

WV SAVE OUR STREAMS ADVANCED SURVEY SUMMARY

Stream Monitor(s) Warm Springs Run Level 3 Date(s) Oct. 4, 2016  
Swaim, Wurster, Lehman, Iliff, Oaks and Dean  
 Direction Behind the Board of Education Start time 0800 Hours  
 County Morgan  
 RR Miles \_\_\_\_\_ Station BOE  
 Latitude 

39	22	43
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 Longitude 

78	8	14
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 Watershed Warm Springs  
 Database code \_\_\_\_\_

**WATER CHEMISTRY**

	Result	Units		Result	Units		Result	Units
Temp. (°F or °C)	17	C	Alkalinity	120		Fecal coliform/E-coli		
pH	7.5		Nitrate/Nitrite			Iron		
Conductivity			Phosphates			Aluminum		
Dissolved O <sub>2</sub>	70%		Total Dissolved Solids			Manganese		
Acidity			Turbidity			Other (describe below)		

Describe other conditions analyzed: \_\_\_\_\_

**PHYSICAL CONDITIONS**

Water clarity Clear Algae color Light green  
 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 17 Pool width \_\_\_\_\_ 

x	
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 Riffle depth \_\_\_\_\_ Run depth 0.6 Pool depth \_\_\_\_\_ Feet Meters  
 Indicate units

Estimate 

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 Count 

x
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 Silt/clay Sand Fine gravel Coarse gravel Cobble Entire reach 

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 Riffles only 

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 Boulder Bedrock Woody debris

<b>Index</b>	<u>13</u>	<u>11</u>	<u>23</u>	<u>25</u>	<u>29</u>		
			Woody debris adjustment		% Riffles	% Runs	% Pools

**HABITAT CONDITIONS**

Attachment sites	<u>15</u>	Channel flow status	<u>20</u>	Embeddedness	<u>10</u>		
Riffle frequency	<u>15</u>	Channel alterations	<u>4</u>	Bank veg. protection	<table border="1"><tr><td>2</td><td>2</td></tr></table>	2	2
2	2						
Velocity/depth	<u>20</u>	Sediment	<u>20</u>	Bank stability	<table border="1"><tr><td>2</td><td>2</td></tr></table>	2	2
2	2						

<b>Total Score</b>		deposition		Riparian buffer width		
	114	Channel shade	<40 %		1	1
	<b>Marginal</b>					

Integrity Rating  
Comments: Stone wall on right bank.

**BIOLOGICAL CONDITIONS**

<b>Richness</b>		<b>Composition</b>		<b>Tolerance</b>	
Total Taxa	19	% EPT Abundance	48.4	Biotic Index	4.03
EPT Taxa	5	% Dominance	36.2	% Tolerant	3.1
Other aquatic organisms observed or collected (e.g. fish, salamanders etc.), or additional comments:				<b>Stream Score</b>	73.7
				Integrity Rating	suboptimal

Discharge (cfs)	10.8	Water level	Low	Normal	High	No flow
					x	

Current/past weather conditions:

**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.

	Impact	Location		Impact	Location
Single family residences	2	s	Trash dumps		
Sub-urban developments			Intensive feedlots		
Urban areas			Pastureland		
Industrial areas			Cropland		
Parking lots, malls etc.	1	s	Oil & gas wells		
Bridges	2	s	Logging		
Paved roads	1	s	Mountaintop mining		
Unpaved roads			Abandoned mining		
Active construction			Deep mining		
Parks, trails etc	1	s	Quarries		
Other recreation			Other (describe)		
Landfills					

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)	
Ephemerelellidae (Spiny-crawler mayfly)		Beatiscidae (Armored mayfly)		Lestidae (Spread-wing damselfly)	
Heptageniidae (Flatheaded mayfly)	16	Caenidae (Square-gilled mayfly)		Libellulidae (Skimmer dragonfly)	1
Isonychiidae (Brush-legged mayfly)	24	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)		Halipilidae (Crawling water beetle)	
Capniidae (Small winter stonefly)		Hydropsychidae (Common netspinner)	88	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)	

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Perlidae (Common stonefly)	1	Polycentropodidae (Tube-net caddisfly)		Hydrometridae (Water measurer)	
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)	1
Brachycentridae (Humpless-case caddisfly)		Dryopidae (Long-toed beetle)		Culicidae (Mosquito)	
Glossosomatidae (Saddle-case caddisfly)		Elmidae (Riffle beetle)	12	Muscidae (Muscid fly)	
Goeridae (Goerid-case caddisfly)		Gyrinidae (Whirligig beetle)	5	Psychodidae (Moth fly)	
Helicopsychidae (Snail-case caddisfly)		Sialidae (Alderfly)		Ptychopteridae (Phantom crane fly)	
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)	10	Simuliidae (Black fly)		Asellidae (Aquatic sowbug)	3
Rhyacophilidae (Free-living caddisfly)		Tipulidae (Crane fly)	1	Ancylidae (Limpet snail)	
Uenoidae (Uenoid-case caddisfly)		Hydrachnidae (Water mites)	1	Physidae (Left-handed snail)	
Aeshnidae (Damner dragonfly)		Cambaridae (Crayfish)	1	Planorbidae (Orb snail)	1
Cordulegastridae (Spiketail dragonfly)		Gammaridae (Sideswimmer)		Hirudinea (Leech)	
Psephenidae (Water penny)	104	Palaemonidae (Freshwater shrimp)		Nematoda (Round worm)	
Corydalidae (Hellgrammite/Fishfly)	2	Bithyniidae (Bithynid snail)		Nematomorpha (Horsehair worm)	
Athericidae (Watersnipe fly)		Pleuroceridae (Rock snail)	4	Oligochaeta (Aquatic worm)	4
Blephariceridae (Net-wing midge)		Viviparidae (Viviparid snail)		Turbellaria (Flatworms)	
Hydrobiidae (Pebble snail)		Corbiculidae (Asian clam)	8	<b>Tolerance unknown</b>	
Unionidae (Mussel)		Sphaeriidae (Pea clam)		Hydrozoa (Freshwater jellyfish)	
				Neuroptera (Spongilliflies)	
				Spongilla (Freshwater sponge)	