0120-FM-PY0004 Rev. 3/2003

COMMONWEALTH OF PENNSYLVANIA
ENVIRONMENTAL QUALITY BOARD

PETITION FORM

I. PETITIONER INFORMATION

Name: Clearfield Creek Watershed Association

Mailing Address: 316 Beldin Hollow Road

Ashville, PA 16613

Telephone Number: 814-238-2838

Date: 1/29/14

II. PETITION INFORMATION

A. The petitioner requests the Environmental Quality Board to (check one of the following):

☐ Adopt a regulation

☒ Amend a regulation (Citation _____)

☐ Repeal a regulation (Citation _____)

Please attach suggested regulatory language if request is to adopt or amend a regulation.

B. Why is the petitioner requesting this action from the Board? (Describe problems encountered under current regulations and the changes being recommended to address the problems. State factual and legal contentions and include supporting documentation that establishes a clear justification for the requested action.)

We petition that the Designated Use for Kilbuck Run in Cambria County be upgraded from CWF:MF to Extra Value (EV). The stream is a major tributary to Glendale Lake at Prince Gallitzin Park and the excellent quality should be preserved to protect fishing and water activities. The chemistry and biota of the stream currently justify this upgrade. The current good fishing in the stream and its tributaries should be preserved. Much of the watershed is in Gameland 108 or within the boundaries of Prince Gallitzin Park.

C. Describe the types of persons, businesses and organizations likely to be impacted by this proposal.

No significant impacts are evident. Most of the watershed is forested; a subordinate area is agricultural, mainly growing hay, and including a few small dairy operations. About 20 houses are in the watershed. Several gas wells are near the west edge of the watershed, but they are conventional wells, not Marcellus type, drilled in 2011 and before. A small sawmill is near the mouth. Impacts of the upgrade will be minimal, and will protect this fine watershed.

D. Does the action requested in the petition concern a matter currently in litigation? If yes, please explain.

We are not aware of any litigation in the watershed.

E. For stream redesignation petitions, the following information must be included for the petition to be considered complete. Attach supporting material as necessary.

1. A clear delineation of the watershed or stream segment to be redesignated, both in narrative form and on a map.
2. The current designated use(s) of the watershed or segment.
3. The requested designated use(s) of the watershed or segment.
4. Available technical data on instream conditions for the following: water chemistry, the aquatic community (benthic macroinvertebrates and/or fishes), or instream habitat. If such data are not included, provide a description of the data sources investigated.
5. A description of existing and proposed point and nonpoint source discharges and their impact on water quality and/or the aquatic community. The names, locations, and permit numbers of point source discharges and a description of the types and locations of nonpoint source discharges should be listed.
6. Information regarding any of the qualifiers for designation as high quality waters (HQ) or exceptional value waters (EV) in §93.4b (relating to qualifying as High Quality or Exceptional Value waters) used as a basis for the requested designation.
7. A general description of land use and development patterns in the watershed. Examples include the amount or percentage of public lands (including ownership) and the amount or percentage of various land use types (such as residential, commercial, industrial, agricultural and the like).
8. The names of all municipalities through which the watershed or segment flows, including an official contact name and address.
9. Locational information relevant to items 4-8 (except for contact names and addresses) displayed on a map or maps, if possible.

All petitions should be submitted to the
Secretary of the Department of Environmental Protection
P.O. Box 2063
Harrisburg, PA 17105-2063

