	Entire length	2005	No
Short Creek	WVKC-26	Fecal Coliform	Unknown	2.7	Entire length	2005	No
Toneys Branch	WVKC-27	Fecal Coliform	Unknown	2.9	Entire length	2005	No
Joes Creek	WVKC-29	Fecal Coliform	Unknown	4.5	From mouth to RM 4.5	2005	No
Left Fork/Joes Creek	WVKC-29-A	Fecal Coliform	Unknown	1.3	Entire length	2005	No
Laurel Creek	WVKC-31	Aluminum (dis)	Unknown	8.6	Entire length	2005	No
		Fecal Coliform	Unknown	2.3	From mouth to RM 2.3	2005	No
		Manganese	Unknown	8.6	Entire length	2005	No
Sandlick Creek	WVKC-31-A	CNA-Biological	Unknown	4.6	Entire length	2005	No
		Fecal Coliform	Unknown	4.6	Entire length	2005	No
Hopkins Fork	WVKC-31-B	Fecal Coliform	Unknown	6.3	From mouth to RM 6.3	2005	No
Big Jarrells Creek	WVKC-31-B-2	Fecal Coliform	Unknown	6.1	Entire length	2005	No
Cold Fork	WVKC-31-C	pH	Unknown	2.0	Entire length	2005	No
Horse Branch	WVKC-32	Aluminum (dis)	Unknown	2.1	Entire length	2005	No
		Manganese	Unknown	2.1	Entire length	2005	No
		pH	Unknown	2.1	Entire length	2005	No
Haggle Branch	WVKC-33	Aluminum (dis)	Unknown	1.6	Entire length	2005	No
		pH	Unknown	1.6	Entire length	2005	No
White Oak Creek	WVKC-35	Aluminum (dis)	Unknown	3.9	From mouth to RM 3.9	2005	No
		Selenium	Unknown	5.5	Entire length	2005	No
Threemile Branch	WVKC-35-D	pH	Unknown	2.1	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Left Fork/White Oak Creek	WVKC-35-E	Aluminum (dis)	Unknown	2.3	Entire length	2005	No
		Selenium	Unknown	2.3	Entire length	2005	No
UNT/Big Coal River RM 52.7	WVKC-35.8	Aluminum (dis)	Unknown	1.4	Entire length	2005	No
		Manganese	Unknown	1.4	Entire length	2005	No
		pH	Unknown	1.4	Entire length	2005	No
Little Elk Creek	WVKC-39	Aluminum (dis)	Unknown	2.7	Entire length	2005	No
Seng Creek	WVKC-42	CNA-Biological	Unknown	5.9	Entire length	2005	No
		Fecal Coliform	Unknown	5.9	Entire length	2005	No
		Selenium	Unknown	5.9	Entire length	2005	No
Elk Run	WVKC-43	Iron	Unknown	4.4	Entire length	2005	No
Marsh Fork	WVKC-46	Fecal Coliform	Unknown	32.0	From mouth to RM 32.0	2005	No
		Iron	Unknown	34.1	Entire length	2005	No
Little Marsh Fork	WVKC-46-A	Aluminum (dis)	Unknown	3.8	From mouth to RM 3.8	2005	No
Brushy Fork	WVKC-46-A-4	Aluminum (dis)	Unknown	1.9	Entire length	2005	No
		Manganese	Unknown	1.9	Entire length	2005	No
Ellis Creek	WVKC-46-B	CNA-Biological	Unknown	1.2	From mouth to RM 1.2	2005	No
Stink Run	WVKC-46-E	Fecal Coliform	Unknown	0.1	From mouth to RM 0.1	2005	No
Drews Creek	WVKC-46-G-1	Iron	Unknown	2.9	From RM 1.6 to headwaters	2005	No
Martin Fork	WVKC-46-G-2	Aluminum (dis)	Unknown	3.0	Entire length	2005	No
		Manganese	Unknown	3.0	Entire length	2005	No
		pH	Unknown	3.0	Entire length	2005	No
Millers Fork	WVKC-46-G-3	Iron	Unknown	1.2	Entire length	2005	No
		Manganese	Unknown	1.2	Entire length	2005	No
Dry Creek	WVKC-46-H	Fecal Coliform	Unknown	2.3	From mouth to RM 2.3	2005	No
Rock Creek	WVKC-46-I	Fecal Coliform	Unknown	5.2	Entire length	2005	No
Righthand Fork	WVKC-46-I-1	Fecal Coliform	Unknown	2.9	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Flat Branch	WVKC-46-I.7	Fecal Coliform	Unknown	1.4	Entire length	2005	No
Sandlick Creek	WVKC-46-J	CNA-Biological	Unknown	9.4	From 0.7 to headwaters	2005	No
		Fecal Coliform	Unknown	6.5	From mouth to RM 6.5	2005	No
		Iron	Unknown	10.1	Entire length	2005	No
