

WV SAVE OUR STREAMS ADVANCED SURVEY SUMMARY

Stream Monitor(s) Warm Spring Run Level 3 Date(s) 7 July 2014
Lehman, Orr, O'Brien
 Direction In front the Country Inn in Berkeley Springs Start time 8:00 A.M.
 County Morgan
 RR Miles _____ Station Country Inn
 Latitude

39	37	32
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 Longitude

78	13	45
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 Watershed Warm Spring Run
 Database code _____

WATER CHEMISTRY

	Result	Units		Result	Units		Result	Units
Temp. (°F or °C)	77	F	Alkalinity	160	Ppm	Fecal coliform/E-coli		
pH	8		Nitrate/Nitrite	1	Ppm	Iron	0	
Conductivity	522		Phosphates			Aluminum		
Dissolved O ₂			Total Dissolved Solids	350	Ppm	Manganese		
Acidity			Turbidity	0	JTU	Other (describe below)		

Describe other conditions analyzed: _____

PHYSICAL CONDITIONS

Water clarity Clear Algae color Brown
 Water color None Algae abundance Scattered
 Water/Sediment odor

None	None
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 Algae texture Even coating
 Streambed color Brown Surface foam None
 Comments _____

Riffle width _____ Run width _____ Pool width _____
 Riffle depth _____ Run depth _____ Pool depth _____
 Feet _____ Meters _____
 Indicate units

Estimate

--

 Count

yes

 Entire reach

yes

 Riffles only

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 Silt/clay _____ Sand _____ Fine gravel _____ Coarse gravel _____ Cobble _____ Boulder _____ Bedrock _____ Woody debris _____

Index	12%	25%	40%	20%	3%		
			Woody debris adjustment		% Riffles	% Runs	% Pools

HABITAT CONDITIONS

Attachment sites	14	Channel flow status	16	Embeddedness	12
Riffle frequency	14	Channel alterations	19	Bank veg. protection	9 9
Velocity/depth	14	Sediment deposition	16	Bank stability	9 9

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Total Score

146

Channel shade

60%-40%

Riparian buffer width

3

2

Integrity Rating
Comments

suboptimal

BIOLOGICAL CONDITIONS

Richness

Total Taxa
EPT Taxa

177
6

Composition

% EPT Abundance
% Dominance

25.4
45.8

Tolerance

Biotic Index
% Tolerant
Stream Score
Integrity Rating

4.28
14.7
62.4

Other aquatic organisms observed or collected (e.g. fish, salamanders etc.), or additional comments:

Three salamander

Discharge (cfs)

Water level

Low	Normal	High	No flow
	yes		

Current/past weather conditions:

Clear, Sunny 79 deg Last three days weather clear and sunny

LAND USE IMPACTS: Indicate the types of land uses that affect your stream reach and their approximate location using the code: **(S)** streamside, **(M)** within ¼ mile, and **(W)** within the watershed. Also estimate the level of impact with the numeric codes **(1)** slight, **(2)** moderate, or **(3)** for high impacts.

Single family residences
Sub-urban developments
Urban areas
Industrial areas
Parking lots, malls etc.
Bridges
Paved roads
Unpaved roads
Active construction
Parks, trails etc
Other recreation
Landfills

Impact	Location
1	S
2	S
2	S
2	s

Trash dumps
Intensive feedlots
Pastureland
Cropland
Oil & gas wells
Logging
Mountaintop mining
Abandoned mining
Deep mining
Quarries
Other (describe)

Impact	Location
1	W
1	w

Comments:

Pipes? Yes No

BENTHIC MACROINVERTEBRATES: Record the total number of each macroinvertebrate collected. Note: In the VAD the macroinvertebrates are recorded in three columns based upon their tolerance rating.