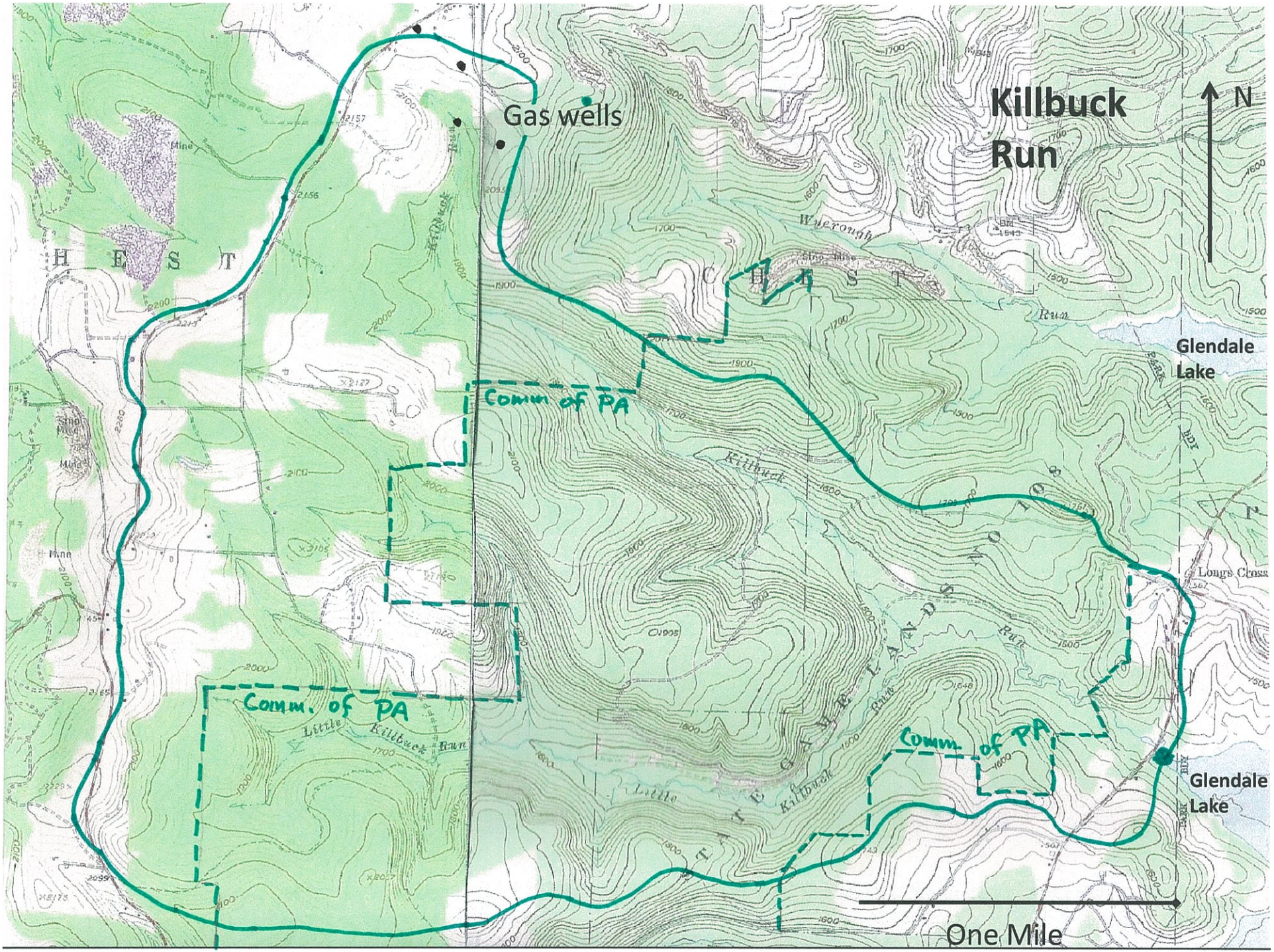
PETITION FOR UPGRADE OF KILLBUCK RUN, CAMBRIA COUNTY

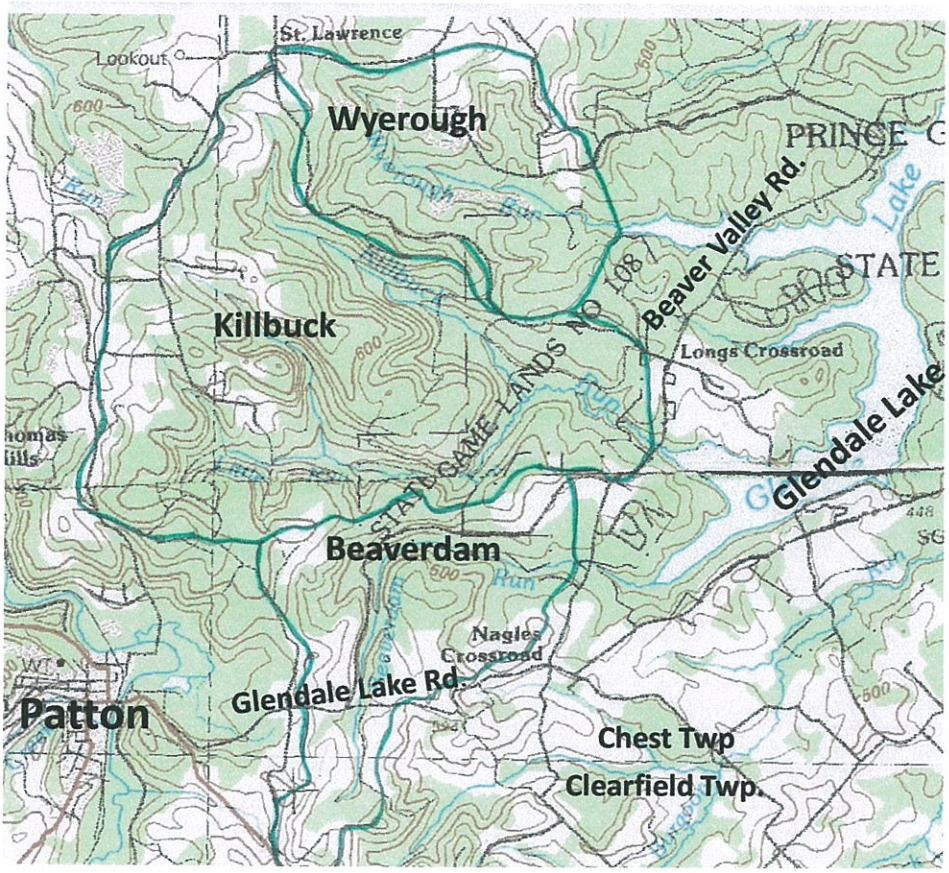
1. The proposed upgrade should include essentially all of the watershed of Killbuck Run, starting at the highway bridge on Glendale Lake Road. The proposed watershed includes Little Killbuck Run and extends up to St. Lawrence Road about 3 miles to the west. See the accompanying map.
2. The current designated use is CWF-MF.
3. The requested designated use is CWF-MF-EV.
4. See the attached 8 reports of chemical and biota testing at 4 points on the stream. The tests show that the stream meets Extra Value standards on the basis of IBI values.
5. No permitted point source discharges are known in the watershed.
6. Eight sets of benthic macroinvertebrate samplings are available for the interval 1999-2012. All show good abundance of macroinvertebrates.
7. The watershed has an area of about 5.5 square miles. About 85% of the watershed is forested and 15 % is farmland. The farmland is mainly in the hilltop area near St. Lawrence Road on the west margin of the watershed and most of it is in hay. About 20 homes, including a few farms, are in the watershed, all near St. Lawrence Road. About 20% of the watershed is in State Gameland 108, and some is in the Prince Gallitzin Park. About 2/3 of the watershed is owned by the Commonwealth of PA.

There is no significant industry or commercial activity within the watershed, except a small sawmill near the mouth and 5 gas wells which are conventional wells, not Marcellus type. No evidence of contamination was noted around them. The sawmill is located just north of the mouth of the watershed and SW of Long's Corner.

Some coal lies beneath the watershed but crops out only in 2 small areas along the middle section of the stream. The Commonwealth of PA owns mineral rights for about half the area. No coal mining has been done in the watershed.

8. All of the watershed is in Chest Township, Cambria County. The contact phone for Chest Township is 814-674-8166 or 814-674-5259. The chairman of the Supervisors is Mr. Mark Lechene.
9. See map.


Killbuck Run
N
Gas wells
Comm of PA
Comm. of PA
Comm. of PA
Glendale Lake
Glendale Lake
Killbuck Run
Little Killbuck Run
Longs Cross
One Mile

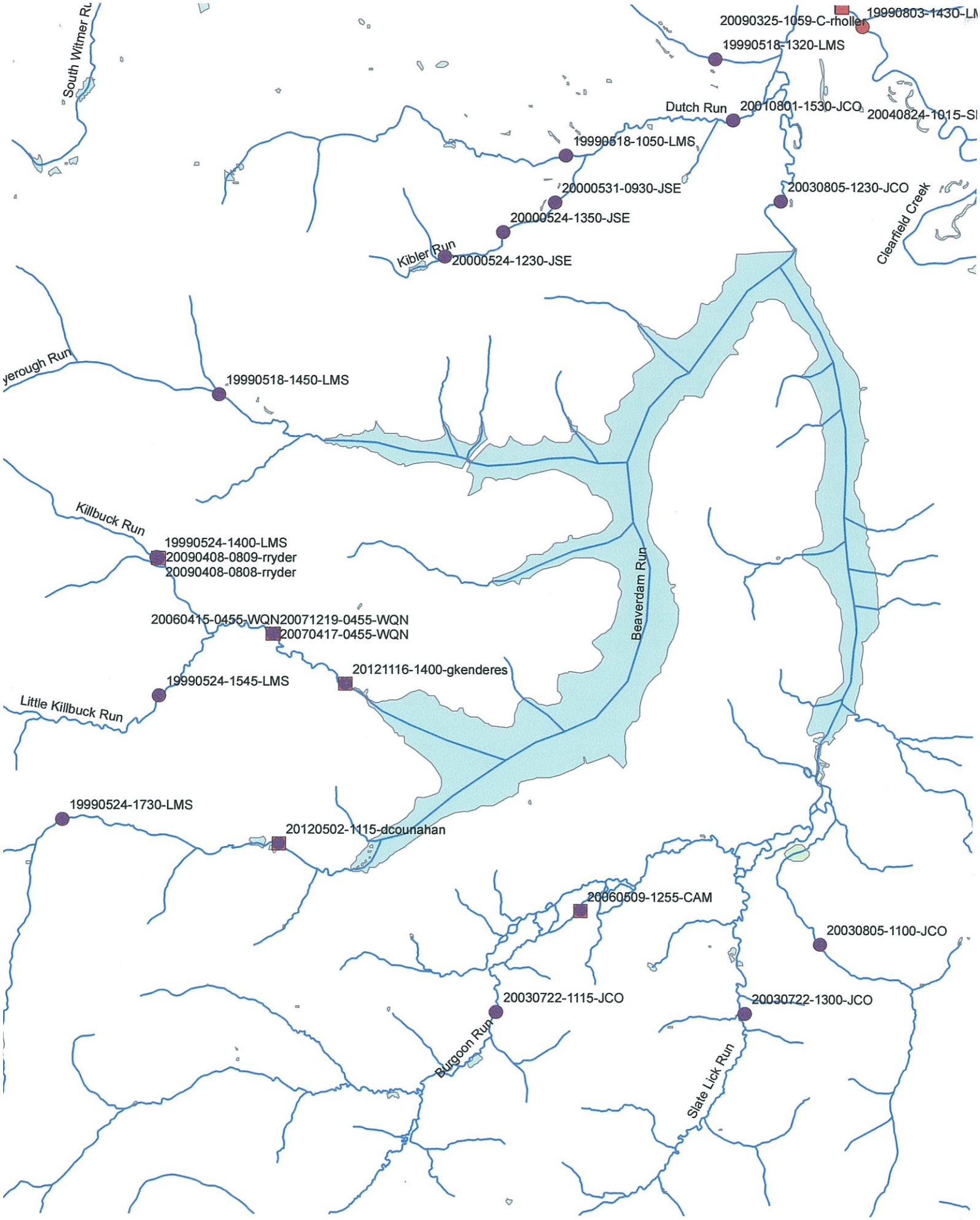


Glendale Lake Area

Cambria County

Showing Wyerough, Killbuck and Beaverdam Runs

2 miles


South Witmer Ru
20090325-1059-C-rholler
19990803-1430-LM
19990518-1320-LMS
Dutch Run
20010801-1530-JCO
20040824-1015-SI
19990518-1050-LMS
20000531-0930-JSE
20030805-1230-JCO
Clearfield Creek
20000524-1350-JSE
Kibler Run
20000524-1230-JSE
yerough Run
19990518-1450-LMS
Killbuck Run
19990524-1400-LMS
20090408-0809-rryder
20090408-0808-rryder
Beaverdam Run
20060415-0455-WQN20071219-0455-WQN
20070417-0455-WQN
20121116-1400-gkenderes
19990524-1545-LMS
Little Killbuck Run
19990524-1730-LMS
20120502-1115-dcounahan
20060509-1255-CAM
20030805-1100-JCO
20030722-1115-JCO
20030722-1300-JCO
Burgoon Run
Slate Lick Run

