ENVIRONMENTAL QUALITY BOARD

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MINUTES
WEST VIRGINIA ENVIRONMENTAL QUALITY BOARD
January 11&12, 1999

I. General

The West Virginia Environmental Quality Board (the "Board") met on January 11&12, 1999, at 9:00 a.m. The hearing was held at 1615 Washington Street, E., Charleston, West Virginia. Edward M. Snyder, Chair of the Environmental Quality Board, called the meeting to order. Board members present included:

Edward M. Snyder, Chair
Donald Tarter, Vice-Chair (present until 11:30 a.m. January 11)
Betsy Dulin, (starting at 12:45 January 11)
David Samuel

Staff Members Present:

Becky Charles, Legal Counsel
Libby Chatfield, Technical Advisor
Margaret Chico-Eddy, Clerk of the Boards
Ann Holstein, Administrative Secretary

II. Evidentiary Hearing

1. Cookman Realty Group, Inc., Appeal No. 98-18-EQB

The Board completed hearing the evidence in Cookman Realty Group, Inc., Appeal No. 98-18-EQB.

2. Doyle Coakley, Appeal No. 98-12-EQB

The Board heard evidence in Doyle Coakley, Appeal No. 98-12-EQB.

David Samuel made a motion to deny the Motion to Dismiss and the Motion to Exclude & Strike Testimony. The motion was seconded by Betsy Dulin. The motion carried by a unanimous vote.

III. Motions & Final Decisions

1. Paitsel Lockhart, Appeal No. 98-06-EQB

Ed Snyder requested that Becky Charles have the final draft order prepared for the February meeting.

2. Timberline Utilities, Inc., et al, Appeal Nos. 97-08,09,10,11,13-EQB

Ed Snyder requested that the staff contact Bob Jenkins and ask that he participate in a discussion by conference call on February 22, at 12:30 p.m.

3. Weirton Steel Corporation, Appeal No. 98-14-EQB

David Samuel made a motion to accept the Consent Order & Agreement as written. The motion was seconded by Betsy Dulin. The motion carried by a unanimous vote.

4. T&T Fuels, Inc., Appeal No. 618

David Samuel made a motion to accept the Joint Agreed Order of Dismissal as written. The motion was seconded by Betsy Dulin. The motion carried by a unanimous vote.

IV. Administrative Matters

1. Minutes

Don Tarter made a motion to accept the April 17, 1998 minutes as amended. The amendment is in section C under Water Quality Standards and Ground Water Standards. The third sentence in that paragraph is to be omitted. The motion was seconded by David Samuel. The motion carried by a unanimous vote.

Don Tarter made a motion to accept the October 23, 1998 minutes as written. The motion was seconded by David Samuel. The motion carried by a unanimous vote.

David Samuel made a motion to accept the December 17 & 18 1998 minutes as written. The motion was seconded by Don Tarter. The motion carried by a unanimous vote.

Don Tarter made a motion to accept the December 21, 1998 minutes as written. The motion was seconded by David Samuel. The motion carried by a unanimous vote.

2. Executive Session

Don Tarter made a motion to go into an executive session to discuss personnel matters. The motion was seconded at 11:01 by David Samuel. The motion carried by a unanimous vote. The Board came out of an executive session at 11:13.

3. **Hearing Dates**

The Board selected February 22, March 25&26 and April 29&30 as hearing dates.

4. **Budget Report**

Ann Holstein informed the Board that the budget was right on track and that we have spent fifty percent of our budget thus far. Ann will be preparing a detailed report for the Board to review at the February meeting. The report will entail the Board's budget for the past three years and travel, cost of transcripts, salaries, telephone bills, rent, etc. (See Attachments 1 and 2.)

V. Water Quality Standards (46 CSR 1)

1. **Body Burden**

Libby Chatfield explained the amendment to the Water Quality Standards rule adopted by the Legislative Rule-Making Review Committee in December regarding the body burden language in section 8.5. The amendment removes section 8.5, the language developed by the body burden committee convened by the Board in 1997, and retains the original body burden values in section 8.22.1 and 8.22.2. The provisions in sections 8.22.1 and 8.22.2 were disapproved by USEPA on November 10, 1995, because the numeric values are not consistent with the instream numeric criteria. David Yaussy, of the law firm of Robinson & McElwee representing the West Virginia Manufacturer's Association, explained that group's concerns about the provisions in section 8.5.

After discussion of this issue, the Board stated that they continue to support the retention of section 8.5 which includes the recommendations of the Body burden committee. The Board recognizes that some concerns exist regarding the implementation of those provisions and intends continue to review them and to attempt to resolve those concerns.

2. **Aluminum Data from Office of Water Resources**

Mike Arcuri, from the Office of Water Resources (OWR) of the Division of Environmental Protection (DEP), spoke to the Board on aluminum data collected by the watershed group of the OWR. He presented the Board with tables (See Attachment 3) of aluminum data and other selected water quality parameters in the Lower Kanawha, Tygart Valley, Northern Branch of the Potomac River, Coal River and the Elk River Watersheds. Mike was asked by the Board to come back for the February 22nd meeting to discuss the aluminum data in more detail.

3. **Antidegradation Stakeholder Group**

Libby Chatfield informed the Board that she is continuing to work on developing a list of

groups interested in participating in the antidegradation stakeholders' group.

4. <u>February Water Quality Standards Meeting (46 CSR 1)</u>

The Board continued the Water Quality Standards agenda items until the February meeting, so they would have more time for discussions on the issues. The items that will be addressed are aluminum data, antidegradation stakeholder group, Public A use category Legislative activity on proposed amendments to Water Quality Standards Rule and Office of Water Resources' comments on Triennial Review.

I hereby certify that the foregoing is a true and correct record of the proceedings of the meeting held on January 11&12, 1999 by the West Virginia Environmental Quality Board.

Submitted this 22nd day of February 1999.

Approved by the Board as submitted on Feb. 22, 1999.
Approved by the Board as amended on _____.