Bee Branch	WVKC-46-J-2	Aluminum (dis)	Unknown	1.3	Entire length	2005	No
		Manganese	Unknown	1.3	Entire length	2005	No
		pH	Unknown	1.3	Entire length	2005	No
Right Fork/Sandlick Creek	WVKC-46-J-3	CNA-Biological	Unknown	3.3	Entire length	2005	No
		Fecal Coliform	Unknown	2.4	From mouth to RM 2.4	2005	No
Wingrove Branch	WVKC-46-J-4	Fecal Coliform	Unknown	2.4	Entire length	2005	No
Harper Branch	WVKC-46-J-7	Iron	Unknown	1.0	Entire length	2005	No
Cove Creek	WVKC-46-K	Fecal Coliform	Unknown	1.2	From mouth to RM 1.2	2005	No
UNT/Cove Creek RM 1.2	WVKC-46-K-2	Fecal Coliform	Unknown	1.1	Entire length	2005	No
Breckenridge Creek	WVKC-46-L	Fecal Coliform	Unknown	4.8	Entire length	2005	No
UNT/Breckenridge Creek RM 2.7	WVKC-46-L-1	Fecal Coliform	Unknown	1.7	Entire length	2005	No
		pH	Unknown	1.7	Entire length	2005	No
Spanker Branch	WVKC-46-M	Fecal Coliform	Unknown	2.0	Entire length	2005	No
Maple Meadow Creek	WVKC-46-N	CNA-Biological	Unknown	4.5	Entire length	2005	No
		Fecal Coliform	Unknown	3.0	From mouth to RM 3.0	2005	No
		Iron	Unknown	3.0	From mouth to RM 3.0	2005	No
Rockhouse Fork	WVKC-46-N-1	Fecal Coliform	Unknown	3.1	Entire length	2005	No
		Iron	Unknown	3.1	Entire length	2005	No
Claypool Hollow	WVKC-46-N.9	Fecal Coliform	Unknown	1.4	Entire length	2005	No
Dingess Branch	WVKC-46-O	Fecal Coliform	Unknown	3.9	Entire length	2005	No
		Iron	Unknown	3.9	Entire length	2005	No
Surveyor Creek	WVKC-46-P	Fecal Coliform	Unknown	3.2	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Millers Camp Branch	WVKC-46-Q	Aluminum (dis)	Unknown	5.0	From mouth to RM 5.0	2005	No
		Fecal Coliform	Unknown	2.5	From mouth to RM 2.5	2005	No
		Manganese	Unknown	4.3	From RM 2.5 to headwaters	2005	No
Clay Branch	WVKC-46-Q-0.1	Fecal Coliform	Unknown	0.9	From mouth to RM 0.9	2005	No
Laurel Branch	WVKC-46-Q-4	Iron	Unknown	2.0	Entire length	2005	No
		Manganese	Unknown	2.0	Entire length	2005	No
Clear Fork	WVKC-47	Aluminum (dis)	Unknown	10.9	From RM 0.7 to RM 11.6	2005	No
		CNA-Biological	Unknown	12.1	From RM 4.1 to RM 16.2	2005	No
		Iron	Mine Drainage	21.6	Entire length	2005	No
Sycamore Creek	WVKC-47-E	Fecal Coliform	Unknown	5.7	Entire length	2005	No
Stonecoal Branch	WVKC-47-F	Aluminum (dis)	Unknown	1.0	Entire length	2005	No
		Iron	Unknown	1.0	Entire length	2005	No
		Manganese	Unknown	1.0	Entire length	2005	No
		pH	Unknown	1.0	Entire length	2005	No
Long Branch	WVKC-47-G	Aluminum (dis)	Unknown	2.6	Entire length	2005	No
Dow Fork	WVKC-47-G-1	Aluminum (dis)	Unknown	1.3	Entire length	2005	No
		pH	Unknown	1.3	Entire length	2005	No
Fulton Creek	WVKC-47-I	Iron	Unknown	3.2	Entire length	2005	No
White Oak Creek	WVKC-47-K	CNA-Biological	Unknown	4.0	Entire length	2005	No
		Fecal Coliform	Unknown	4.0	Entire length	2005	No
Left Fork/White Oak Creek	WVKC-47-K-1	Iron	Unknown	1.9	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Toney Fork	WVKC-47-L	Fecal Coliform	Unknown	0.8	From mouth to RM 0.8	2005	No
		Iron	Mine Drainage	2.4	Entire length	2005	No
Buffalo Fork	WVKC-47-L-1	CNA-Biological	Unknown	2.5	Entire length	2005	No
McDowell Branch	WVKC-47-N	Fecal Coliform	Unknown	1.6	Entire length	2005	No
		Iron	Unknown	1.6	Entire length	2005	No
Lick Run	WVKC-47-P.5	CNA-Biological	Unknown	1.8	Entire length	2005	No
		Fecal Coliform	Unknown	1.8	Entire length	2005	No