Benthic macroinvertebrate sample summary

Station ID 20060415-0455-WQN WQN

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 56841 **Sample Method** WQN, 6-Dframe Composite, 200 Subsample

Collection Date 20060415 **Collection Time** 0455 **Latitude** 40.6647043 **Longitude** -78.5880694

HUC8 02050201 Upper West Branch Susquehanna

Station Location Comments

WQN0455

Biology / Habitat Comments

Land Use Comments

Station Impairment Status Comments

Taxa List

grids from first pan: 4 | # grids from second pan: 14 | **Subsample Size**: 210

Taxa Name	Individuals	PTV	FFG	BCG Attribute (coldwater)	BCG Attribute (warmwater)
Baetis	1	6	CG	4	5
Leucrocuta	1	1	SC	3	3
Stenonema(old genus)	38	3	SC	3	3
Drunella	1	1	SC	2	2
Ephemerella	3	1	CG	3	2
Paraleptophlebia	10	1	CG	2	2
Amphinemura	6	3	SH	3	3
Acroneuria	3	0	PR	3	3
Remenus	3	2	PR	1	1
Isoperla	2	2	PR	2	2
Sweltsa	20	0	PR	3	3
Nigronia	2	2	PR	3	3
Chimarra	1	4	FC	4	4
Dolophilodes	1	0	FC	2	2
Polycentropus	3	6	FC	4	4
Diplectrona	2	0	FC	2	2
Cheumatopsyche	2	6	FC	5	5
Hydropsyche	1	5	FC	5	5
Rhyacophila	1	1	PR	2	2
Agapetus	3	0	SC	3	3
Lepidostoma	1	1	SH	2	2
Optioservus	6	4	SC	4	4
Oulimnius	22	5	SC	3	2
Promoresia	3	2	SC	3	2
Anchytarsus	5	5	SH	3	2
Probezzia	1	6	PR	4	4
Chelifera	4	6	PR	4	4
Chrysops	1	7	PI	5	5
Antocha	1	3	CG	4	4
Dicranota	3	3	PR	3	3
Prosimulium	3	2	FC	3	3
Chironomidae	50	6	CG	5	5
Corbiculidae	1	4	FC	5	5
Oligochaeta	2	10	CG	5	5
Hydracarina	3	7	PR	4	4

any EV indicator taxa names are highlighted

Benthic macroinvertebrate sample summary

Station ID 20060415-0455-WQN WQN

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 56841 **Sample Method** WQN, 6-Dframe Composite, 200 Subsample

Collection Date 20060415 **Collection Time** 0455 **Latitude** 40.6647043 **Longitude** -78.5880694

HUC8 02050201 Upper West Branch Susquehanna

Metrics and IBI scores

Metric Names	Raw Metric Values	Standardized Metric Values						
		Freestone Riffle-Run						
		6D200						
		2009 small	2011 large	2007	2D100	Multihabitat Pool-Glide	Limestone 2006	Limestone 2009
Total Richness	35	106.1	112.9	100.0		112.9	189.1	194.4
Ephemeroptera Richness	6					100.0		
Trichoptera Richness	9					81.8		
EPT Richness	20			87.0	130.7	117.6	250.0	250.0
Trichoptera Richness (PTV 0-4)	6				166.7			
EPT Richness (PTV 0-4)	16	84.2	100.0					
Beck's Index (version 3)	32	84.2	145.5	82.1				
Beck's Index (version 4)	34				170.9	154.5		283.3
FC + PR + SH Richness	21				181.0			
Hilsenhoff Biotic Index	3.68	77.9	90.9	76.9	93.8		100.5	102.6
% Inolerant Individuals (PTV 0-3)	51.0	60.3	76.4				193.7	
% Intolerant Individuals (PTV 0-5)	68.1			73.6				
% Tolerant Individuals (PTV 7-10)	2.9						98.1	98.6
Shannon Diversity	2.70	94.2	94.3	93.1		111.0	140.5	126.6
IBI score		**83.5**	**93.6**	**85.4**	**98.8**	**97.0**	**99.7**	**99.8**

% Ephemeroptera	25.7	% Ephemeroptera (PTV 0-4)	25.2	% Dominant Taxon	23.8	BCG Richness Ratio	1.50
% Plecoptera	16.2	Ephemeroptera Richness (PTV 0-4)	5	% Chironomidae	23.8	BCG Individuals Ratio	1.73
% Trichoptera	7.1	Plecoptera Richness	5	% Simuliidae	1.4	EV Indicator Taxa Richness	8

Not impaired N **Biology impaired** N **Habitat impaired** N **Insufficient data** Y

Rock pick influenced assessment N **Impact is localized** N **Re-evaluate designated use** N

Physical Habitat Assessment

Pool-Glide Assessment? N

Instream Cover	0	**Substrate / Cover**	0	**Frequency of Riffles**	0	**Contition of Banks**	0
Epifaunal Substrate	0	**Velocity/Depth Regimes**	0	**Channel Sinuosity**	0	**Bank Vegetation**	0
Embeddedness	0	**Pool Variability**	0	**Channel Flow Status**	0	**Disruptive Pressure**	0
Pool Substrate	0	**Sediment Deposition**	0	**Channel Alteration**	0	**Riparian Zone**	0

Instream Score 0 **Riparian Score** 0 **Total Score** 0

Field Measurements

Lab samples

Temperature (°C)	0	**Dissolved Oxygen (mg/L)**	0	**Flow (CFS)**	0
pH	0	**Total Alkalinity (mg/L as CaCO3)**	0	**Conductivity (uS/cm)**	0

Use Assessment Status for Stream Reach

Designated Use CWF **Existing Use**

Aquatic Life Attaining (20130321-1501-gkenderes)

Fish Consumption Attaining (20110323-1550-mlookenbil)

Brook Trout (mlookenbil)

Potable Water Supply Attaining (20080108-1423-mpulket)

Assessment based on WQN455 2005-2007 data. No surface water supply withdrawal on assessed reach. (gawalters)

Recreation

TMDL Information (if any)

Clearfield Creek (Finalized): AMD - Metals

Begin Date **Meeting Date** **End Date** **Draft Date** **Final Date** 4/7/2007

Benthic macroinvertebrate sample summary

Station ID 20070417-0455-WQN WQN

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 58873 **Sample Method** WQN, 6-Dframe Composite, 200 Subsample

Collection Date 20070417 **Collection Time** 0455 **Latitude** 40.6647 **Longitude** -78.5882