Rebecca S. Charles

Rebecca Charles
Attorney for the Boards

Attachment 1

December 1998

Environmental Quality Board - Fiscal Year 1998 Budget Report

			1st Quarter			2nd Quarter			3rd Quarter			4th Quarter					
Line Item	EQB Annual Budget	July 1998	Aug. 1998	Sept. 1998	Oct. 1998	Nov. 1998	Dec. 1998	Jan. 1999	Feb. 1999	March 1999	April 1999	May 1999	June 1999	July 1999	YTD Expenditures	(+/-) Balance	% of Budget
Salaries	$63,609.00	$5,409.90	$8,634.74	$4,378.90	$4,552.86	$4,998.90	$4,822.91								$32,798.21	$30,810.79	51.56%
Annual Increment	$443.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								$0.00	$443.00	0.00%
Personnel Fees	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								$0.00	$500.00	0.00%
Social Security	$5,000.00	$408.59	$646.37	$328.10	$364.38	$378.17	$333.35								$2,458.96	$2,541.04	49.18%
Pub. Emp. Insurance	$7,500.00	$0.00	$460.40	$415.60	$415.60	$0.00	$831.20								$2,122.80	$5,377.20	28.30%
Workers Comp	$1,200.00	$0.00	$0.00	$0.00	$386.36	$0.00	$0.00								$386.36	$813.64	32.20%
Pension/Retirement	$8,826.00	$0.00	$513.96	$474.88	$415.98	$0.00	$829.20								$2,234.02	$6,591.98	25.31%
Per Diem	$0.00	$0.00	$0.00	$1,000.00	$100.00	$400.00	$1,400.00								$2,900.00	($2,900.00)	ERR
Office Expense	$0.00	$0.00	$121.42	$0.00	$93.00	($245.75)	$0.00								($31.33)	$31.33	ERR
Printing/Binding	$0.00	$0.00	$360.00	$0.00	$0.00	$0.00	$0.00								$360.00	($360.00)	ERR
Rental Expense (Bldg.)	$0.00	$0.00	$767.50	$0.00	$0.00	$0.00	$0.00								$767.50	($767.50)	ERR
Utilities	$7,210.00	$0.00	$0.00	$0.00	$11.00	$22.95	$0.00								$33.95	$7,176.05	0.47%
Telecommunications	$1,000.00	$0.00	$0.00	$0.00	$307.66	$51.58	$0.00								$359.24	$640.76	35.92%
Contractual/Professional	$0.00	$0.00	$0.00	$0.00	$190.00	$2,852.50	$1,801.00								$4,843.50	($4,843.50)	ERR
Travel	$10,666.00	$0.00	$0.00	$2,015.82	$1,069.18	$867.46	$2,328.66								$6,281.12	$4,384.88	58.89%
Computer Services	$1,200.00	$0.00	$1.00	$0.00	$91.00	$0.00	$0.00								$92.00	$1,108.00	7.67%
Rentals (Machine)	$2,500.00	$0.00	$0.00	$0.00	$618.82	$0.00	$0.00								$618.82	$1,881.18	24.75%
Association Dues	$110.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								$0.00	$110.00	0.00%
Clothing/Household/Suppli	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								$0.00	$0.00	ERR
Advertising	$0.00	$0.00	$119.14	$119.16	$33.23	$0.00	$0.00								$271.53	($271.53)	ERR
Maintenance Contracts	$500.00	$0.00	$42.87	$0.00	$0.00	$0.00	$0.00								$42.87	$457.13	8.57%
Miscellaneous	$2,000.00	$0.00	$475.75	$0.00	$0.00	$103.00	$0.00								$578.75	$1,421.25	28.94%
Training/Development	$500.00	$0.00	$0.00	$0.00	$149.67	$57.50	$0.00								$207.17	$292.83	41.43%
Postal & Freight	$750.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								$0.00	$750.00	0.00%
Computer Supplies	$500.00	$0.00	$0.00	$190.00	$0.00	$95.00	$0.00								$285.00	$215.00	57.00%
Credit Card (Supplies)	$1,500.00	$0.00	$602.71	$0.00	$4.00	$0.00	$108.59								$715.30	$784.70	47.69%
Office & Comm Equipment	$0.00	$0.00	$0.00	$0.00	$131.23	$0.00	$0.00								$131.23	($131.23)	ERR
Books/Periodicals	$250.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								$0.00	$250.00	0.00%
Other Equipment	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								$0.00	$0.00	ERR
Credit Card Purchases-Equi	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								$0.00	$500.00	0.00%
Computer Equipment	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								$0.00	$500.00	0.00%
Computer Software	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00								$0.00	$500.00	0.00%
	$117,264.00	$5,818.49	$12,745.86	$8,922.46	$8,933.97	$9,581.31	$12,454.91	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$58,457.00	$58,807.00	49.85%