		Iron	Unknown	1.8	Entire length	2005	No
ELK WATERSHED - HUC# 05050007							
Elk River	WVKE	Aluminum (dis)	Unknown	106.4	From mouth to Sutton Lake (RM 106.4)	2015	No
		Chromium, hexavalent	Unknown	102.0	From RM 4.4 to Sutton Lake (RM 106.4)	2015	No
		Fecal Coliform	Unknown	27.2	From mouth to RM 27.2	2015	No
Sutton Lake	WVKE-(L1)	Mercury	Unknown	1500.0	Entire length	2015	No
Blue Creek	WVKE-14	Aluminum (dis)	Unknown	25.3	Entire length	2015	No
Big Sandy Creek	WVKE-23	Aluminum (dis)	Unknown	24.4	Entire length	2015	No
		CNA-Biological	Unknown	12.5	From mouth to RM 12.5	2015	No
		Fecal Coliform	Unknown	24.4	Entire length	2015	No
Reed Fork	WVKE-37-C-1	CNA-Biological	Unknown	1.9	Entire length	2015	No
Leatherwood Creek	WVKE-46	Aluminum (dis)	Unknown	11.3	Entire length	2015	No
		CNA-Biological	Unknown	11.3	Entire length	2015	No
		Manganese	Unknown	11.3	Entire length	2015	No
Buffalo Creek	WVKE-50	Aluminum (dis)	Unknown	23.8	Entire length	2015	No
		CNA-Biological	Unknown	21.7	From 2.1 to headwaters	2015	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Lilly Fork	WVKE-50-B	Aluminum (dis)	Unknown	13.1	Entire length	2015	No
		CNA-Biological	Unknown	13.1	Entire length	2015	No
Birch River	WVKE-76	Aluminum (dis)	Unknown	38.5	Entire length	2015	No
Fall Run	WVKE-98-B-3	pH	Unknown	2.4	Entire length	2015	No
Desert Fork	WVKE-98-B-16	pH	Unknown	7.4	Entire length	2015	No
Sugar Creek	WVKE-111-K	pH	Unknown	12.7	Entire length	2015	No
LOWER KANAWHA WATERSHED - HUC# 05050008							
Kanawha River (Lower)	WVK-lo	Fecal Coliform	Unknown	57.0	From RM 1.5 to the confluence with Elk River (RM 57.9)	2015	No
		Mercury	Unknown	13.0	From RM 32.2 (Winfield Lock) to the confluence with Elk River (RM 57.9)	2015	No
Sleepy Creek	WVK-22-C	CNA-Biological	Unknown	3.9	Entire length	2015	No
Twomile Creek	WVK-41	Aluminum (dis)	Unknown	3.9	From RM 0.8 to headwaters	2005	No
		Fecal Coliform	Unknown	4.7	Entire length	2005	No
		Iron	Unknown	0.8	from mouth to RM 0.8	2005	No
Woodward Branch	WVK-41-A	Fecal Coliform	Unknown	1.4	Entire length	2005	No
Pfieffer Branch	WVK-41-A-1	Fecal Coliform	Unknown	1.3	Entire length	2005	No
UNT/Woodward Branch RM 0.9	WVK-41-A-2	Fecal Coliform	Unknown	0.9	Entire length	2005	No
Chandler Branch	WVK-41-B	Fecal Coliform	Unknown	0.8	Entire length	2005	No
Sugar Creek	WVK-41-C	Fecal Coliform	Unknown	1.9	Entire length	2005	No
Left Fork/Twomile Creek	WVK-41-D	Fecal Coliform	Unknown	4.0	Entire length	2005	No
UNT/Left Fork RM 0.5/Twomile Creek	WVK-41-D-1	Fecal Coliform	Unknown	1.9	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Rich Fork	WVK-41-D.5	Aluminum (dis)	Unknown	1.5	Entire length	2005	No
		Fecal Coliform	Unknown	1.5	Entire length	2005	No
Right Fork/Twomile Creek	WVK-41-E	Fecal Coliform	Unknown	4.6	Entire length	2005	No
Edens Fork	WVK-41-E-1	Fecal Coliform	Unknown	2.4	Entire length	2005	No
Sheldon Rock Branch	WVK-41-E-1-A	Fecal Coliform	Unknown	1.8	Entire length	2005	No
Holmes Branch	WVK-41-E-2	Fecal Coliform	Unknown	1.8	Entire length	2005	No
Trace Fork	WVK-41-E-2.5	Fecal Coliform	Unknown	1.4	Entire length	2005	No
POCATALICO RIVER SUBWATERSHED							
Pocatalico River	WVKP	CNA-Biological	Unknown	16.0	From RM 45.0 to headwaters	2015	No
Manila Creek	WVKP-1-A	Aluminum (dis)	Unknown	3.4	From mouth to RM 3.4	2005	No