HUC8 02050201 Upper West Branch Susquehanna

Station Location Comments

Biology / Habitat Comments

Land Use Comments

Station Impairment Status Comments

Taxa List

grids from first pan | # grids from second pan | **Subsample Size** 191

Taxa Name	Individuals	PTV	FFG	BCG Attribute (coldwater)	BCG Attribute (warmwater)
Acerpenna	1	6	CG	3	3
Baetis	2	6	CG	4	5
Isonychia	2	3	CG	3	3
Epeorus	3	0	SC	2	2
Stenonema(old genus)	21	3	SC	3	3
Cinygmula	10	1	CG	1	1
Drunella	5	1	SC	2	2
Ephemerella	8	1	CG	3	2
Paraleptophlebia	6	1	CG	2	2
Amphinemura	11	3	SH	3	3
Leuctra	14	0	SH	2	2
Acroneuria	2	0	PR	3	3
Isoperla	4	2	PR	2	2
Haploperla	30	0	PR	3	3
Sweltsa	1	0	PR	3	3
Sialis	1	6	PR	5	5
Nigronia	1	2	PR	3	3
Chimarra	2	4	FC	4	4
Psychomyia	2	2	CG	3	3
Polycentropodidae	1	6	FC	0	0
Cheumatopsyche	4	6	FC	5	5
Hydropsyche	1	5	FC	5	5
Rhyacophila	3	1	PR	2	2
Agapetus	2	0	SC	3	3
Lepidostoma	2	1	SH	2	2
Neophylax	1	3	SC	3	3
Ectopria	1	5	SC	3	3
Optioservus	7	4	SC	4	4
Oulimnius	9	5	SC	3	2
Promoresia	5	2	SC	3	2
Tipula	1	4	SH	5	5
Antocha	2	3	CG	4	4
Prosimulium	3	2	FC	3	3
Simulium	4	6	FC	5	5
Chironomidae	15	6	CG	5	5
Nematoda	2	9	CG	0	0
Hydracarina	2	7	PR	4	4

any EV indicator taxa names are highlighted

Benthic macroinvertebrate sample summary

Station ID 20070417-0455-WQN WQN

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 58873 **Sample Method** WQN, 6-Dframe Composite, 200 Subsample

Collection Date 20070417 **Collection Time** 0455 **Latitude** 40.6647 **Longitude** -78.5882

HUC8 02050201 Upper West Branch Susquehanna

Metrics and IBI scores

Metric Names	Raw Metric Values	Standardized Metric Values						
		Freestone Riffle-Run					Limestone	
		6D200						
		2009 small	2011 large	2007	2D100	Multihabitat Pool-Glide	2006	2009
Total Richness	37	112.1	119.4	105.7		119.4	200.0	205.6
Ephemeroptera Richness	9					150.0		
Trichoptera Richness	9					81.8		
EPT Richness	24			104.3	156.9	141.2	300.0	300.0
Trichoptera Richness (PTV 0-4)	6				166.7			
EPT Richness (PTV 0-4)	19	100.0	118.8					
Beck's Index (version 3)	35	92.1	159.1	89.7				
Beck's Index (version 4)	37				185.9	168.2		308.3
FC + PR + SH Richness	18				155.2			
Hilsenhoff Biotic Index	2.46	93.0	108.5	91.7	111.9		119.9	122.4
% Inolerant Individuals (PTV 0-3)	72.3	85.5	108.3				274.7	
% Intolerant Individuals (PTV 0-5)	83.2			90.0				
% Tolerant Individuals (PTV 7-10)	2.1						98.9	99.4
Shannon Diversity	3.10	108.5	108.6	107.2		127.8	161.7	145.8
IBI score		**95.1**	**100.0**	**95.2**	**100.0**	**97.0**	**99.8**	**99.9**

% Ephemeroptera	30.4	% Ephemeroptera (PTV 0-4)	28.8	% Dominant Taxon	15.7	BCG Richness Ratio	2.18
% Plecoptera	32.5	Ephemeroptera Richness (PTV 0-4)	7	% Chironomidae	7.9	BCG Individuals Ratio	3.59
% Trichoptera	9.4	Plecoptera Richness	6	% Simuliidae	3.7	EV Indicator Taxa Richness	7

Not impaired N **Biology impaired** N **Habitat impaired** N **Insufficient data** Y

Rock pick influenced assessment N **Impact is localized** N **Re-evaluate designated use** N

Physical Habitat Assessment

Pool-Glide Assessment? N

Instream Cover	15	**Substrate / Cover**	0	**Frequency of Riffles**	10	**Contition of Banks**	14
Epifaunal Substrate	13	**Velocity/Depth Regimes**	15	**Channel Sinuosity**	10	**Bank Vegetation**	19
Embeddedness	15	**Pool Variability**	0	**Channel Flow Status**	14	**Disruptive Pressure**	20
Pool Substrate	0	**Sediment Deposition**	15	**Channel Alteration**	19	**Riparian Zone**	19

Instream Score 58 **Riparian Score** 52 **Total Score** 188

Field Measurements

Lab samples

Temperature (°C)	**Dissolved Oxygen (mg/L)**	**Flow (CFS)**
pH	**Total Alkalinity (mg/L as CaCO3)**	**Conductivity (uS/cm)**

Use Assessment Status for Stream Reach

Designated Use CWF **Existing Use**

Aquatic Life	Attaining (20130321-1501-gkenderes)
Fish Consumption	Attaining (20110323-1550-mlookenbil)
	Brook Trout (mlookenbil)
Potable Water Supply	Attaining (20080108-1423-mpulket)
	Assessment based on WQN455 2005-2007 data. No surface water supply withdrawal on assessed reach. (gawalters)
Recreation	

TMDL Information (if any)

Clearfield Creek (Finalized): AMD - Metals

Begin Date **Meeting Date** **End Date** **Draft Date** **Final Date** 4/7/2007

Benthic macroinvertebrate sample summary

Station ID 20071219-0455-WQN WQN

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 61003 **Sample Method** WQN, 6-Dframe Composite, 200 Subsample

Collection Date 20071219 **Collection Time** 0455 **Latitude** 40.6647 **Longitude** -78.5882

HUC8 02050201 Upper West Branch Susquehanna

Station Location Comments

Biology / Habitat Comments

Land Use Comments

Station Impairment Status Comments

Taxa List

grids from first pan | # grids from second pan | **Subsample Size** 227

Taxa Name	Individuals	PTV	FFG	BCG Attribute (coldwater)	BCG Attribute (warmwater)
Acerpenna	1	6	CG	3	3
Diphetor	1	6	CG	2	2
Isonychia	4	3	CG	3	3
Epeorus	5	0	SC	2	2
Stenonema(old genus)	17	3	SC	3	3
Cinygmula	1	1	CG	1	1
Ephemerellidae	1	2	CG	0	0
Ephemerella	6	1	CG	3	2
Eurylophella	1	4	SC	3	2
Paraleptophlebia	13	1	CG	2	2
Taeniopterygidae	1	2	SH	3	3
Taeniopteryx	7	2	SH	3	3
Nemouridae	3	2	SH	3	3
Capniidae	1	3	SH	3	3
Allocapnia	9	3	SH	3	3
Acroneuria	2	0	PR	3	3
Haploperla	4	0	PR	3	3
Nigronia	3	2	PR	3	3
Chimarra	3	4	FC	4	4
Polycentropus	1	6	FC	4	4
Cheumatopsyche	2	6	FC	5	5
Rhyacophila	1	1	PR	2	2
Hydatophylax	1	2	SH	2	2
Neophylax	1	3	SC	3	3
Dubiraphia	1	6	SC	4	4
Optioservus	1	4	SC	4	4
Dicranota	1	3	PR	3	3
Prosimulium	1	2	FC	3	3
Chironomidae	132	6	CG	5	5
Oligochaeta	1	10	CG	5	5
Hydracarina	1	7	PR	4	4

any EV indicator taxa names are highlighted

Benthic macroinvertebrate sample summary

Station ID 20071219-0455-WQN WQN

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 61003 **Sample Method** WQN, 6-Dframe Composite, 200 Subsample

Collection Date 20071219 **Collection Time** 0455 **Latitude** 40.6647 **Longitude** -78.5882

HUC8 02050201 Upper West Branch Susquehanna

Metrics and IBI scores

Metric Names	Raw Metric Values	Standardized Metric Values: Freestone Riffle-Run 6D200 2009 small	6D200 2011 large	6D200 2007	2D100	Multihabitat Pool-Glide	Limestone 2006	Limestone 2009
Total Richness	31	93.9	100.0	88.6		100.0	167.5	172.2
Ephemeroptera Richness	10					166.7		
Trichoptera Richness	6					54.5		
EPT Richness	23			100.0	150.3	135.3	287.5	287.5
Trichoptera Richness (PTV 0-4)	4				111.1			
EPT Richness (PTV 0-4)	19	100.0	118.8					
Beck's Index (version 3)	24	63.2	109.1	61.5				
Beck's Index (version 4)	30				150.8	136.4		250.0
FC + PR + SH Richness	16				137.9			
Hilsenhoff Biotic Index	4.49	68.0	79.3	67.0	81.8		87.6	89.5
% Inolerant Individuals (PTV 0-3)	36.1	42.7	54.2				137.4	
% Intolerant Individuals (PTV 0-5)	38.3			41.4				
% Tolerant Individuals (PTV 7-10)	0.9						100.1	100.6
Shannon Diversity	1.89	66.1	66.2	65.3		77.9	98.5	88.8
IBI score		**72.3**	**83.3**	**70.7**	**96.4**	**88.7**	**97.7**	**96.4**