Attachment 2

December 1998

Environmental Quality Board - Special Acct. - Fiscal Year 1999

			1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			
Line Item	EQB Annual	July 1998	Aug. 1998	Sept. 1998	Oct. 1998	Nov. 1998	Dec. 1998	Jan. 1999	Feb. 1999	March 1999	April 1999	May 1999	June 1999	YTD	(+/-)
	Budget													Expenditures	Balance
Salaries	$41,000.00	$3,442.04	$1,607.02	$3,214.04	$3,214.04	$3,214.04	$3,214.04							$17,905.22	$23,094.78
Annual Increment	$228.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$228.00
Personnel Fees	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$0.00
Social Security	$3,000.00	$251.98	$117.27	$234.54	$234.54	$234.54	$234.54							$1,307.41	$1,692.59
Pub. Emp. Insurance	$50.00	$0.00	$24.57	$3.29	$3.29	$0.00	$6.58							$37.73	$12.27
Workers Comp	$1,200.00	$222.21	$0.00	$0.00	$241.63	$0.00	$0.00							$463.84	$736.16
Pension/Retirement	$3,800.00	$288.92	$326.99	$305.33	$305.33	$0.00	$610.66							$1,837.23	$1,962.77
Per Diem	$0.00	$0.00	$0.00	$1,100.00	$400.00	$0.00	($64.25)							$1,435.75	($1,435.75)
Office Expense	$0.00	$0.00	($552.22)	$0.00	($33.00)	$0.00	$0.00							($585.22)	$585.22
Rental Expense (Bldg.)	$0.00	$0.00	$1,401.28	$0.00	$0.00	$0.00	$0.00							$1,401.28	($1,401.28)
Utilities	$0.00	$0.00	$537.70	$0.00	$0.00	$0.00	$0.00							$537.70	($537.70)
Telecommunications	$0.00	$0.00	$1,139.97	$951.34	$0.00	$243.22	$0.00							$2,334.53	($2,334.53)
Contractual/Professional	$0.00	$0.00	$214.42	$0.00	$0.00	$0.00	$0.00							$214.42	($214.42)
Travel	$1,500.00	$0.00	$813.80	$1,000.14	$1,452.94	$0.00	$0.00							$3,266.88	($1,766.88)
IS&C/WVNET	$0.00	$0.00	$170.70	$0.00	$0.00	$13.50	$0.00							$184.20	($184.20)
Rentals (Machine)	$0.00	$0.00	$757.14	$0.00	$0.00	$0.00	$0.00							$757.14	($757.14)
Association Dues	$240.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$240.00
Clothing/Household/Suppli	$0.00	$0.00	$40.72	$0.00	$0.00	$0.00	$0.00							$40.72	($40.72)
Advertising	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$0.00
Maintenance Contracts	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$0.00
Miscellaneous	$1,000.00	$0.00	$1,198.10	$0.00	$0.00	$0.00	$0.00							$1,198.10	($198.10)
Training/Development	$500.00	$0.00	$1,380.00	$0.00	$0.00	$0.00	$0.00							$1,380.00	($880.00)
Postal & Freight	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$0.00
Computer Expenses	$0.00	$0.00	$385.50	$0.00	$0.00	$0.00	$0.00							$385.50	($385.50)
Credit Card (Supplies)	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$500.00
Office & Comm Repairs	$0.00	$0.00	$77.00	$0.00	$0.00	$0.00	$0.00							$77.00	($77.00)
Office & Comm. Equipmen	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$0.00
Books/Periodicals	$0.00	$0.00	$268.74	$0.00	$0.00	$0.00	$0.00							$268.74	($268.74)
Other Equipment	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$0.00
Credit Card Purchases-Equi	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$500.00
Computer Equipment	$500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$500.00
Computer Software	$982.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00							$0.00	$982.00