		CNA-Biological	Unknown	7.4	Entire length	2005	No
Sulphur Hollow	WVKP-1-A-0.4	Aluminum (dis)	Unknown	0.6	Entire length	2005	No
		Iron	Unknown	0.6	Entire length	2005	No
		Manganese	Unknown	0.6	Entire length	2005	No
		pH	Unknown	0.6	Entire length	2005	No
UNT/Manila Creek RM 2.3 (#4 Hollow)	WVKP-1-A-0.48	Aluminum (dis)	Unknown	0.2	Entire length	2005	No
		Iron	Unknown	0.2	Entire length	2005	No
		Manganese	Unknown	0.2	Entire length	2005	No
		pH	Unknown	0.2	Entire length	2005	No
Washington Hollow	WVKP-1-A-0.5	Iron	Unknown	0.7	Entire length	2005	No
Alcocks Hollow	WVKP-1-A-0.6	Aluminum (dis)	Unknown	0.6	Entire length	2005	No
		Iron	Unknown	0.6	Entire length	2005	No
		Manganese	Unknown	0.6	Entire length	2005	No
		pH	Unknown	0.6	Entire length	2005	No
UNT/Manila Creek RM 3.2	WVKP-1-A-0.8	Iron	Unknown	1.2	Entire length	2005	No
		Manganese	Unknown	1.2	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Coal Hollow	WVKP-1-A.3	Aluminum (dis)	Unknown	1.2	Entire length	2005	No
		Manganese	Unknown	1.2	Entire length	2005	No
		pH	Unknown	1.2	Entire length	2005	No
UNT/Heizer Creek RM 2.3	WVKP-1-A.6	Aluminum (dis)	Unknown	0.3	Entire length	2005	No
		Iron	Unknown	0.3	Entire length	2005	No
		Manganese	Unknown	0.3	Entire length	2005	No
		pH	Unknown	0.3	Entire length	2005	No
Tupper Creek	WVKP-13	Aluminum (dis)	Unknown	5.8	From mouth to RM 5.8	2005	No
		Fecal Coliform	Unknown	6.8	Entire length	2005	No
Legg Fork	WVKP-13-A	Fecal Coliform	Unknown	4.9	Entire length	2005	No
Sigman Fork	WVKP-13-A-1	Fecal Coliform	Unknown	3.3	Entire length	2005	No
Union Fork	WVKP-13-C.5	Aluminum (dis)	Unknown	1.7	Entire length	2005	No
		Fecal Coliform	Unknown	1.7	Entire length	2005	No
		Iron	Unknown	1.7	Entire length	2005	No
		Manganese	Unknown	1.7	Entire length	2005	No
		pH	Unknown	1.7	Entire length	2005	No
UNT/Union Fork RM 0.2	WVKP-13-C.5-1	Aluminum (dis)	Unknown	1.0	Entire length	2005	No
		Fecal Coliform	Unknown	1.0	Entire length	2005	No
		Iron	Unknown	1.0	Entire length	2005	No
		Manganese	Unknown	1.0	Entire length	2005	No
		pH	Unknown	1.0	Entire length	2005	No
Leatherwood Creek	WVKP-22	CNA-Biological	Unknown	4.2	Entire length	2015	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
NORTH BRANCH POTOMAC WATERSHED - HUC# 02070002							
Patterson Creek	WVPNB-4	CNA-Biological	Unknown	25.2	From RM 32.2 to headwaters	2015	No
Slaughterhouse Run	WVPNB-10	CNA-Biological	Unknown	2.2	Entire length	2005	No
Montgomery Run	WVPNB-11	Aluminum (dis)	Unknown	2.8	Entire length	2005	No
		CNA-Biological	Unknown	2.8	Entire length	2005	No
UNT/Montgomery Run RM 1.4	WVPNB-11-A	Aluminum (dis)	Unknown	0.4	Entire length	2005	No
		Manganese	Unknown	0.4	Entire length	2005	No
		pH	Unknown	0.4	Entire length	2005	No
Piney Swamp Run	WVPNB-12	Aluminum (dis)	Unknown	5.5	Entire length	2005	No
		CNA-Biological	Unknown	3.2	From mouth to RM 3.2	2005	No
UNT/Piney Swamp Run RM 0.7	WVPNB-12-B	Aluminum (dis)	Unknown	0.4	Entire length	2005	No
		Manganese	Unknown	0.4	Entire length	2005	No
		pH	Unknown	0.4	Entire length	2005	No
UNT/Piney Swamp Run RM 1.8	WVPNB-12-E	Aluminum (dis)	Unknown	0.2	Entire length	2005	No
		Iron	Unknown	0.2	Entire length	2005	No
		Manganese	Unknown	0.2	Entire length	2005	No
		pH	Unknown	0.2	Entire length	2005	No