% Ephemeroptera	22.0	% Ephemeroptera (PTV 0-4)	21.1	% Dominant Taxon	58.1	BCG Richness Ratio	2.75
% Plecoptera	11.9	Ephemeroptera Richness (PTV 0-4)	8	% Chironomidae	58.1	BCG Individuals Ratio	0.59
% Trichoptera	4.0	Plecoptera Richness	7	% Simuliidae	0.4	EV Indicator Taxa Richness	4

Not impaired N **Biology impaired** N **Habitat impaired** N **Insufficient data** Y

Rock pick influenced assessment N **Impact is localized** N **Re-evaluate designated use** N

Physical Habitat Assessment

Pool-Glide Assessment? N

Instream Cover	15	**Substrate / Cover**		**Frequency of Riffles**	12	**Contition of Banks**	15
Epifaunal Substrate	13	**Velocity/Depth Regimes**	15	**Channel Sinuosity**	12	**Bank Vegetation**	19
Embeddedness	13	**Pool Variability**		**Channel Flow Status**	14	**Disruptive Pressure**	20
Pool Substrate		**Sediment Deposition**	11	**Channel Alteration**	18	**Riparian Zone**	20

Instream Score **Riparian Score** 54 **Total Score**

Field Measurements

Lab samples

Temperature (°C)	**Dissolved Oxygen (mg/L)**	**Flow (CFS)**
pH	**Total Alkalinity (mg/L as CaCO3)**	**Conductivity (uS/cm)**

Use Assessment Status for Stream Reach

Designated Use CWF **Existing Use**

Aquatic Life Attaining (20130321-1501-gkenderes)

Fish Consumption Attaining (20110323-1550-mlookenbil)

Brook Trout (mlookenbil)

Potable Water Supply Attaining (20080108-1423-mpulket)

Assessment based on WQN455 2005-2007 data. No surface water supply withdrawal on assessed reach. (gawalters)

Recreation

TMDL Information (if any)

Clearfield Creek (Finalized): AMD - Metals

Begin Date **Meeting Date** **End Date** **Draft Date** **Final Date** 4/7/2007

Benthic macroinvertebrate sample summary

Station ID 20090408-0808-rryder rryder Kilbuck Run ATI site (possibly not used)
Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1
Survey ID 60463 **Sample Method** ATI Study - 6-Dframe Composite, 200 Subsample
Collection Date 20090408 **Collection Time** 0808 **Latitude** 40.6709680 **Longitude** -78.6007796
HUC8 02050201 Upper West Branch Susquehanna

Station Location Comments
Kilbuck Run collected as part of ATI development, but may not be used for ATI development.

Biology / Habitat Comments

Land Use Comments

Station Impairment Status Comments

Taxa List

grids from first pan: 4 | # grids from second pan: 19 | **Subsample Size**: 227

Taxa Name	Individuals	PTV	FFG	BCG Attribute (coldwater)	BCG Attribute (warmwater)
Baetis	1	6	CG	4	5
Epeorus	16	0	SC	2	2
Heptagenia	1	4	SC	2	3
Maccaffertium	9	3	SC	3	3
Cinygmula	26	1	CG	1	1
Ephemerella	5	1	CG	3	2
Paraleptophlebia	3	1	CG	2	2
Lanthus	1	5	PR	2	2
Taenionema	1	3	SH	1	1
Amphinemura	3	3	SH	3	3
Prostoia	1	2	SH	3	3
Leuctra	12	0	SH	2	2
Acroneuria	1	0	PR	3	3
Clioperla	1	2	PR	0	0
Chimarra	5	4	FC	4	4
Polycentropus	2	6	FC	4	4
Hydropsyche	1	5	FC	5	5
Neophylax	4	3	SC	3	3
Optioservus	2	4	SC	4	4
Oulimnius	12	5	SC	3	2
Antocha	1	3	CG	4	4
Dicranota	1	3	PR	3	3
Hexatoma	1	2	PR	3	3
Pseudolimnophila	1	2	PR	4	4
Prosimulium	106	2	FC	3	3
Chironomidae	8	6	CG	5	5
Oligochaeta	1	10	CG	5	5
Cambarus	1	6	CG	4	4

any EV indicator taxa names are highlighted

Benthic macroinvertebrate sample summary

Station ID 20090408-0808-rryder rryder Kilbuck Run ATI site (possibly not used)

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 60463 **Sample Method** ATI Study - 6-Dframe Composite, 200 Subsample

Collection Date 20090408 **Collection Time** 0808 **Latitude** 40.6709680 **Longitude** -78.6007796

HUC8 02050201 Upper West Branch Susquehanna

Metrics and IBI scores

Metric Names	Raw Metric Values	Standardized Metric Values: Freestone Riffle-Run 6D200 2009 small	6D200 2011 large	6D200 2007	2D100	Multihabitat Pool-Glide	Limestone 2006	Limestone 2009
Total Richness	28	84.8	90.3	80.0		90.3	151.3	155.6
Ephemeroptera Richness	7					116.7		
Trichoptera Richness	4					36.4		
EPT Richness	17			73.9	111.1	100.0	212.5	212.5
Trichoptera Richness (PTV 0-4)	2				55.6			
EPT Richness (PTV 0-4)	14	73.7	87.5					
Beck's Index (version 3)	20	52.6	90.9	51.3				
Beck's Index (version 4)	26				130.7	118.2		216.7
FC + PR + SH Richness	14				120.7			
Hilsenhoff Biotic Index	2.18	96.4	112.5	95.1	116.0		124.3	126.9
% Inolerant Individuals (PTV 0-3)	84.6	100.1	126.8				321.6	
% Intolerant Individuals (PTV 0-5)	94.3			101.9				
% Tolerant Individuals (PTV 7-10)	0.4						100.6	101.1
Shannon Diversity	2.12	74.0	74.1	73.2		87.2	110.4	99.5
IBI score		**80.3**	**90.5**	**78.9**	**91.1**	**85.6**	**100.0**	**99.9**

% Ephemeroptera	26.9	% Ephemeroptera (PTV 0-4)	26.4	% Dominant Taxon	46.7	BCG Richness Ratio	1.70
% Plecoptera	8.4	Ephemeroptera Richness (PTV 0-4)	6	% Chironomidae	3.5	BCG Individuals Ratio	8.83
% Trichoptera	5.3	Plecoptera Richness	6	% Simuliidae	46.7	EV Indicator Taxa Richness	5

Not impaired N **Biology impaired** N **Habitat impaired** N **Insufficient data** Y

Rock pick influenced assessment N **Impact is localized** N **Re-evaluate designated use** N

Physical Habitat Assessment

Pool-Glide Assessment? N

Instream Cover	0	**Substrate / Cover**	0	**Frequency of Riffles**	0	**Contition of Banks**	0
Epifaunal Substrate	0	**Velocity/Depth Regimes**	0	**Channel Sinuosity**	0	**Bank Vegetation**	0
Embeddedness	0	**Pool Variability**	0	**Channel Flow Status**	0	**Disruptive Pressure**	0
Pool Substrate	0	**Sediment Deposition**	0	**Channel Alteration**	0	**Riparian Zone**	0

Instream Score 0 **Riparian Score** 0 **Total Score** 0

Field Measurements

Lab samples 0921-303,336

Temperature (°C)	0	**Dissolved Oxygen (mg/L)**	0	**Flow (CFS)**	0
pH	0	**Total Alkalinity (mg/L as CaCO3)**	0	**Conductivity (uS/cm)**	0

Use Assessment Status for Stream Reach

Designated Use CWF **Existing Use**

Aquatic Life Attaining (20130321-1501-gkenderes)

Fish Consumption Attaining (20110323-1550-mlookenbil)

Brook Trout (mlookenbil)

Potable Water Supply Attaining (20080108-1423-mpulket)

Assessment based on WQN455 2005-2007 data. No surface water supply withdrawal on assessed reach. (gawalters)

Recreation

TMDL Information (if any)

Clearfield Creek (Finalized): AMD - Metals

Begin Date **Meeting Date** **End Date** **Draft Date** **Final Date** 4/7/2007

Benthic macroinvertebrate sample summary

Station ID 20090408-0809-rryder rryder Kilbuck Run possible ATI site

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 60464 **Sample Method** ATI Study - 6-D Riffle/Run with 2-D Pool Composite, 300+ Subsample

Collection Date 20090408 **Collection Time** 0808 **Latitude** 40.6709393 **Longitude** -78.6007176

HUC8 02050201 Upper West Branch Susquehanna

Station Location Comments

Kilbuck Run site collected for possible ATI development, may not be used.