	$55,000.00	$4,205.15	$9,908.70	$6,808.68	$5,818.77	$3,705.30	$4,001.57	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$34,448.17	$17,141.53
	Cash Balance	07/01/98	$1,589.70	12/01/98	$21,143.10	05/01/99	$17,141.53								
		08/01/98	$47,384.55	01/01/99	$17,141.53	06/01/99	$17,141.53								
		09/01/98	$37,475.85	02/01/99	$17,141.53	06/30/99	$17,141.53								
		10/01/98	$30,667.17	03/01/99	$17,141.53										
		11/01/98	$24,848.40	04/01/99	$17,141.53										

Lower Kanawha Watershed - Aluminum Study Sites

NAME	ANCODE	AL_(DISSOL	AL_(TOTAL)	BIOSCORE	HABITAT	CA_(TOTAL)	CA_(DISSOL	HOT_ACIDIT	ALKALINITY	TEMP	PH	DO	CONDUCT
WOLF CREEK	WVKP-32-{1.0}	<0.05	<0.100	100.00	126	19.000	19.6	<1	68	19.6	7.5	8.3	156
HOFFMAN HOLLOW	WVK-39-M-1-A-{1.0}	<0.05	0.086	100.00	179	2.700	3.80	1	7	15.0	6.2	8.4	47
GRAPEVINE CREEK	WVKP-16-{4.5}	<0.05	0.180	90.91	148	19.000	20.2	<1	64	18.5	7.7	8.7	190
COON RUN	WVKP-33-D-{0.8}	<0.05	0.190	81.82	155	9.600	10..2	<1	40	15.2	7.3	8.3	136
HUNT FORK	WVKP-28-A-1-{0.7}	<0.05	0.170	81.82	123	23.000	23.6	<1	74	17.5	7.7	8.8	193
U.T. OF MUDLICK FORK	WVKP-12-E-2.5-{0.4}	<0.05	1	72.73	154	28	29	<1	117	15.4	8.2	8.1	254
U.T. OF SIXTEENMILE CREE	WVK-14-A.5-{1.6}	<0.05	0.5	72.73	136	22	23.2	<1	74	18.7	7.8	9.2	203
LEFT FORK TURKEY BRANCH	WVK-16-G-1-{0.4}	<0.05	0.64	72.73	82	29	28.9	<1	104	22.5	7.6	8.6	264
FLAT FORK	WVKP-33-{5.8}	<0.05	0.160	63.64	149	12.000	14.4	<1	48	16.2	7.3	8.6	143
LAUREL FORK	WVKP-43-{1.6}	<0.05	0.410	63.64	109	18.000	19.2	<1	68	17.7	7.5	8.1	175
MUDLICK FORK	WVK-12-E-{2.4}	<0.05	0.72	63.64	135	24	24.2	<1	78	20.7	7.7	8.8	218
EIGHTEENMILE CREEK	WVK-16-{33.0}	<0.05	0.120	63.64	143	25.000	25.9	<1	94	21.5	7.6	9.4	265
HARRIS BRANCH	WVK-16-Q-{1.0}	<0.05	0.7	63.64	154	21	20.7	<1	79	19.5	8.1	9.8	191
FINNEY BRANCH	WVK-36-{2.4}	<0.05	0.630	63.64	137	21.000	20.3	<1	76	15.8	7.4	8.5	260
DAVIS CREEK	WVK-39-{12.2}	<0.05	0.081	63.64	140	5.700	5.26	<1	15	15.5	6.6	7.9	73
U.T. OF MANILLA CREEK	WVKP-1-A-0.1-{1.6}	<0.05	0.130	54.55	148	35.000	34.6	<1	110	19.7	8.0	9.3	335
U.T. OF ALLENS FORK	WVKP-17-C-4.5-{1}	<0.05	0.120	54.55	175	17.000	17.4	<1	73	12.6	7.4	7.3	198
LOWER NINEMILE CREEK	WVK-9-C-{5.4}	<0.05	0.81	54.55	139	17	16.1	<1	59	15.2	7.9	7.5	166
POPLAR FORK	WVK-12-F-{5.0}	<0.05	0.59	54.55	148	30	30.5	<1	113	17.5	7.5	6.1	274
DUDDEN FORK	WVKP-17-E-{2.6}	<0.05	<0.10	45.45	139	30.0	31.6	<1	110	18.9	7.9	9.2	305
SIXTEENMILE CREEK	WVK-14-{2.2}	<0.05	0.61	45.45	123	24	22.6	<1	80	16.4	7.6	8.1	202
RIDER CREEK	WVK-22-J-{1.3}	<0.05	0.540	45.45	116	16.000	16.3	<1	58	24.7	7.1	6.0	204
POCATALICO RIVER	WVK-29-{61.0}	<0.05	0.190	36.36	132	18.00	23.2	<1	65	20.0	7.8	9.4	209
HURRICANE CREEK	WVK-22-{10.6}	<0.05	0.440	36.36	119	25.000	27.4	<1	94	22.2	7.1	5.6	307
HURRICANE CREEK	WVK-22-{6.0}	<0.05	0.260	36.36	125	24.000	25.3	<1	86	19.3	7.6	8.0	267
TUPPER CREEK	WVKP-13-{3.0}	<0.05	0.072	27.27	112	55.000	60.0	<1	86	24.2	7.9	7.5	500
SALTLICK CREEK	WVK-16-J-3-{1.0}	<0.05	0.087	27.27	145	26.000	28.1	<1	96	20.1	7.5	9.4	307
HURRICANE CREEK	WVK-22-{14.4}	<0.05	0.290	27.27	89	27.000	28.3	<1	110	23.1	7.2	6.3	380