UNT/Piney Swamp Run RM 2.2	WVPNB-12-F	Aluminum (dis)	Unknown	0.7	Entire length	2005	No
		Iron	Unknown	0.7	Entire length	2005	No
		Manganese	Unknown	0.7	Entire length	2005	No
		pH	Unknown	0.7	Entire length	2005	No
Abram Creek	WVPNB-16	Aluminum (dis)	Unknown	18.5	Entire length	2005	No
Emory Creek	WVPNB-16-A	Aluminum (dis)	Unknown	2.3	Entire length	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UNT/Emory Creek RM 0.8	WVPNB-16-A-1	Aluminum (dis)	Unknown	1.0	Entire length	2005	No
		Manganese	Unknown	1.0	Entire length	2005	No
		pH	Unknown	1.0	Entire length	2005	No
Glade Run	WVPNB-16-B.5	Aluminum (dis)	Unknown	0.4	From mouth to RM 0.4	2005	No
UNT/Glade Run RM 0.3	WVPNB-16-B.5-1	Aluminum (dis)	Unknown	1.1	Entire length	2005	No
		Iron	Unknown	1.1	Entire length	2005	No
		Manganese	Unknown	1.1	Entire length	2005	No
		pH	Unknown	1.1	Entire length	2005	No
Laurel Run	WVPNB-16-C	Aluminum (dis)	Unknown	3.0	Entire length	2005	No
		Manganese	Unknown	3.0	Entire length	2005	No
		pH	Unknown	3.0	Entire length	2005	No
UNT/Abrams Creek RM 13.6	WVPNB-16-C.4	Aluminum (dis)	Unknown	0.9	Entire length	2005	No
		Manganese	Unknown	0.9	Entire length	2005	No
		pH	Unknown	0.9	Entire length	2005	No
UNT/Abrams Creek RM 15.9	WVPNB-16-C.8	Aluminum (dis)	Unknown	1.1	Entire length	2005	No
		Iron	Unknown	1.1	Entire length	2005	No
		Manganese	Unknown	1.1	Entire length	2005	No
		pH	Unknown	1.1	Entire length	2005	No
Little Creek	WVPNB-16-D	Aluminum (dis)	Unknown	0.7	Entire length	2005	No
Stony River	WVPNB-17	Aluminum (dis)	Unknown	27.3	Entire length	2015	No
Little Buffalo Creek	WVPNB-19-A	Aluminum (dis)	Unknown	0.6	From mouth to RM 0.6	2005	No
		Iron	Unknown	0.6	From mouth to RM 0.6	2005	No
		pH	Unknown	0.6	From mouth to RM 0.6	2005	No
Elk Run	WVPNB-22-A	Iron	Unknown	1.7	From mouth to RM 1.7	2005	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
TYGART VALLEY WATERSHED - HUC# 05020001							
Tygart Valley River	WVMT	Aluminum (dis)	Unknown	134.7	Entire length	2015	No
		Fecal Coliform	Unknown	78.7	From RM 65.1 to headwaters	2015	No
		Mercury	Unknown	49.8	From Tygart Lake (RM 33.2) to Elkins (RM 83)	2015	No
Tygart Lake	WVMT-(L1)	Mercury	Unknown	1750.0	Entire length	2015	No
Three Fork Creek	WVMT-12	Aluminum (dis)	Unknown	19.0	Entire length	2015	No
Raccoon Creek	WVMT-12-C	Aluminum (dis)	Unknown	8.8	Entire length	2015	No
Little Sandy Creek	WVMT-18-E	Aluminum (dis)	Unknown	10.6	Entire length	2015	No
		CNA-Biological	Unknown	10.6	Entire length	2015	No
Sugar Creek	WVMT-24-C	CNA-Biological	Unknown	12.0	Entire length	2015	No
Long Run	WVMT-24-C-4	CNA-Biological	Unknown	1.6	Entire length	2015	No
Hackers Creek	WVMT-26	CNA-Biological	Unknown	4.6	Entire length	2015	No
Foxgrape Run	WVMT-26-B	CNA-Biological	Unknown	3.4	Entire length	2015	No
Roaring Creek	WVMT-42	Aluminum (dis)	Unknown	15.0	Entire length	2015	No
BUCKHANNON RIVER SUBWATERSHED							
Buckhannon River	WVMTB	Aluminum (dis)	Unknown	48.6	From mouth to Right/Left Forks	2015	No
Sawmill Run	WVMTB-20	CNA-Biological	Unknown	1.6	Entire length	2015	No
MIDDLE FORK RIVER SUBWATERSHED							
Middle Fork River	WVMTM	Aluminum (dis)	Unknown	36.6	Entire length	2015	No
Right Fork Middle Fork River	WVMTM-11	Iron	Unknown	15.3	Entire length	2015	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
HYDROLOGIC GROUP C							