Biology / Habitat Comments

Land Use Comments

Station Impairment Status Comments

Taxa List

grids from first pan: 4 | # grids from second pan: 28 | **Subsample Size**: 310

Taxa Name	Individuals	PTV	FFG	BCG Attribute (coldwater)	BCG Attribute (warmwater)
Baetis	1	6	CG	4	5
Epeorus	22	0	SC	2	2
Heptagenia	1	4	SC	2	3
Maccaffertium	12	3	SC	3	3
Cinygmula	33	1	CG	1	1
Ephemerella	6	1	CG	3	2
Paraleptophlebia	3	1	CG	2	2
Lanthus	1	5	PR	2	2
Taenionema	1	3	SH	1	1
Amphinemura	5	3	SH	3	3
Prostoia	2	2	SH	3	3
Leuctra	20	0	SH	2	2
Acroneuria	1	0	PR	3	3
Clioperla	1	2	PR	0	0
Isoperla	2	2	PR	2	2
Chimarra	6	4	FC	4	4
Polycentropus	2	6	FC	4	4
Hydropsyche	1	5	FC	5	5
Rhyacophila	1	1	PR	2	2
Neophylax	4	3	SC	3	3
Optioservus	4	4	SC	4	4
Oulimnius	17	5	SC	3	2
Chelifera	1	6	PR	4	4
Clinocera	1	6	PR	4	4
Antocha	1	3	CG	4	4
Dicranota	3	3	PR	3	3
Hexatoma	1	2	PR	3	3
Pseudolimnophila	3	2	PR	4	4
Prosimulium	141	2	FC	3	3
Chironomidae	10	6	CG	5	5
Oligochaeta	2	10	CG	5	5
Cambarus	1	6	CG	4	4

any EV indicator taxa names are highlighted

Benthic macroinvertebrate sample summary

Station ID 20090408-0809-rryder rryder Kilbuck Run possible ATI site

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 60464 **Sample Method** ATI Study - 6-D Riffle/Run with 2-D Pool Composite, 300+ Subsample

Collection Date 20090408 **Collection Time** 0808 **Latitude** 40.6709393 **Longitude** -78.6007176

HUC8 02050201 Upper West Branch Susquehanna

Metrics and IBI scores

Metric Names	Raw Metric Values	Standardized Metric Values: Freestone Riffle-Run 6D200 2009 small	6D200 2011 large	6D200 2007	6D200 2D100	Multihabitat Pool-Glide	Limestone 2006	Limestone 2009
Total Richness	32	97.0	103.2	91.4		103.2	172.9	177.8
Ephemeroptera Richness	7					116.7		
Trichoptera Richness	5					45.5		
EPT Richness	19			82.6	124.2	111.8	237.5	237.5
Trichoptera Richness (PTV 0-4)	3				83.3			
EPT Richness (PTV 0-4)	16	84.2	100.0					
Beck's Index (version 3)	23	60.5	104.5	59.0				
Beck's Index (version 4)	29				145.7	131.8		241.7
FC + PR + SH Richness	18				155.2			
Hilsenhoff Biotic Index	2.18	96.4	112.5	95.1	116.0		124.3	126.9
% Inolerant Individuals (PTV 0-3)	84.5	100.0	126.7				321.4	
% Intolerant Individuals (PTV 0-5)	94.2			101.8				
% Tolerant Individuals (PTV 7-10)	0.6						100.4	100.9
Shannon Diversity	2.19	76.6	76.7	75.8		90.3	114.3	103.0
IBI score		**85.8**	**96.1**	**84.0**	**96.7**	**89.3**	**100.0**	**100.0**

% Ephemeroptera	25.2	% Ephemeroptera (PTV 0-4)	24.8	% Dominant Taxon	45.5	BCG Richness Ratio	1.58
% Plecoptera	10.3	Ephemeroptera Richness (PTV 0-4)	6	% Chironomidae	3.2	BCG Individuals Ratio	8.36
% Trichoptera	4.5	Plecoptera Richness	7	% Simuliidae	45.5	EV Indicator Taxa Richness	6

Not impaired N **Biology impaired** N **Habitat impaired** N **Insufficient data** Y

Rock pick influenced assessment N **Impact is localized** N **Re-evaluate designated use** N

Physical Habitat Assessment

Pool-Glide Assessment? N

Instream Cover	0	**Substrate / Cover**	0	**Frequency of Riffles**	0	**Contition of Banks**	0
Epifaunal Substrate	0	**Velocity/Depth Regimes**	0	**Channel Sinuosity**	0	**Bank Vegetation**	0
Embeddedness	0	**Pool Variability**	0	**Channel Flow Status**	0	**Disruptive Pressure**	0
Pool Substrate	0	**Sediment Deposition**	0	**Channel Alteration**	0	**Riparian Zone**	0

Instream Score 0 **Riparian Score** 0 **Total Score** 0

Field Measurements

Lab samples 0921-303,336

Temperature (°C)	0	**Dissolved Oxygen (mg/L)**	0	**Flow (CFS)**	0
pH	0	**Total Alkalinity (mg/L as CaCO3)**	0	**Conductivity (uS/cm)**	0

Use Assessment Status for Stream Reach

Designated Use CWF **Existing Use**

Aquatic Life Attaining (20130321-1501-gkenderes)

Fish Consumption Attaining (20110323-1550-mlookenbil)

Brook Trout (mlookenbil)

Potable Water Supply Attaining (20080108-1423-mpulket)

Assessment based on WQN455 2005-2007 data. No surface water supply withdrawal on assessed reach. (gawalters)

Recreation

TMDL Information (if any)

Clearfield Creek (Finalized): AMD - Metals

Begin Date **Meeting Date** **End Date** **Draft Date** **Final Date** 4/7/2007

Benthic macroinvertebrate sample summary

Station ID 20121116-1400-gkenderes PrimarySite121

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 63857 **Sample Method** 6-Dframe Composite, 200 subsample

Collection Date 20121116 **Collection Time** 1400 **Latitude** 40.6606003 **Longitude** -78.5802619

HUC8 02050201 Upper West Branch Susquehanna

Station Location Comments

Killbuck Run - 201211161400gkenderes PrimarySeg17Site121 - Quad Coalport - CWF - HUC 02050201 - Stream code 26443 - SWP 08C - County Cambria - Field Lat N40.66071 & W078.58026 - From Nagles Crossing PA take SR1021 ~2miles east and pull off at trail parking lot on right just before stream crossing - Walked upstream from bridge crossing ~300 feet and sampled.