Streams with > 0.087 mg/l aluminum and good bugs (bioscore > 65)

Streams with > 0.087 mg/l aluminum and bad bugs with bad habitat (< 168 (70 %))

Streams with > 0.087 mg/l aluminum and bad bugs with good habitat (> 168 (70%))

Attachment 3

North Branch Potomac River Watershed - Aluminum Study Sites

NAME	ANCODE	Al (dissolved)	Al (total)	bioscore	habitat	Ca (total)	Ca (dissolved)	hot acidity	alkalinity	temp	pH	DO	conductivity
LINTON CREEK	WVPNB-7-H	0.006	0.120	90.91	214	9.57	9.357	-1	-1	15.5	8.5	8.8	85
DEEP RUN	WVPNB-15	0.049	0.087	90.91	145	81	86.490	<1	31	18.6	7.3	8.5	874
STONY RIVER	WVPNB-17-{06.9}	0.147	<0.050	90.91	177	-1	0.002	<1	31	20.4	7.9	8.2	1029
WYCKROFF RUN	WVPNB-16-B (DUP1)	0.032	0.180	90.91	156	13.000	13.290	<1	33	16.4	7.3	7.9	121
WYCROFF RUN	WVPNB-16-B (DUP2)	0.048	0.369	90.91	211	17.54	17.230	-1	-1	18.4	7.5	7.7	156
PATTERSON CREEK	WVPNB-4-{39.4}	0.023	<0.050	90.91	141	47.000	49.990	<1	130	23.5	8.4	9.3	328
ASH SPRING RUN	WVPNB-7-F-{0.6}	0.019	0.240	90.91	157	16.000	16.360	<1	52	20.5	8.0	6.5	150
PATTERSON CREEK	WVPNB-4-{33.0}	0.005	<0.050	90.91	155	43.000	48.080	<1	120	22.4	8.0	6.7	316
UT OF NORTH FORK PATTERSON CREE	WVPNB-4-EE-7-{0.4	0.057	0.073	90.91	205	29.000	31.140	<1	88	18.3	7.3	8.1	198
MILL CREEK	WVPNB-4-S-{5.6}	0.030	<0.050	90.91	174	46.000	50.440	<1	120	23.6	8.7	10.1	311
NORTH BRANCH POTOMAC RIVER	WVP-20-{97.9}	0.039	<0.050	90.91	196	32.000	36.420	<1	23	19.6	7.3	7.6	271
PATTERSON CREEK	WVPNB-4-{20.2}	0.031	<0.050	90.91	170	38.000	40.760	<1	100	23.9	7.9	6.4	277
WHIP RUN	WVPNB-4-W-3	0.005	0.080	81.82	137	28.10	28.320	-1	-1	21.1	7.9	7.2	199
CRANBERRY RUN	WVPNB-15-A (DUP1)	0.011	0.081	81.82	117	13	13.460	<1	27	18.6	7.2	7.4	116
PATTERSON CREEK	WVPNB-4-{29.7}	0.021	<0.050	81.82	177	29.000	43.600	<1	110	23.6	8.4	10.2	279
PATTERSON CREEK	WVPNB-4-{45.2}	0.045	0.100	81.82	89	66.000	71.200	<1	160	23.5	7.6	8.0	440
GREEN SPRING RUN	WVPNB-1-{4.2}	0.029	<0.050	81.82	122	59.000	63.720	<1	120	21.1	8.0	6.3	439
ROSSER RUN	WVPNB-4-CC	0.024	0.043	72.73	152	28.91	27.950	-1	-1	25.4	8.5	8.0	204
MIDDLE FORK/PATTERSON CREEK	WVPNB-4-FF	0.007	0.167	72.73	160	41.25	41.510	-1	-1	24.3	7.9	8.1	298
THORN CREEK	WVPNB-4-DD-{2.0}	0.023	<0.050	72.73	146	52.000	52.650	<1	150	19.9	8.3	8.7	329
PATTERSON CREEK	WVPNB-4-{04.6}	0.029	<0.050	72.73	146	29.000	36.320	<1	96	21.4	7.7	6.9	258
NORTH BRANCH POTOMAC RIVER	WVP-20-{81.6}	0.071	18.000	72.73	191	21.000	169.000	<1	34	19.0	7.9	8.0	1074
NEW CREEK	WVPNB-7-{03.8}	0.027	<0.050	72.73	188	37.000	39.950	<1	100	21.8	8.2	7.4	270
NEW CREEK	WVPNB-7-{10.4}	0.018	0.061	72.73	178	27.000	28.850	<1	73	17.9	8.4	8.6	204
NEW CREEK	WVPNB-7-{08.4}	0.005	0.100	72.73	157	27.000	29.970	<1	78	21.3	8.8	8.4	210
RED OAK CREEK	WVPNB-20	0.057	0.068	63.64	175	20.55	20.790	-1	-1	16.6	7.3	7.1	148
NORTH BRANCH POTOMAC RIVER	WVP-20-{88.9}	0.140	<0.050	63.64	187	210.000	264.040	<1	46	18.7	7.8	8.5	1570
NORTH BRANCH POTOMAC RIVER	WVP-20-{82.6}	0.067	0.063	63.64	205	160.000	184.720	<1	35	19.2	7.9	8.1	1147
CABIN RUN	WVPNB-4-J-{1.6}	0.059	<0.050	63.64	153	30.000	39.250	<1	100	22.8	7.5	6.7	314
MILLL CREEK	WVPNB-4-S-{04.7}	0.070	0.130	54.55	149	34.000	46.780	<1	120	23.4	8.1	8.0	297
U.T. OF ABRAMS CREEK	WVPNB-16-.5A-{0.4	0.025	<0.050	54.55	160	73.000	75.640	<1	90	17.4	8.0	7.6	647
NORTH BRANCH POTOMAC RIVER	WVP-20-{101.8}	0.022	<0.050	45.45	191	33.000	35.870	<1	35	19.9	6.8	5.6	284
UT OF UT OF MIDDLE FORK / PATTE	WVPNB-4-FF-5-A-{0	0.054	<0.050	45.45	120	230.000	237.520	<1	84	27.8	7.6	4.8	1391
LAUREL RUN	WVPNB-16-B.5	5.657	5.400	27.00	203	62.000	67.540	38	4	17.0	5.0	8.0	711
U.T OF U.T. OF NEW CREEK	WVPNB-7-C.4-1-{0.	0.028	0.510	27.27	81	88.000	87.420	<1	260	20.7	8.1	6.7	515
ABRAM CREEK	WVPNB-16-{18.1}	1.064	0.820	27.27	191	63.000	72.280	22	<1	19.4	3.9	7.7	715
EMORY CREEK	WVPNB-16-A-{0.8}	1.812	1.800	18.18	140	59.000	62.080	17	3	17.5	4.7	8.5	665
NORTH BRANCH POTOMAC RIVER	WVP-20-{52.0}	0.206	0.440	18.18	171	67.000	63.880	<1	46	20.0	7.5	8.7	553
ABRAM CREEK	WVPNB-16-{16.8}	0.072	<0.050	18.18	203	73.000	74.060	3	8	15.4	6.3	8.2	574
ABRAM CREEK	WVPNB-16-{05.4}	0.601	0.710	18.18	203	75.000	81.990	10	4	22.0	5.1	7.7	752
MILL RUN	WVPNB-4-D	0.021	0.226	9.09	104	22.59	23.350	-1	-1	24.3	7.4	8.2	287