GAULEY WATERSHED - HUC# 05050005							
Gauley River	WVKG	Aluminum (dis)	Unknown	37.2	From mouth to RM 37.2 (Summersville Dam)	2016	No
Summersville Lake	WVKG-(L1)	Mercury	Unknown	2700.0	Entire length	2016	No
Twentymile Creek	WVKG-5	Aluminum (dis)	Unknown	27.1	Entire length	2016	No
Meadow River	WVKG-19	Fecal Coliform	Unknown	68.8	Entire length	2016	No
Hominy Creek	WVKG-24	Iron	Mine drainage	1.8	From RM 17.3 to RM 19.1	2016	No
CRANBERRY RIVER SUBWATERSHED							
Cranberry River	WVKGC	Aluminum (dis)	Unknown	27.6	Entire length	2016	No
WILLIAMS RIVER SUBWATERSHED							
Williams River	WVKGW	Aluminum (dis)	Unknown	34.9	Entire length	2016	No
		pH	Unknown	34.1	From RM 0.8 to headwaters	2016	No
Sugar Creek	WVKGW-21	Aluminum (dis)	Unknown	3.8	Entire length	2006	No
LOWER GUYANDOTTE WATERSHED - HUC# 05070102							
Madison Creek	WVOG-17	CNA-Biological	Unknown	4.0	Entire length	2016	No
Bulwark Branch	WVOG-44-K	CNA-Biological	Unknown	1.6	Entire length	2016	No
MUD RIVER SUBWATERSHED							
Left Fork/Mud River	WVOGM-39	CNA-Biological	Unknown	12.2	Entire length	2016	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
MIDDLE OHIO NORTH WATERSHED - HUC# 05030201							
Ohio River (Middle North)	WVO-mn	Dioxin	Unknown	58.4	Ohio R from mp 172.2 (mouth of Muskingham R) to mp 113.8 (mouth of Fish Creek)	2012	No
		Bacteria	Unknown	58.4	Ohio R from mp 172.2 (mouth of Muskingham R) to mp 113.8 (mouth of Fish Creek)	2012	No
		Phenols	Unknown	10.5	Ohio R from mp 172.2 (mouth of Muskingham R) to mp 161.7	2012	No
French Creek	WVO-57	CNA-Biological	Unknown	7.6	Entire length	2016	No
MIDDLE ISLAND CREEK SUBWATERSHED							
Middle Island Creek	WVOMI	CNA-Biological	Unknown	56.3	From RM 22.4 to headwaters	2016	No
		Mercury	Unknown	78.7	Entire length	2016	No
Buckeye Run	WVOMI-47-C	CNA-Biological	Unknown	5.4	Entire length	2016	No
MIDDLE OHIO SOUTH WATERSHED - HUC# 05030202							
Ohio River (Middle South)	WVO-ms	Bacteria	Unknown	16.1	From mp 255.5 to mp 250.4 and from mp 183.5 to mp 172.2 (mouth of Muskingham R)	2012	No
		Dioxin	Unknown	65.3	From mp 237.5 to mp 172.2 (mouth of Muskingham R)	2012	No
		CNA-Biological	Unknown	1.8	From mp 262.1 to mp 260.3	2012	No
UNT/Robinson Run	WVO-21-B-0.9	CNA-Biological	Unknown	0.2	Entire length	2016	No
Elk Fork Lake	WVO-32-M-(L1)	Mercury	Unknown	278.0	Entire length	2016	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
POTOMAC DIRECT DRAINS WATERSHED - HUC# 02070004							
Opequon Creek	WVP-4	Aluminum (dis)	Unknown	30.7	Entire length	2016	No
TUG FORK WATERSHED - HUC# 05070201							
Pigeon Creek	WVBST-24	Aluminum (dis)	Unknown	32.0	Entire length	2016	No
Rockhouse Fork	WVBST-24-Q	Aluminum (dis)	Unknown	9.6	Entire length	2016	No
Mate Creek	WVBST-40	Aluminum (dis)	Unknown	9.9	Entire length	2016	No
Wolfpen Branch	WVBST-70-M-3	CNA-Biological	Unknown	1.6	Entire length	2016	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
HYDROLOGIC GROUP D							
GREENBRIER WATERSHED - HUC# 05050003							
Greenbrier River	WVKNG	Aluminum (dis)	Unknown	159.8	Entire length	2017	No
Kitchen Creek	WVKNG-23-G	CNA-Biological	Unknown	6.2	Entire length	2007	No
LITTLE KANAWHA WATERSHED - HUC# 05030203							
Burnsville Lake	WVLK-(L1)	Mercury	Unknown	968.0	Entire length	2017	No