Biology / Habitat Comments

27 Taxa ID - Most abundant - Taeniopteryx, Maccaffertium, Paraleptophlebia, Optioservus, Dolophilodes.

Land Use Comments

Mostly covered in Game Lands No. 108

Station Impairment Status Comments

Not impaired - Attaining - IBI 2009 small 84.9

Taxa List

grids from first pan: 10 | # grids from second pan: 0 | **Subsample Size**: 219

Taxa Name	Individuals	PTV	FFG	BCG Attribute (coldwater)	BCG Attribute (warmwater)
Baetis	1	6	CG	4	5
Isonychia	10	3	CG	3	3
Epeorus	2	0	SC	2	2
Stenacron	2	4	SC	4	4
Maccaffertium	40	3	SC	3	3
Eurylophella	1	4	SC	3	2
Serratella	3	2	CG	3	3
Habrophlebiodes	1	6	SC	2	2
Paraleptophlebia	15	1	CG	2	2
Lanthus	2	5	PR	2	2
Taeniopteryx	40	2	SH	3	3
Leuctra	3	0	SH	2	2
Allocapnia	5	3	SH	3	3
Acroneuria	10	0	PR	3	3
Haploperla	1	0	PR	3	3
Nigronia	8	2	PR	3	3
Chimarra	8	4	FC	4	4
Dolophilodes	14	0	FC	2	2
Wormaldia	1	0	FC	1	1
Polycentropus	3	6	FC	4	4
Ceratopsyche	1	5	FC	4	4
Cheumatopsyche	11	6	FC	5	5
Rhyacophila	3	1	PR	2	2
Neophylax	1	3	SC	3	3
Optioservus	15	4	SC	4	4
Dicranota	6	3	PR	3	3
Chironomidae	12	6	CG	5	5

any EV indicator taxa names are highlighted

Benthic macroinvertebrate sample summary

Station ID 20121116-1400-gkenderes PrimarySite121

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 63857 **Sample Method** 6-Dframe Composite, 200 subsample

Collection Date 20121116 **Collection Time** 1400 **Latitude** 40.6606003 **Longitude** -78.5802619

HUC8 02050201 Upper West Branch Susquehanna

Metrics and IBI scores

Metric Names	Raw Metric Values	Standardized Metric Values						
		Freestone Riffle-Run					Limestone	
		6D200						
		2009 small	2011 large	2007	2D100	Multihabitat Pool-Glide	2006	2009
Total Richness	27	81.8	87.1	77.1		87.1	145.9	150.0
Ephemeroptera Richness	9					150.0		
Trichoptera Richness	8					72.7		
EPT Richness	22			95.7	143.8	129.4	275.0	275.0
Trichoptera Richness (PTV 0-4)	5				138.9			
EPT Richness (PTV 0-4)	17	89.5	106.3					
Beck's Index (version 3)	25	65.8	113.6	64.1				
Beck's Index (version 4)	28				140.7	127.3		233.3
FC + PR + SH Richness	15				129.3			
Hilsenhoff Biotic Index	2.71	89.9	104.9	88.7	108.2		115.9	118.4
% Inolerant Individuals (PTV 0-3)	74.0	87.5	110.9				281.3	
% Intolerant Individuals (PTV 0-5)	87.2			94.3				
% Tolerant Individuals (PTV 7-10)	0.0						101.0	101.5
Shannon Diversity	2.72	94.9	95.0	93.8		111.9	141.6	127.6
IBI score		**84.9**	**97.0**	**85.6**	**100.0**	**93.3**	**100.0**	**100.0**

% Ephemeroptera	34.2	% Ephemeroptera (PTV 0-4)	33.3	% Dominant Taxon	18.3	BCG Richness Ratio	2.38
% Plecoptera	26.9	Ephemeroptera Richness (PTV 0-4)	7	% Chironomidae	5.5	BCG Individuals Ratio	3.13
% Trichoptera	19.2	Plecoptera Richness	5	% Simuliidae	0.0	EV Indicator Taxa Richness	4

Not impaired Y **Biology impaired** N **Habitat impaired** N **Insufficient data** N

Rock pick influenced assessment N **Impact is localized** N **Re-evaluate designated use** N

Physical Habitat Assessment

Pool-Glide Assessment? N

Instream Cover	17	**Substrate / Cover**	0	**Frequency of Riffles**	15	**Contition of Banks**	15
Epifaunal Substrate	12	**Velocity/Depth Regimes**	16	**Channel Sinuosity**	15	**Bank Vegetation**	15
Embeddedness	17	**Pool Variability**	0	**Channel Flow Status**	17	**Disruptive Pressure**	19
Pool Substrate	0	**Sediment Deposition**	18	**Channel Alteration**	19	**Riparian Zone**	20

Instream Score 64 **Riparian Score** 50 **Total Score** 200

Field Measurements

Lab samples

Temperature (°C)	2.59	**Dissolved Oxygen (mg/L)**	13.6	**Flow (CFS)**	0
pH	6.62	**Total Alkalinity (mg/L as CaCO3)**	20	**Conductivity (uS/cm)**	92

Use Assessment Status for Stream Reach

Designated Use CWF **Existing Use**

Aquatic Life Attaining (20130321-1501-gkenderes)

Fish Consumption Attaining (20110323-1550-mlookenbil)

Brook Trout (mlookenbil)

Potable Water Supply Attaining (20080108-1423-mpulket)

Assessment based on WQN455 2005-2007 data. No surface water supply withdrawal on assessed reach. (gawalters)

Recreation

TMDL Information (if any)

Clearfield Creek (Finalized): AMD - Metals

Begin Date **Meeting Date** **End Date** **Draft Date** **Final Date** 4/7/2007

Benthic macroinvertebrate sample summary

Station ID 19990524-1545-LMS

Stream Name Little Killbuck Run (01179578) **Stream Code** 26444 **Strahler** 1

Survey ID 44086 **Sample Method** Kick Screen: Statewide Surface Water Assessment Program

Collection Date **Collection Time** **Latitude** 40.6594626 **Longitude** -78.6005012

HUC8 02050201 Upper West Branch Susquehanna

Station Location Comments

Site is located on Little Killbuck Run about 1/2 mile from mouth, near bend in game lands road off of SR 1018, about 1/10 mile from intersection with SR 1025 (Coalport quad).

Biology / Physical Habitat Comments

Epeorus abundant.

Land Use Comments

Area is in state game lands 108. Some small mining and quarry areas upstream.

Impairment Status Comments

Taxa List

Taxa Name	Abundance Category	Abundance Range	PTV	FFG
Baetidae	Present	3-9	6	CG
Isonychiidae	Rare	<3	3	CG
Heptageniidae	Abundant	25-100	3	SC
Ephemerellidae	Common	10-24	2	CG
Pteronarcyidae	Present	3-9	0	SH
Nemouridae	Common	10-24	2	SH
Leuctridae	Rare	<3	0	SH
Perlodidae	Present	3-9	2	PR
Nigronia	Present	3-9	2	PR
Philopotamidae	Rare	<3	3	FC
Rhyacophilidae	Present	3-9	1	SC
Glossosomatidae	Rare	<3	0	SC
Elmidae	Rare	<3	5	CG
Ptilodactylidae	Rare	<3	5	SH
Chironomidae(other)	Present	3-9	6	
Tipulidae	Rare	<3	4	SH
Simuliidae	Present	3-9	6	FC
Cambaridae	Rare	<3	6	CG

SSWAP metrics and IBI

	Raw Metric Value	Standardized Metric Value
Total Richness	18	81.8
EPT Richness (PTV 0 - 4)	10	90.9
Beck's Index (version 3)	15	107.1
Hilsenhoff Biotic Index	2.84	96.7
Shannon Diversitiy	2.28	86.5
	SSWAP IBI	**91.2**

Benthic macroinvertebrate sample summary

Station ID 19990524-1545-LMS

Stream Name Little Killbuck Run (01179578) **Stream Code** 26444 **Strahler** 1

Survey ID 44086 **Sample Method** Kick Screen: Statewide Surface Water Assessment Program

Collection Date **Collection Time** **Latitude** 40.6594626 **Longitude** -78.6005012