Low	Total	Moderate	Total	High	Total
Ameletidae (Ameletid minnow mayfly)		Baetidae (Small minnow mayfly)		Coenagrionidae (Narrow-wing damselfly)	
Ephemereleidae (Spiny-crawler mayfly)	1	Beatiscidae (Armored mayfly)		Lestidae (Spread-wing damselfly)	
Heptageniidae (Flatheaded mayfly)	5	Caenidae (Square-gilled mayfly)		Libellulidae (Skimmer dragonfly)	1
Isonychiidae (Brush-legged mayfly)	2	Ephemeraeidae (Burrowing mayfly)		Chrysomelidae (Reed beetle)	
Leptophlebiidae (Prong-gilled mayfly)		Potamanthidae (Hackle-gilled mayfly)		Dytiscidae (Predacious diving beetle)	
Siphonuridae (Primitive minnow mayfly)		Tricorythidae (Stout-crawler mayfly)		Haliplidae (Crawling water beetle)	
Capniidae (Small winter stonefly)		Hydropsychidae (Common netspinner)	8	Hydrophilidae (Water scavenger beetle)	
Chloroperlidae (Green stonefly)		Hydroptilidae (Purse-case caddisfly)		Belostomatidae (Giant water bug)	
Leuctridae (Rolled-wing stonefly)		Molannidae (Hooded-case caddisfly)		Corixidae (Water boatman)	
Nemouridae (Little brown stonefly)		Phryganeidae (Giant-case caddisfly)		Gerridae/Veliidae (Water striders)	
Perlidae (Common stonefly)	2	Polycentropodidae (Tube-net caddisfly)		Hydrometridae (Water measurer)	

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Perlodidae (Patterned stonefly)		Psychomiidae (Trumpet-net caddisfly)		Nepidae (Water scorpion)	
Peltoperlidae (Roach-like stonefly)		Pyralidae (Aquatic moth)		Notonectidae (Backswimmer)	
Pteronarcyidae (Giant stonefly)		Calopterygidae (Broad-wing damselfly)		Ceratopogonidae (Biting midge)	
Taeniopterygidae (Large winter stonefly)		Gomphidae (Clubtail dragonfly)		Chironomidae (Non-biting midge)	23
Brachycentridae (Humpless-case caddisfly)		Dryopidae (Long-toed beetle)		Culicidae (Mosquito)	
Glossosomatidae (Saddle-case caddisfly)		Elmidae (Riffle beetle)	18	Muscidae (Muscid fly)	
Goeridae (Goerid-case caddisfly)		Gyrinidae (Whirligig beetle)		Psychodidae (Moth fly)	
Helicopsychidae (Snail-case caddisfly)		Sialidae (Alderfly)		Ptychopteridae (Phantom cranefly)	
Lepidostomatidae (Case-maker caddisfly)		Entomobryidae (Springtail)		Stratiomyidae (Soldier fly)	
Leptoceridae (Longhorn-case caddisfly)		Dixidae (Dixid midge)		Syrphidae (Rat-tailed maggot)	
Limnephilidae (Northern-case caddisfly)		Empididae (Dance fly)		Tabanidae (Horse fly)	
Philopotamidae (Finger-net caddisfly)	27	Simuliidae (Black fly)		Asellidae (Aquatic sowbug)	
Rhyacophilidae (Free-living caddisfly)		Tipulidae (Crane fly)	3	Ancylidae (Limpet snail)	
Uenoidae (Uenoid-case caddisfly)		Hydrachnidae (Water mites)		Physidae (Left-handed snail)	
Aeshnidae (Damner dragonfly)		Cambaridae (Crayfish)	4	Planorbidae (Orb snail)	
Cordulegastridae (Spiketail dragonfly)		Gammaridae (Sideswimmer)		Hirudinea (Leech)	1
Psephenidae (Water penny)	81	Palaemonidae (Freshwater shrimp)		Nematoda (Round worm)	
Corydalidae (Hellgrammite/Fishfly)		Bithyniidae (Bithynid snail)		Nematomorpha (Horsehair worm)	
Athericidae (Watersnipe fly)		Pleuroceridae (Rock snail)		Oligochaeta (Aquatic worm)	1
Blephariceridae (Net-wing midge)		Viviparidae (Viviparid snail)		Turbellaria (Flatworms)	
Hydrobiidae (Pebble snail)		Corbiculidae (Asian clam)		Tolerance unknown	
Unionidae (Mussel)		Sphaeriidae (Pea clam)		Hydrozoa (Freshwater jellyfish)	
				Neuroptera (Spongilliflies)	
				Spongilla (Freshwater sponge)	