

WV SAVE OUR STREAMS ADVANCED SURVEY SUMMARY

Stream Monitor(s) Warm Spring Runs Level 3 Date(s) June 13,2016
 Direction Swaim , Dean, Lehman and Oaks
Route 522 and Route 13 Start time 8:00 AM
 County Morgan
 RR Miles _____ Station Double D
 Latitude

39	35	49
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 Longitude

78	10	14
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 Watershed Warn Spring Runs
 Database code _____

WATER CHEMISTRY

	Result	Units		Result	Units		Result	Units
Temp. (°F or °C)	17	C	Alkalinity	60	Ppm	Fecal coliform/E-coli		
pH	7.5		Nitrate/Nitrite	1.0		Iron	<.5	
Conductivity			Phosphates			Aluminum		
Dissolved O ₂	11	Mg/L	Total Dissolved Solids			Manganese		
Acidity			Turbidity	0	JTU	Other (describe below)		

Describe other conditions analyzed: _____

PHYSICAL CONDITIONS

Water clarity	<u>Clear</u>	Algae color	<u>Brown</u>
Water color	<u>None</u>	Algae abundance	<u>Heavy</u>
Water/Sediment odor	<u>None</u> <u>None</u>	Algae texture	<u>Even coating</u>
Streambed color	<u>Brown</u>	Surface foam	<u>none</u>

Riffle width	<u>3.25</u>	Run width	_____	Pool width	<u>x</u>		
Riffle depth	<u>.33</u>	Run depth	_____	Pool depth	_____	_____	
					Feet	Meters	
					Indicate units		
Estimate	<u>x</u>	Count	_____	Entire reach	_____	Riffles only	_____
Silt/clay		Sand		Boulder		Bedrock	
		Fine gravel					
		Coarse gravel					
		Cobble					
Index	5,50	good	Woody debris adjustment	10	10	80	
				% Riffles	% Runs	% Pools	

HABITAT CONDITIONS

Attachment sites	<u>15</u>	Channel flow status	<u>19</u>	Embeddedness	<u>15</u>
Riffle frequency	<u>20</u>	Channel alterations	<u>19</u>	Bank veg. protection	<u>5</u> <u>5</u>
Velocity/depth	<u>20</u>	Sediment deposition	<u>20</u>	Bank stability	<u>5</u> <u>5</u>
Total Score	132	Channel shade	<40%	Riparian buffer	<u>1</u> <u>1</u>

Integrity Rating

suboptimal

 width

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Comments _____

BIOLOGICAL CONDITIONS

Richness	Composition	Tolerance			
Total Taxa <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">16</td></tr></table>	16	% EPT Abundance <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">72.6</td></tr></table>	72.6	Biotic Index <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">3.46</td></tr></table>	3.46
16					
72.6					
3.46					
EPT Taxa <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">6</td></tr></table>	6	% Dominance <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">42</td></tr></table>	42	% Tolerant <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">11.5</td></tr></table>	11.5
6					
42					
11.5					
Other aquatic organisms observed or collected (e.g. fish, salamanders etc.), or additional comments:					
1 minnow and 1 salamander					
Stream Score <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">76</td></tr></table>		76	Integrity Rating <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">Suboptimal</td></tr></table>	Suboptimal	
76					
Suboptimal					

Discharge (cfs) <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">0.37</td></tr></table>	0.37	Water level	Low	Normal	High	No flow
0.37						
				x		

Current/past weather conditions: Sunny and hot past- sunny and hot

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

Comments: _____ Pipes?

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 Yes

x

 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)	7	Coenagrionidae (Narrow-wing damselfly)	
Ephemerelellidae (Spiny-crawler mayfly)		Beatiscidae (Armored mayfly)		Lestidae (Spread-wing damselfly)	
Heptageniidae (Flatheaded mayfly)		Caenidae (Square-gilled mayfly)		Libellulidae (Skimmer dragonfly)	
Isonychiidae (Brush-legged mayfly)		Ephemeraidae (Burrowing mayfly)		Chrysomelidae (Reed beetle)	
Leptophlebiidae (Prong-gilled mayfly)	20	Potamanthidae (Hackle-gilled mayfly)		Dytiscidae (Predacious diving beetle)	2
Siphonuridae (Primitive minnow mayfly)		Tricorythidae (Stout-crawler mayfly)		Halipilidae (Crawling water beetle)	
Capniidae (Small winter stonefly)		Hydropsychidae (Common netspinner)	14	Hydrophilidae (Water scavenger beetle)	
Chloroperlidae (Green stonefly)		Hydroptilidae (Purse-case caddisfly)	2	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)	66	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)		Pyrilidae (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)	9
Brachycentridae (Humpless-case caddisfly)		Dryopidae (Long-toed beetle)		Culicidae (Mosquito)	
Glossosomatidae (Saddle-case caddisfly)		Elmidae (Riffle beetle)	9	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)	5	Simuliidae (Black fly)	2	Asellidae (Aquatic sowbug)	
Rhyacophilidae (Free-living caddisfly)		Tipulidae (Crane fly)		Ancylidae (Limpet snail)	
Uenoidae (Uenoid-case caddisfly)		Hydrachnidae (Water mites)		Physidae (Left-handed snail)	5
Aeshnidae (Damner dragonfly)		Cambaridae (Crayfish)	7	Planorbidae (Orb snail)	
Cordulegastridae (Spiketail dragonfly)		Gammaridae (Sideswimmer)		Hirudinea (Leech)	4
Psephenidae (Water penny)	2	Palaemonidae (Freshwater shrimp)	2	Nematoda (Round worm)	
Corydalidae (Hellgrammite/Fishfly)		Bithyniidae (Bithynid snail)		Nematomorpha (Horsehair worm)	
Athericidae (Watersnipe fly)		Pleuroceridae (Rock snail)		Oligochaeta (Aquatic worm)	
Blephariceridae (Net-wing midge)		Viviparidae (Viviparid snail)		Turbellaria (Flatworms)	
Hydrobiidae (Pebble snail)		Corbiculidae (Asian clam)	1	Tolerance unknown	
Unionidae (Mussel)		Sphaeriidae (Pea clam)		Hydrozoa (Freshwater jellyfish)	
				Neuroptera (Spongilliflies)	
				Spongilla (Freshwater sponge)	