Streams with > 0.087 mg/l aluminum and good bugs (bioscore > 65)

Streams with > 0.087 mg/l aluminum and bad bugs with bad habitat (< 168 (70 %))

Streams with > 0.087 mg/l aluminum and bad bugs with good habitat (> 168 (70%))

Coal River Watershed - Aluminum Study Sites

NAME	ANCODE	Al (dissolved)	Al (total)	bioscore	habitat	Ca (total)	Ca (dissolved)	hot acidity	alkalinity	temp	pH	DO	conductivity
FORK CREEK	WVKC-14	<0.05	0.074	100.0	166	9.9	8.18	<1	240	16.3	8.3	8.9	441
HOPKINS FORK	WVKC-31-B-{10.9}	<0.05	0.100	100.0	167	20.000	18.7	<1	12	15.7	7.0	8.1	248
MARSH FORK	WVKC-46-{20.2}	<0.05	0.360	100.0	161	22.000	20.1	<1	220	17.4	8.5	9.2	771
ROCKHOUSE CREEK	WVKC-47-A-{1.3}	<.05	0.066	100.0	183	42.000	42.9	<1	120	16.2	7.9	8.9	507
ELK RUN	WVKC-43-{2.8}	<0.05	<0.050	90.9	153	59.000	59.0	<1	91	14.2	7.7	9.1	582
DRY CREEK	WVKC-46-H	<0.05	0.074	81.8	157	14.0	13.2	-1	-1	14.7	7.5	7.8	159
BRUSHY FORK	WVKC-10-T-24-{0.6}	<0.05	0.082	81.8	100	18.000	31.0	<1	120	14.9	6.3	5.2	377
MARSH FORK	WVKC-46-{15.3}	<0.05	<0.050	81.8	176	26.000	24.3	<1	220	15.4	8.3	10.0	784
SPRUCE FORK	WVKC-10-T-{4.6}	<0.05	0.730	81.8	142	51	46.0	<1	300	16.5	8.5	7.9	1137
SPRUCE FORK	WVKC-10-T-{0.3}	<0.05	0.930	81.8	149	49	47.2	<1	260	17.3	8.6	10.1	1024
HOPKINS FORK	WVKC-31-B-{0.2}	<0.05	0.130	81.8	160	54.000	49.1	<1	65	17.5	7.9	8.7	475
BROWNS CREEK	WVKC-2-{2.0}	<0.05	0.540	81.8	93	37	35.4	<1	112	18.7	7.2	5.4	298
WORKMAN CREEK	WVKC-47-O-{2.4}	<0.05	<0.05	81.8	165	93.000	95.9	<1	73	13.8	7.8	9.8	931
MCDOWELL BRANCH	WVKC-47-N-{1.4}	<0.05	0.085	81.8	184	70.000	75.0	<1	56	14.6	7.7	9.0	749
SPRUCE FORK	WVKC-10-T-{17.4}	<0.05	<0.05	72.7	180	23.000	21.9	<1	290	15.5	8.5	9.7	883
ALUM CREEK	WVKC-11-{5.6}	<0.05	0.072	72.7	144	50.000	48.8	<1	130	18.9	7.7	6.3	377
RATTLESNAKE HOLLOW	WVKC-10-I-6-C	<0.05	<0.050	63.6	136	41.5	40.5	-1	-1	13.6	7.0	9.3	444
ROCK CREEK	WVKC-10-N-{3.0}	<0.05	<0.050	63.6	132	38.000	37.8	<1	110	14.6	7.9	8.9	409
LAUREL CREEK	WVKC-31-{0.4}	<0.05	<0.050	63.6	169	86.000	86.3	<1	56	19.2	7.9	9.3	813
BIG HORSE CREEK	WVKC-10-I-{12.5}	<0.05	0.960	63.6	147	230	193	<1	220	16.3	8.2	8.9	2410
LITTLE COAL RIVER	WVKC-10-{03.6}	<0.05	0.890	63.6	160	43	38.3	<1	260	18.8	8.5	9.7	1030
TONEY FORK	WVKC-47-L-{0.8}	<.05	0.800	63.6	165	110.000	110.0	<1	100	14.2	8.3	10.5	1100
WHITE OAK CREEK	WVKC-35-{3.0}	0.13	0.260	54.6	153	66.000	62.000	<1	68	15.0	7.8	9.2	661
MARSH FORK	WVKC-46-{32.8}	<0.05	0.051	54.6	113	15.000	12.9	<1	200	14.7	7.9	8.4	427
LITTLE COAL RIVER	WVKC-10-{17.0}	<0.05	0.930	54.6	146	220	48.4	<1	228	17.6	8.4	8.7	1111
BRUSH CREEK	WVKC-21	<0.05	0.250	54.6	138	63.000	66.6	<1	50	14.9	7.6	8.3	667
POND FORK	WVKC-10-U-{9.0}	0.07	0.078	54.6	170	33.000	35.8	<1	320	17.4	8.4	8.8	1037
SMITH CREEK	WVKC-4-{2.5}	<0.05	0.500	54.6	111	38.000	38.1	<1	124	18.5	7.5	7.1	333
BIG HORSE CREEK	WVKC-10-I-{5.6}	<0.05	0.770	45.5	134	190	181	<1	168	13.4	8.2	9.7	2170
POND FORK	WVKC-10-U-{24.4}	<0.05	0.052	45.5	178	41.000	46.2	<1	380	18.6	8.5	9.0	1114
POND FORK	WVKC-10-U-{4.9}	0.05	0.051	45.5	171	33.000	33.0	<1	300	18.2	8.5	9.3	1028
SPRUCE FORK	WVKC-10-T-{18.5}	<0.05	<0.050	45.5	184	23.000	22.6	<1	300	15.1	8.5	9.6	913
SPRUCE LAUREL FORK	WVKC-10-T-11-{4.1}	<0.05	<0.050	36.4	173	27.000	25.3	<1	500	17.2	8.7	11.2	1860
WEST FORK OF POND FORK	WVKC-10-U-7-{4.3}	0.30	0.380	36.4	144	22.000	19.3	<1	500	23.6	8.5	7.9	1382
WEST FORK OF POND FORK	WVKC-10-U-7-{7.9}	0.07	0.110	27.3	147	26.000	23.4	<1	510	20.1	8.6	9.3	1312

