

WV SAVE OUR STREAMS ADVANCED SURVEY SUMMARY

Stream Monitor(s) Warm Springs Run Level 3 Date(s) 9/20/16  
 Direction Wurster, Iliff, O'Brien, Lehman, Swaim and Dean  
 Start time 0800 hours  
 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 Springs Run  
 Database code \_\_\_\_\_

**WATER CHEMISTRY**

	Result	Units		Result	Units		Result	Units
Temp. (°F or °C)	20	C	Alkalinity	160	Ppm	Fecal coliform/E-coli		
pH	8		Nitrate/Nitrite			Iron	<.5	
Conductivity			Phosphates			Aluminum		
Dissolved O <sub>2</sub>	75%		Total Dissolved Solids			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 9 Run width \_\_\_\_\_ Pool width \_\_\_\_\_  
 Riffle depth .06 Run depth \_\_\_\_\_ Pool depth \_\_\_\_\_  
 Estimate 

x
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 Count 

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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>5</u>	<u>40</u>	<u>40</u>	<u>10</u>	<u>    </u>	<u>    </u>	<u>    </u>
			Woody debris adjustment		% Riffles	% Runs	% Pools

**HABITAT CONDITIONS**

Attachment sites	<u>14</u>	Channel flow status	<u>10</u>	Embeddedness	<u>13</u>
Riffle frequency	<u>12</u>	Channel alterations	<u>4</u>	Bank veg. protection	<u>10</u> <u>10</u>
Velocity/depth	<u>12</u>	Sediment deposition	<u>18</u>	Bank stability	<u>10</u> <u>10</u>
<b>Total Score</b>	<u>127</u>	Channel shade	<u>60-80%</u>	Riparian buffer	<u>2</u> <u>2</u>

Integrity Rating 

<b>suboptimal</b>
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 width 

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Comments \_\_\_\_\_

**BIOLOGICAL CONDITIONS**

<b>Richness</b>	<b>Composition</b>	<b>Tolerance</b>			
Total Taxa <table border="1" style="display: inline-table;"><tr><td style="text-align: center;">17</td></tr></table>	17	% EPT Abundance <table border="1" style="display: inline-table;"><tr><td style="text-align: center;">45.7</td></tr></table>	45.7	Biotic Index <table border="1" style="display: inline-table;"><tr><td style="text-align: center;">4.19</td></tr></table>	4.19
17					
45.7					
4.19					
EPT Taxa <table border="1" style="display: inline-table;"><tr><td style="text-align: center;">6</td></tr></table>	6	% Dominance <table border="1" style="display: inline-table;"><tr><td style="text-align: center;">34</td></tr></table>	34	% Tolerant <table border="1" style="display: inline-table;"><tr><td style="text-align: center;">5.7</td></tr></table>	5.7
6					
34					
5.7					
Other aquatic organisms observed or collected (e.g. fish, salamanders etc.), or additional comments: _____					
<b>Stream Score</b> <table border="1" style="display: inline-table;"><tr><td style="text-align: center;">72.7</td></tr></table>			72.7		
72.7					
Integrity Rating <table border="1" style="display: inline-table;"><tr><td style="text-align: center;">Suboptimal</td></tr></table>			Suboptimal		
Suboptimal					

Discharge (cfs) <table border="1" style="display: inline-table;"><tr><td style="text-align: center;">0.97</td></tr></table>	0.97	Water level	Low	Normal	High	No flow
0.97						
		<input checked="" type="checkbox"/>				

Current/past weather conditions: Sunny past weather - no rain

**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	1	w
Industrial areas			Cropland		
Parking lots, malls etc.	2	s	Oil & gas wells		
Bridges	2	s	Logging		
Paved roads	2	s	Mountaintop mining		
Unpaved roads			Abandoned mining		
Active construction			Deep mining		
Parks, trails etc			Quarries		
Other recreation			Other (describe)		
Landfills					

Comments: \_\_\_\_\_ Pipes? 

x
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 Yes 

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 No 

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**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)	1	Coenagrionidae (Narrow-wing damselfly)	2
Ephemerelellidae (Spiny-crawler mayfly)		Beatiscidae (Armored mayfly)		Lestidae (Spread-wing damselfly)	
Heptageniidae (Flatheaded mayfly)	4	Caenidae (Square-gilled mayfly)		Libellulidae (Skimmer dragonfly)	4
Isonychiidae (Brush-legged mayfly)	2	Ephemeridae (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)	1	Hydropsychidae (Common netspinner)	72	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)		Polycentropodidae (Tube-net caddisfly)		Hydrometridae (Water measurer)	
Perlodidae (Patterned stonefly)		Psychomiidae (Trumpet-net caddisfly)		Nepidae (Water scorpion)	

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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)	2	Chironomidae (Non-biting midge)	
Brachycentridae (Humpless-case caddisfly)		Dryopidae (Long-toed beetle)		Culicidae (Mosquito)	
Glossosomatidae (Saddle-case caddisfly)		Elmidae (Riffle beetle)	36	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)	73	Simuliidae (Black fly)		Asellidae (Aquatic sowbug)	
Rhyacophilidae (Free-living caddisfly)		Tipulidae (Crane fly)		Ancylidae (Limpet snail)	
Uenoidae (Uenoid-case caddisfly)		Hydrachnidae (Water mites)		Physidae (Left-handed snail)	
Aeshnidae (Damner dragonfly)	1	Cambaridae (Crayfish)	1	Planorbidae (Orb snail)	1
Cordulegastridae (Spiketail dragonfly)		Gammaridae (Sideswimmer)	2	Hirudinea (Leech)	
Psephenidae (Water penny)	114	Palaemonidae (Freshwater shrimp)		Nematoda (Round worm)	
Corydalidae (Hellgrammite/Fishfly)		Bithyniidae (Bithynid snail)		Nematomorpha (Horsehair worm)	
Athericidae (Watersnipe fly)		Pleuroceridae (Rock snail)		Oligochaeta (Aquatic worm)	13
Blephariceridae (Net-wing midge)		Viviparidae (Viviparid snail)		Turbellaria (Flatworms)	
Hydrobiidae (Pebble snail)		Corbiculidae (Asian clam)	6	<b>Tolerance unknown</b>	
Unionidae (Mussel)		Sphaeriidae (Pea clam)		Hydrozoa (Freshwater jellyfish)	
				Neuroptera (Spongilliflies)	
				Spongilla (Freshwater sponge)	