Leading Creek	WVLK-40	CNA-Biological	Unknown	5.6	From mouth to RM 5.6	2017	No
Tanner Creek	WVLK-66	CNA-Biological	Unknown	15.3	Entire length	2017	No
Sand Fork	WVLK-86	Aluminum (dis)	Unknown	18.7	Entire length	2017	No
Saltlick Creek	WVLK-95	Aluminum (dis)	Unknown	17.7	Entire length	2017	No
HUGHES RIVER SUBWATERSHED							
Hughes River	WVLKH	Mercury	Unknown	13.8	Entire length	2017	No
Goose Creek	WVLKH-4	CNA-Biological	Unknown	10.0	From mouth to RM 10.0	2017	No
South Fork	WVLKH-9	CNA-Biological	Unknown	31.0	From RM 1.0 to RM 32.0	2017	No
Middle Fork	WVLKH-9-AA	CNA-Biological	Unknown	11.0	Entire length	2017	No
STEER CREEK SUBWATERSHED							
Rush Run	WVLKS-4	CNA-Biological	Unknown	3.0	Entire length	2017	No
Steer Run	WVLKS-10-E	CNA-Biological	Unknown	5.1	Entire length	2017	No

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Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
LOWER NEW WATERSHED - HUC# 05050004							
New River (Lower)	WVKN-lo	Aluminum (dis)	Unknown	68.2	From mouth to RM 68.2	2017	No
		Fecal Coliform	Unknown	57.0	From RM 1.2 to RM 58.2	2007	No
Wolf Creek	WVKN-10	Fecal Coliform	Unknown	10.0	Entire length	2007	No
Slater Creek	WVKN-24	Fecal Coliform	Unknown	0.5	From mouth to RM 0.5	2007	No
Cranberry Creek	WVKN-26-E	CNA-Biological	Unknown	6.0	Entire length	2007	No
MONONGAHELA WATERSHED - HUC# 05020003							
Scott Run	WVM-6	Aluminum (dis)	Unknown	6.0	Entire length	2017	No
Dents Run	WVM-7	Aluminum (dis)	Unknown	9.2	Entire length	2017	No
Deckers Creek	WVM-8	Aluminum (dis)	Unknown	24.7	Entire length	2017	No
UNT/Kanes Creek RM 2.6	WVM-8-I-1	Iron	Unknown	0.8	Entire length	2017	No
		pH	Unknown	0.8	Entire length	2017	No
UNT/Deckers Creek RM 18.6	WVM-8-J	Lead	Unknown	1.5	Entire length	2017	No
Booths Creek	WVM-10	Aluminum (dis)	Unknown	9.6	Entire length	2017	No
Indian Creek	WVM-17	Aluminum (dis)	Unknown	9.4	Entire length	2017	No
		CNA-Biological	Unknown	9.4	Entire length	2017	No
		Iron	Unknown	9.4	Entire length	2017	No
Paw Paw Creek	WVM-22	Aluminum (dis)	Unknown	14.4	Entire length	2017	No
		CNA-Biological	Unknown	12.7	RM 1.7 to headwaters	2017	No
Buffalo Creek	WVM-23	Aluminum (dis)	Unknown	30.2	Entire length	2017	No
		CNA-Biological	Unknown	30.2	Entire length	2017	No

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UPPER NEW WATERSHED - HUC# 05050002							
Adair Run	WVKN-59	CNA-Biological	Unknown	5.5	Entire length - from state border upstream to headwaters	2007	No
BLUESTONE RIVER SUBWATERSHED							
Little Bluestone River	WVKNB-3	Fecal Coliform	Unknown	9.2	Entire length	2007	No
Mountain Creek	WVKNB-5	Fecal Coliform	Unknown	9.8	Entire length	2007	No

2004 Section 303(d) New Listings

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
HYDROLOGIC GROUP E							
BIG SANDY WATERSHED - HUC# 05070204							
Cedar Run	WVBS-4	CNA-Biological	Unknown	1.1	RM 0.4 to headwaters (RM 1.5)	2018	No
Whites Creek	WVBS-5	Aluminum (dis)	Unknown	8.8	Entire length	2018	No
Balangee Branch	WVBS-5-A.9	CNA-Biological	Unknown	1.6	Entire length	2018	No
Tabor Creek	WVBS-10	CNA-Biological	Unknown	2.6	from RM 1.0 to Headwaters	2018	No
CACAPON WATERSHED - HUC# 02070003							
Cacapon River	WVPC	Aluminum (dis)	Unknown	70.8	Entire length	2018	No
Hiett Run	WVPC-7-C	CNA-Biological	Unknown	5.7	Entire length	2018	No