Streams with > 0.087 mg/l aluminum and good bugs (bioscore > 65)

Streams with > 0.087 mg/l aluminum and bad bugs with bad habitat (< 168 (70 %))

Streams with > 0.087 mg/l aluminum and bad bugs with good habitat (> 168 (70%))

Elk River Watershed Aluminum Study Sites

NAME	ANCODE	Al (dissloved)	Al (total)	bioscore	habitat	Ca (total)	Ca (dissolved)	hot acidity	alkalinity	temp	pH	DO	conductivity
CAMP CREEK	WVKE-102-A	<0.05	0.06	100.0	189	13.8	13.6	-1	-1	18.2	7.2	8.1	188
LAUREL RUN	WVKE-137	<.05	0.056	100.0	180	3.9	3.64	-1	-1	15.6	7.1	8.6	55
RICH FORK	WVKE-76-N-8	<0.05	0.31	100.0	193	23.7	23.8	-1	-1	19.0	7.5	8.5	212
POPLAR CREEK	WVKE-76-O	<0.05	<0.05	100.0	170	10.6	11.0	-1	-1	21.6	7.0	8.2	114
THE GULF	WVKE-50-G	<0.05	<0.05	100.0	164	1.87	1.98	-1	-1	18.8	7.4	8.3	45
FALL RUN	WVKE-98-B-3-{0.6}	<0.05	0.099	100.0	190	1.900	1.9	<1	6	17.8	6.9	8.8	43
BIG RUN/LEFT FORK HOLLY	WVKE-98-C-15-{1.0	<0.05	0.052	100.0	163	2.200	1.89	<1	7	16.6	7.5	8.3	48
SINNETT BRANCH	WVKE-50-B-1-{2.0}	<.05	0.075	100.0	196	2.300	2.53	<1	7	16.9	6.8	8.3	36
ANTHONY CREEK	WVKE-76-N-{2.4}	<.05	0.11	100.0	175	19.000	20.3	<1	21	22.0	7.2	7.8	202
SUGAR CREEK	WVKE-111-K	<0.05	<0.05	90.9	153	2.7	2.36	-1	-1	17.2	7.5	8.8	48
BERGOO CREEK	WVKE-118	<0.05	0.056	90.9	176	4.3	3.59	-1	-1	15.2	7.2	9.4	63
CROOKED FORK	WVKE-139-B	<0.05	<0.05	90.9	163	6.71	7.20	-1	-1	20.5	6.7	6.8	52
ELK RIVER	WVK-43-{156.2}	<0.05	<0.05	90.9	189	13.000	11.2	<1	39	22.2	7.9	8.8	129
LEFT FORK/HOLLY RIVER	WVKE-98-C-{13.8}	<0.05	<0.05	90.9	183	3.500	3.39	<1	12	22.8	7.2	8.1	48
GROVES CREEK	WVKE-69-{5.6}	<0.05	0.079	90.9	168	13.000	13.4	<1	12	20.6	7.2	8.3	171
PROPS RUN	WVKE-136-{0.5}	<0.05	<0.05	90.9	198	3.800	3.25	<1	10	14.6	7.1	8.8	52
BACK FORK	WVKE-111-{0.2}	<.05	<0.05	90.9	134	5.700	10.1	<1	15	19.3	7.4	8.2	137
JOHNSON BRANCH	WVKE-76-U-{0.8}	<.05	0.12	90.9	191	2.200	2.12	<1	7	17.8	6.4	8.0	26
LAUREL CREEK	WVKE-102-{14.6}	<.05	0.067	90.9	194	15.000	15.0	<1	220	19.8	8.4	8.8	436
LAUREL FORK	WVKE-98-C-11	<0.05	0.07	81.8	159	3.76	3.77	-1	-1	17.8	7.0	8.8	59
BIG RUN/BACK FORK ELK	WVKE-111-Q	<0.05	<0.05	81.8	172	2.5	2.27	-1	-1	15.3	7.5	8.9	56
ROBINSON FORK	WVKE-50-O	<0.05	.07	81.8	158	10.8	10.3	-1	-1	23.6	7.3	7.7	145
FALL RUN	WVKE-98-C-14-{1.4	<0.05	0.098	81.8	187	2.100	2.5	2	6	18.7	6.1	8.1	21
LEFT FORK/HOLLY RIVER	WVKE-98-C-{10.0}	<0.05	<0.05	81.8	180	4.000	3.56	<1	12	18.6	7.2	9.0	51
CARLO RUN	WVKE-98-B-16-B-{1	<0.05	0.27	81.8	150	2.300	1.9	<1	8	18.0	7.4	8.1	55
MIDDLE FORK	WVKE-14-O-{5.2}	<0.05	0.08	81.8	186	12.000	11.5	<1	25	20.1	7.1	7.9	149
LEATHERWOOD CREEK	WVKE-46-{1.2}	<.05	0.083	81.8	195	41.000	54.2	<1	57	20.0	7.7	9.3	684
STRANGE CREEK	WVKE-74-{10.4}	<.05	0.13	81.8	167	23.000	24.9	<1	26	20.2	7.7	8.1	274
RIGHT FORK/HOLLY RIVER	WVKE-98-B-{13.6}	<.05	<0.05	81.8	171	8.500	8.33	<1	22	20.6	6.7	8.1	99
OLDLICK RUN	WVKE-98-C-2	<0.05	<0.05	72.7	126	2.73	2.69	-1	-1	20.1	6.9	8.7	50
BIG SPRING FORK	WVKE-138	<.05	0.13	72.7	143	34.4	32.7	-1	-1	15.2	7.1	9.8	211
BEECH FORK	WVKE-50-B-8	<0.05	<0.05	72.7	185	5.33	5.37	-1	-1	23.2	6.9	8.0	77
FLATWOODS RUN	WVKE-94	<0.05	0.28	72.7	128	18.3	17.1	-1	-1	21.6	7.5	7.0	136
MILL CREEK	WVKE-6-{5.6}	0.16	0.55	72.7	150	6.600	7.35	<1	20	20.0	6.9	8.8	79
LITTLE BIRCH RIVER	WVKE-76-E-{2.6}	<0.05	0.13	72.7	171	26	28.2	<1	89	22.3	7.9	8.4	239
AARON'S FORK	WVKE-9-C-{0.6}	<0.05	<0.05	72.7	156	24.000	25.4	<1	79	22.2	7.3	8.3	207
ADONIJAH FORK	WVKE-41-B-{0.2}	<0.05	0.086	72.7	176	9.800	10.2	<1	26	21.3	7.4	8.7	116
SAND FORK	WVKE-50-F-{2.2}	<.05	0.066	72.7	157	6.500	4.43	<1	18	18.4	7.4	7.9	61
RIGHT FORK/LAUREL FORK	WVKE-98-C-11-C	<0.05	0.24	63.6	167	1.26	1.48	-1	-1	19.2	5.0	6.1	16
RIGHT FORK OF SLACK BRAN	WVKE-14-G-1-{0.8}	<0005	0.44	63.6	167	9.400	9.54	<1	13	17.2	6.8	9.3	117
BIRCH RIVER	WVKE-76-{0.9}	<0.05	0.11	64.0	201	20.000	21.1	<1	45	25.0	8.0	7.0	190
LITTLE SANDY CREEK	WVKE-9-{1.5}	<0.05	0.071	63.6	160	24.000	24.5	<1	66	20.8	7.4	8.5	233
LAUREL CREEK	WVKE-102-{2.83}	<0.05	<0.05	54.5	173	38.000	37.5	<1	95	22.2	8.4	8.8	568
UPPER KING SHOALS RUN	WVKE-32-{1.0}	<.05	0.15	54.5	127	5.100	5.38	<1	16	19.4	6.6	6.0	58
ROCK CAMP RUN	WVKE-82	<0.05	0.05	45.5	138	27.2	24.9	-1	-1	20.3	7.6	6.8	202
JIM YOUNG FORK	WVKE-50-B-7-{0.1}	<.05	0.28	45.5	171	4.500	4.99	<1	9	21.2	7.0	8.3	64
LEFT FORK OF MORRIS FORK	WVKE-26-A-{0.16}	8.26	7.300	36.4	178	24.000	27.0	74	<1	17.7	3.5	7.2	494
LITTLE SANDY CREEK	WVKE-9-{15.0}	<0.05	<0.05	36.4	133	15.000	15.4	<1	47	24.9	7.2	8.0	126
UT OF BROOKS CREEK	WVKE-102-C-1-{0.4	<.05	0.12	36.4	126	4.100	3.73	<1	13	17.2	6.7	6.2	52