HUC8 02050201 Upper West Branch Susquehanna

1. Abundance obviously low		N
2. Seven or fewer families		N
3. Three or fewer mayfly individuals (exclude Baetidae, Caenidae, Siphlonuridae)		N
4. Stoneflies collectively present	Y	
5. Mayflies and caddisflies collectively abundant (exclude Baetidae, Caenidae, Siphlonuridae, Hydropsychidae, Polycentropidae)	N	
6. Jul - Sep: at least four EPT families with tolerance value of 4 or less Nov - May: at least six EPT families with tolerance value of 4 or less	N	
7. Four or more famlies with tolerance value of 3 or less	Y	
8. Six or more families with tolerance value of 4 or less	Y	
9. Dominant family with tolerance value of 4 or less	Y	
10. Dominant family with tolerance value greater than 5 (criteria 7 and 8 negate this criterion)		N
11. Seven or more families with tolerance value of 6 or more (criteria 7 and 8 negate this criterion)		N
12. Sample dominated by families with a mean tolerance value of 5 or less	Y	
13. Sample dominated by families with a mean tolerance value of 6 or more		N
14. Embeddedness (or substrate character for pool/glide) + sediment deposition = 24 or less (20 or less for warmwater, low gradient streams)		N
15. Condition of banks + bank vegetation = 24 or less (20 or less for warmwater, low gradient streams)		N
16. Total habitat score 140 or less for forested, coldwater, high gradient streams (120 or less for warmwater, low gradient streams)		N
17a. Special conditions (attaining)	N	
17b. Special conditions (impaired)		N
17c. Special conditons description		

Not impaired Y **Biology impaired** N **Habitat impaired** N **Insufficient data** N

Rock pick influenced assessment N **Impact is localized** N **Re-evaluate designated use** N

Physical Habitat Assessment

Pool/Glide Assessment N

Instream Cover	17	**Substrate / Cover**	0	**Frequency of Riffles**	16	**Contition of Banks**	14
Epifaunal Substrate	16	**Velocity/Depth Regimes**	15	**Channel Sinuosity**	16	**Bank Vegetation**	14
Embeddedness	16	**Pool Variability**	0	**Channel Flow Status**	16	**Disruptive Pressure**	16
Pool Substrate	0	**Sediment Deposition**	14	**Channel Alteration**	18	**Riparian Zone**	17

Instream Score 63 **Riparian Score** 45 **Total Score** 189

Field Measurements

Lab samples

Temperature (°C)	13	**Dissolved Oxygen (mg/L)**	9.4	**Flow (CFS)**	
pH	5.8	**Alkalinity (mg/L as CaCO3)**		**Conductivity**	66

Use Assessment Status for Stream Reach

Designated Use CWF **Existing Use**

Aquatic Life Attaining (20130321-1501-gkenderes)

Fish Consumption Attaining (20110323-1550-mlookenbil)

Brook Trout (mlookenbil)

Potable Water Supply

Recreation

TMDL Information (if any)

Clearfield Creek (Finalized): AMD - Metals

Begin Date **Meeting Date** **Draft Date** **End Date** **Final Date** 4/7/2007

Benthic macroinvertebrate sample summary

Station ID 19990524-1400-LMS

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 44084 **Sample Method** Kick Screen: Statewide Surface Water Assessment Program

Collection Date **Collection Time** **Latitude** 40.6710247 **Longitude** -78.600942

HUC8 02050201 Upper West Branch Susquehanna

Station Location Comments

Site is located on Killbuck Run in state game lands 108 upstream of Glendale Lake, down old grass road off of SR 1018, about 1mile up from intersection with SR 1025 (Coalport quad).

Biology / Physical Habitat Comments

Epeorus abundant.

Land Use Comments

Area at site is mostly forested, in state game lands 108. Recreational areas downstream at lake.

Impairment Status Comments

Taxa List

Taxa Name	Abundance Category	Abundance Range	PTV	FFG
Baetidae	Common	10-24	6	CG
Heptageniidae	Abundant	25-100	3	SC
Ephemerellidae	Abundant	25-100	2	CG
Leptophlebiidae	Abundant	25-100	4	CG
Gomphidae	Rare	<3	4	PR
Pteronarcyidae	Present	3-9	0	SH
Nemouridae	Present	3-9	2	SH
Leuctridae	Rare	<3	0	SH
Perlidae	Present	3-9	3	PR
Perlodidae	Present	3-9	2	PR
Chloroperlidae	Present	3-9	0	PR
Nigronia	Rare	<3	2	PR
Philopotamidae	Present	3-9	3	FC
Polycentropodidae	Rare	<3	6	FC
Hydropsychidae	Common	10-24	5	FC
Rhyacophilidae	Present	3-9	1	SC
Elmidae	Rare	<3	5	CG
Ceratopogonidae	Rare	<3	6	PR
Other Worms	Rare	<3	8	
Cambaridae	Rare	<3	6	CG

SSWAP metrics and IBI

	Raw Metric Value	Standardized Metric Value
Total Richness	20	90.9
EPT Richness (PTV 0 - 4)	11	100.0
Beck's Index (version 3)	15	107.1
Hilsenhoff Biotic Index	3.27	90.9
Shannon Diversitiy	2.32	87.7
	SSWAP IBI	**93.9**

Benthic macroinvertebrate sample summary

Station ID 19990524-1400-LMS

Stream Name Killbuck Run (01178450) **Stream Code** 26443 **Strahler** 1

Survey ID 44084 **Sample Method** Kick Screen: Statewide Surface Water Assessment Program

Collection Date **Collection Time** **Latitude** 40.6710247 **Longitude** -78.600942

HUC8 02050201 Upper West Branch Susquehanna

1. Abundance obviously low		N
2. Seven or fewer families		N
3. Three or fewer mayfly individuals (exclude Baetidae, Caenidae, Siphlonuridae)		N
4. Stoneflies collectively present	Y	
5. Mayflies and caddisflies collectively abundant (exclude Baetidae, Caenidae, Siphlonuridae, Hydropsychidae, Polycentropidae)	N	
6. Jul - Sep: at least four EPT families with tolerance value of 4 or less Nov - May: at least six EPT families with tolerance value of 4 or less	Y	
7. Four or more famlies with tolerance value of 3 or less	Y	
8. Six or more families with tolerance value of 4 or less	Y	
9. Dominant family with tolerance value of 4 or less	Y	
10. Dominant family with tolerance value greater than 5 (criteria 7 and 8 negate this criterion)		N
11. Seven or more families with tolerance value of 6 or more (criteria 7 and 8 negate this criterion)		N
12. Sample dominated by families with a mean tolerance value of 5 or less	Y	
13. Sample dominated by families with a mean tolerance value of 6 or more		N
14. Embeddedness (or substrate character for pool/glide) + sediment deposition = 24 or less (20 or less for warmwater, low gradient streams)		N
15. Condition of banks + bank vegetation = 24 or less (20 or less for warmwater, low gradient streams)		N
16. Total habitat score 140 or less for forested, coldwater, high gradient streams (120 or less for warmwater, low gradient streams)		N
17a. Special conditions (attaining)	N	
17b. Special conditions (impaired)		N
17c. Special conditons description		

Not impaired Y **Biology impaired** N **Habitat impaired** N **Insufficient data** N

Rock pick influenced assessment N **Impact is localized** N **Re-evaluate designated use** N

Physical Habitat Assessment

Pool/Glide Assessment N

Instream Cover	16	**Substrate / Cover**	0	**Frequency of Riffles**	16	**Contition of Banks**	13
Epifaunal Substrate	16	**Velocity/Depth Regimes**	15	**Channel Sinuosity**	16	**Bank Vegetation**	16
Embeddedness	14	**Pool Variability**	0	**Channel Flow Status**	16	**Disruptive Pressure**	17
Pool Substrate	0	**Sediment Deposition**	13	**Channel Alteration**	18	**Riparian Zone**	17

Instream Score 59 **Riparian Score** 46 **Total Score** 187

Field Measurements

Lab samples

Temperature (°C)	13	**Dissolved Oxygen (mg/L)**	9.3	**Flow (CFS)**	
pH	4.8	**Alkalinity (mg/L as CaCO3)**		**Conductivity**	116

Use Assessment Status for Stream Reach

Designated Use CWF **Existing Use**

Aquatic Life Attaining (20130321-1501-gkenderes)

Fish Consumption Attaining (20110323-1550-mlookenbil)

Brook Trout (mlookenbil)

Potable Water Supply Attaining (20080108-1423-mpulket)

Assessment based on WQN455 2005-2007 data. No surface water supply withdrawal on assessed reach. (gawalters)

Recreation

TMDL Information (if any)

Clearfield Creek (Finalized): AMD - Metals

Begin Date **Meeting Date** **Draft Date** **End Date** **Final Date** 4/7/2007