DUNKARD WATERSHED - HUC# 05020005							
Smoky Drain	WVM-1-A-2	CNA-Biological	Unknown	1.7	Entire length	2018	No
LOWER OHIO WATERSHED - HUC# 05090101							
Fourpole Creek	WVO-3	CNA-Biological	Unknown	11.7	Entire length	2018	No
Mud Run	WVO-13-A	CNA-Biological	Unknown	4.4	Entire length	2018	No
TWELVEPOLE WATERSHED - HUC# 05090102							
Beech Fork Lake	WVO-2-H-(L1)	Mercury	Unknown	720.0	Entire length	2018	No
West Fork	WVO-2-P	Aluminum (dis)	Unknown	34.2	From mouth to RM 34.2	2018	No
Billy Branch	WVO-2-P-12	CNA-Biological	Unknown	2.8	Entire length	2018	No
Rollem Fork	WVO-2-Q-18-E	CNA-Biological	Unknown	1.9	Entire length	2018	No

2004 Section 303(d) New Listings

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
UPPER GUYANDOTTE WATERSHED - HUC# 05070101							
Curry Branch	WVOG-65-B-5	CNA-Biological	Unknown	0.9	Entire length	2018	No
Lower Dempsey Branch	WVOG-65-L.5	CNA-Biological	Unknown	1.1	Entire length	2018	No
Rum Creek	WVOG-70	Aluminum (dis)	Unknown	8.8	Entire length	2018	No
UPPER OHIO SOUTH WATERSHED - HUC# 05030106							
Bark Camp Run	WVO-77-H-0.8	CNA-Biological	Unknown	1.6	Entire length	2018	No
Middle Grave Creek	WVO-83-A	CNA-Biological	Unknown	12.2	Entire length	2018	No
Molleys Hollow	WVO-84-A	CNA-Biological	Unknown	1.0	Entire length	2018	No
Browns Run	WVO-86-A	CNA-Biological	Unknown	1.7	Entire length	2018	No
Little Wheeling Creek	WVO-88-D	Aluminum (dis)	Unknown	10.0	Entire length	2018	No
Todd Run	WVO-88-D-2-F	CNA-Biological	Unknown	2.2	Entire length	2018	No
Roneys Point Run	WVO-88-D-6	CNA-Biological	Unknown	2.2	Entire length	2018	No
Graeb Hollow	WVO-89-A	CNA-Biological	Unknown	1.3	Entire length	2008	No
Short Creek	WVO-90	Aluminum (dis)	Unknown	10.3	Entire length	2008	No
WEST FORK WATERSHED - HUC# 05020002							
West Fork River	WVMW	Zinc (dis)	Unknown	74.4	From mouth to Stonewall Jackson Dam (RM 74.4)	2018	No
Stonewall Jackson Lake	WVMW-(L1)	Mercury	Unknown	2650.0	Entire length	2018	No
Booths Creek	WVMW-2	Aluminum (dis)	Unknown	8.6	Entire length	2018	No
Bingamon Creek	WVMW-7	Aluminum (dis)	Unknown	14.6	Entire length	2018	No
		CNA-Biological	Unknown	14.6	Entire length	2018	No
Long Run	WVMW-7-B	CNA-Biological	Unknown	2.0	Entire length	2018	No
Cunningham Run	WVMW-7-D	CNA-Biological	Unknown	2.4	Entire length	2018	No
Coal Lick Run	WVMW-7-F-1	CNA-Biological	Unknown	2.2	Entire length	2018	No

2004 Section 303(d) New Listings

WEST VIRGINIA

Stream Name	Stream Code	Criteria Affected	Cause	Impaired Length (stream-mi) (lake-acres)	Reach Description	Projected TMDL Year (No Later Than)	2002 list?
Robinson Run	WVMW-12	CNA-Biological	Unknown	5.4	Entire length	2018	No
Tenmile Creek	WVMW-13	Aluminum (dis)	Unknown	26.4	entire length	2018	No
Little Tenmile Creek	WVMW-13-B	Aluminum (dis)	Unknown	13.0	Entire length	2018	No
Beards Run	WVMW-15-G	Aluminum (dis)	Unknown	2.8	Entire length	2018	No
Brushy Fork	WVMW-21-G	Aluminum (dis)	Unknown	14.0	Entire length	2018	No
Gnatty Creek	WVMW-21-M	Aluminum (dis)	Unknown	8.9	Entire length	2018	No
Lost Creek	WVMW-26	Aluminum (dis)	Unknown	11.4	Entire length	2018	No
Hackers Creek	WVMW-31	Aluminum (dis)	Unknown	25.4	Entire length	2018	No
Kincheloe Creek	WVMW-32	Aluminum (dis)	Unknown	10.2	Entire length	2018	No
Freemans Creek	WVMW-36	Aluminum (dis)	Unknown	5.6	Entire length	2018	No