Streams with > 0.087 mg/l aluminum and good bugs (bioscore > 65)

Streams with > 0.087 mg/l aluminum and bad bugs with bad habitat (< 168 (70 %))

Streams with > 0.087 mg/l aluminum and bad bugs with good habitat (> 168 (70%))

Tygart Valley Watershed - Aluminum Study Sites

NAME	ANCODE	Al (dissolved)	Al (total)	bioscore	habitat	Ca (total)	Ca (dissolved)	hot acidity	alkalinity	temp	pH	DO	conductivity
LAUREL FORK/FRENCH CREEK	WVMTB-18-D-{3.9}	0.061	0.055	100.00	181	8.000	8.215	<1	24	16.2	6.2	5.3	78
RIGHT FORK OF TENMILE CREEK	WVMTB-25-A	0.048	0.114	100.00	166	12.76	12.620	-1	-1	17.3	7.1	7.4	119
WINDY RUN	WVMT-79-{0.9}	0.052	0.073	100.00	174	23.000	22.300	<1	66	14.0	7.4	7.9	132
MILL CREEK	WVMT-64-{6.7}	0.045	0.051	100.00	201	3.800	3.378	<1	10	14.2	6.8	8.4	26
U.T. OF LEFT FORK/LITTLE SANDY C	WVMT-18-E-3-A-{1.2}	0.053	0.300	100.00	155	21.000	21.670	<1	86	15.6	7.7	8.1	221
RIGHT FORK OF MIDDLE FORK	WVMTM-11-{7.6}	0.019	0.070	100.00	206	24.000	22.470	<1	66	15.5	7.9	7.9	136
HANGING RUN	WVMTM-1	0.033	0.086	90.91	173	4.62	4.528	-1	-1	16.1	7.4	8.5	48
BECKY CREEK	WVMT-68	0.036	0.066	90.91	174	16.000	13.680	-1	-1	18.0	7.6	8.9	107
UT OF SAND RUN	WVMTB-7-C-{0.32}	0.089	0.140	90.91	148	7.700	7.407	<1	27	12.3	7.6	8.9	65
TRUBIE RUN	WVMTB-19-{0.9}	0.041	0.260	90.91	168	13.000	12.050	<1	77	13.4	7.5	7.9	165
PHILLIPS CAMP RUN	WVMTB-32-I-1	0.132	0.098	90.91	195	1.600	1.388	4	3	17.7	5.1	8.2	28
TROUT RUN	WVMTB-31-F-1	0.044	0.054	90.91	162	2.36	2.567	-1	-1	16.8	7.9	7.8	41
SALT BLOCK RUN	WVMTB-31-F-5	0.030	0.057	90.91	140	1.68	2.101	-1	-1	15.4	7.5	6.8	34
LONG RUN	WVMTM-13	0.032	0.053	90.91	145	20.71	18.580	-1	-1	17.0	8.4	8.3	240
SCOOLCRAFT RUN	WVMTM-25-{1.5}	0.007	0.085	90.91	199	4.700	3.932	<1	10	16.2	7.0	7.9	40
RIGHT FORK MIDDLE FORK	WVMTM-11-{0.3}	0.058	<0.050	90.91	176	15.000	12.090	<1	34	18.3	7.3	8.2	86
SWAMP RUN	WVMTM-0.5-{0.6}	0.082	0.280	90.91	191	12.000	11.210	<1	32	16.5	7.6	7.6	101
STEWART RUN	WVMT-75-{16.2}	0.052	0.140	90.91	170	26.000	25.830	<1	73	16.1	7.6	6.9	147
CAMPFIELD RUN	WVMT-43-M	0.062	0.142	81.82	150	13.67	13.670	-1	-1	22.6	7.6	7.8	127
CHENOWETH CREEK	WVMT-45	0.044	0.077	81.82	177	22.15	21.710	-1	-1	16.9	6.6	8.8	222
FILES CREEK	WVMT-50	0.049	0.060	81.82	160	11.30	11.210	-1	-1	20.1	6.6	8.4	114
LAUREL FORK/SAND RUN	WVMTB-7-A-{0.5}	0.038	0.110	81.82	167	17.000	15.860	<1	38	17.3	7.6	8.5	142
UPPER TROUT RUN	WVMTB-31-F-2-{0.8}	0.049	0.056	81.82	158	8.000	8.171	<1	25	16.7	7.5	6.9	69
BIG RUN	WVMT-81-{0.8}	0.040	0.063	81.82	152	24.000	21.000	<1	66	17.8	8.1	7.7	132
PLUM RUN	WVMT-7	0.041	<0.050	72.73	166	11.000	11.050	<1	31	16.6	7.1	9.0	103
HUNTER FORK	WVMT-24-C-3.5	0.044	0.394	72.73	147	8.85	7.425	-1	-1	17.0	7.2	6.8	70
CUNNINGHAM RUN	WVMT-22	0.030	0.095	72.73	151	16.69	14.610	-1	-1	15.5	7.2	6.3	115
LAUREL FORK/SAND RUN	WVMTB-7-A-{2.9}	0.087	0.120	72.73	129	15.000	13.520	<1	36	16.6	7.5	7.5	143
SHAVERS RUN	WVMT-61-{2.0}	0.027	0.063	72.73	161	9.400	8.632	<1	28	18.1	6.6	7.1	67
TYGART VALLEY RIVER	WVM-27-{115.0}	0.033	0.100	72.73	159	17.000	14.760	<1	50	28.9	7.3	6.7	116
KINGS RUN	WVMT-48	0.043	0.068	72.73	176	12.000	11.210	<1	40	17.8	6.7	8.3	163
BRUSHY FORK	WVMT-23-C-{5.6}	0.038	0.250	72.73	171	12.000	10.650	<1	36	14.4	7.6	8.6	96
JONES RUN	WVMT-57-{0.4}	0.050	<0.050	72.73	175	10.000	9.483	<1	31	16.1	7.2	8.4	117
BEAVER CREEK	WVMT-37-{2.8}	0.318	0.440	72.73	154	36.000	32.830	7	3	14.7	5.1	6.3	328
FRENCH CREEK	WVMTB-18-{11.2}	0.147	0.150	63.64	163	14.000	13.080	<1	50	19.4	7.4	5.4	122
BIG LAUREL RUN	WVMT-40	0.037	0.065	63.64	183	14.12	12.360	-1	-1	13.3	7.1	9.0	129
LEADING CREEK	WVMT-43-{13.2}	0.040	0.200	63.64	178	9.400	8.052	<1	31	24.8	6.9	7.8	78
MIDDLE FORK RIVER	WVMT-33-{11.8}	0.079	0.080	63.64	193	12.000	9.179	<1	20	19.1	7.5	8.0	89
LEADING CREEK	WVMT-43-{15.6}	0.048	0.097	63.64	149	6.300	5.672	<1	19	25.3	7.1	8.5	86
LAUREL RUN	WVMT-43-O	0.065	0.208	54.55	125	3.10	3.877	-1	-1	20.0	7.2	8.2	54
WICKWIRE RUN	WVMT-8	0.033	<0.050	54.55	173	16.000	13.090	<1	42	18.7	7.2	9.4	128
BILLS CREEK	WVMT-24-C-2	0.047	0.104	54.55	115	17.70	16.920	-1	-1	17.6	6.9	4.9	138
BERKELY RUN	WVMT-11-{6.6}	0.050	0.130	54.55	134	33.000	29.660	<1	89	17.8	7.3	8.9	203
ROARING CREEK	WVMT-42-{7.7}-(DUP1	1.866	1.800	54.55	118	27.000	25.760	12	3	13.3	4.5	7.8	304
BUCKHANNON RIVER	WVMT-31-{6.6}	0.063	<0.050	45.45	157	22.000	22.520	<1	37	20.5	7.4	7.5	229
HACKERS CREEK	WVMT-26-{0.4}	0.038	<0.050	45.45	132	120.000	109.800	<1	190	21.2	8.1	8.6	2610
SANDY CREEK	WVMT-18-{9.6}	0.040	0.210	45.45	118	8.500	7.494	<1	22	20.6	7.2	7.5	66
ROARING CREEK	WVMT-42-{7.7}-(DUP2	1.866	1.800	45.45	129	27.000	25.760	12	3	13.3	4.5	7.8	304
LITTLE SANDY CREEK	WVMT-18-E-{0.4}	10.060	10.000	45.45	144	36.000	35.980	89	<1	15.7	3.5	7.9	554
U.T. OF FLATBUSH FORK	WVMT-42-B-3-{1.0}	19.604	0.420	36.36	142	160.000	18.580	170	<1	15.4	3.3	7.5	810
THREE FORK CREEK	WVMT-12-{10.2}	3.836	7.300	36.36	168	51.000	24.400	51	<1	25.0	4.3	7.3	538

Streams with > 0.087 mg/l aluminum and good bugs (bioscore > 65)

Streams with > 0.087 mg/l aluminum and bad bugs with bad habitat (< 168 (70 %))

Streams with > 0.087 mg/l aluminum and bad bugs with good habitat (> 168 (70%))