

WV SAVE OUR STREAMS ADVANCED SURVEY SUMMARY

Stream Monitor(s) Warm Springs Run Level 3 Date(s) 8/9/18  
Warm Spring Watershed Association Members  
 Direction Washington Street Start time 8:30 A.M  
 County Morgan  
 RR Miles \_\_\_\_\_ Station Country Inn  
 Latitude 

|    |    |    |
|----|----|----|
| 39 | 37 | 31 |
|----|----|----|

 Longitude 

|    |    |    |
|----|----|----|
| 78 | 13 | 44 |
|----|----|----|

 Watershed Database code Warm Springs

**WATER CHEMISTRY**

|                          | Result | Units |                        | Result | Units |                        | Result | Units |
|--------------------------|--------|-------|------------------------|--------|-------|------------------------|--------|-------|
| Temp. (°F or °C)         | 22     | c     | Alkalinity             | 200    |       | Fecal coliform/E-coli  |        |       |
| pH                       | 7.5    |       | Nitrate/Nitrite        | 0      |       | Iron                   | 0      |       |
| Conductivity             |        |       | Phosphates             |        |       | Aluminum               |        |       |
| Dissolved O <sub>2</sub> | 122    | %     | 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 |
|------|------|

 Algae texture Even coating  
 Streambed color Brown Surface foam slight  
 Comments \_\_\_\_\_

Riffle width \_\_\_\_\_ Run width \_\_\_\_\_ Pool width 

|  |  |
|--|--|
|  |  |
|--|--|

  
 Riffle depth \_\_\_\_\_ Run depth \_\_\_\_\_ Pool depth \_\_\_\_\_  
 Feet Meter  
 Indicate units

Estimate 

|  |
|--|
|  |
|--|

 Count 

|  |
|--|
|  |
|--|

  
 Silt/clay Sand Fine gravel Coarse gravel Cobble Entire reach 

|  |
|--|
|  |
|--|

 Riffles only 

|  |
|--|
|  |
|--|

  
 Boulder Bedrock Woody debris

|              |   |    |                         |    |           |        |         |
|--------------|---|----|-------------------------|----|-----------|--------|---------|
| <b>Index</b> | 6 | 45 | 26                      | 20 | % Riffles | % Runs | % Pools |
|              |   |    | Woody debris adjustment |    |           |        |         |

**HABITAT CONDITIONS**

|                    |            |                     |         |                      |         |
|--------------------|------------|---------------------|---------|----------------------|---------|
| Attachment sites   | 19         | Channel flow status | 20      | Embeddedness         | 15      |
| Riffle frequency   | 15         | Channel alterations | 20      | Bank veg. protection | 10   10 |
| Velocity/depth     | 15         | Sediment deposition | 15      | Bank stability       | 10   10 |
| <b>Total Score</b> | <b>167</b> | Channel shade       | 60-40 % | Riparian buffer      | 4   4   |

Integrity Rating 

|                  |
|------------------|
| <b>Very good</b> |
|------------------|

 width 

|  |
|--|
|  |
|--|

Comments Wall on both side of stream.

**BIOLOGICAL CONDITIONS**

|  |                    |  |             |  |      |
|--|--------------------|--|-------------|--|------|
| <b>Richness</b>  | <b>Composition</b> | <b>Tolerance</b>   |             |  |      |
| Total Taxa <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">13</td></tr></table> | 13                 | % EPT Abundance <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">56.4</td></tr></table>            | 56.4        | Biotic Index <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">4.75</td></tr></table> | 4.75 |
| 13   |                    |  |             |  |      |
| 56.4   |                    |  |             |  |      |
| 4.75   |                    |  |             |  |      |
| 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;">33.6</td></tr></table>                | 33.6        | % Tolerant <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">17.4</td></tr></table>   | 17.4 |
| 6  |                    |  |             |  |      |
| 33.6   |                    |  |             |  |      |
| 17.4   |                    |  |             |  |      |
| 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; vertical-align: middle;"><tr><td style="text-align: center;"><b>68.4</b></td></tr></table> | <b>68.4</b> |  |      |
| <b>68.4</b>  |                    |  |             |  |      |
|  |                    | Integrity Rating <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">suboptimal</td></tr></table>     | suboptimal  |  |      |
| suboptimal   |                    |  |             |  |      |

|                       |             |     |        |      |         |
|-----------------------|-------------|-----|--------|------|---------|
| Discharge (cfs) _____ | 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.

| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr><th style="width: 30%;">Impact</th><th style="width: 70%;">Location</th></tr> </thead> <tbody> <tr><td style="text-align: center;">2</td><td style="text-align: center;">s</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">s</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">s</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">s</td></tr> </tbody> </table> | Impact   | Location | 2 | s | 2 | s | 3 | s | 3 | s | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr><th style="width: 30%;">Impact</th><th style="width: 70%;">Location</th></tr> </thead> <tbody> <tr><td style="text-align: center;">1</td><td style="text-align: center;">W2</td></tr> </tbody> </table> | Impact | Location | 1 | W2 |
|---|----------|----------|---|---|---|---|---|---|---|---|--|--------|----------|---|----|
| Impact  | Location |          |   |   |   |   |   |   |   |   |  |        |          |   |    |
| 2   | s        |          |   |   |   |   |   |   |   |   |  |        |          |   |    |
| 2   | s        |          |   |   |   |   |   |   |   |   |  |        |          |   |    |
| 3   | s        |          |   |   |   |   |   |   |   |   |  |        |          |   |    |
| 3   | s        |          |   |   |   |   |   |   |   |   |  |        |          |   |    |
| Impact  | Location |          |   |   |   |   |   |   |   |   |  |        |          |   |    |
| 1   | W2       |          |   |   |   |   |   |   |   |   |  |        |          |   |    |

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

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|  |
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 Yes 

|   |
|---|
| x |
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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)         | 11    | Coenagrionidae (Narrow-wing damselfly) |       |
| Ephemerelellidae (Spiny-crawler mayfly) |       | Beatiscidae (Armored mayfly)           |       | Lestidae (Spread-wing damselfly)       |       |
| Heptageniidae (Flatheaded mayfly)       | 5     | Caenidae (Square-gilled mayfly)        |       | Libellulidae (Skimmer dragonfly)       | 2     |
| Isonychiidae (Brush-legged mayfly)      | 8     | 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)       | 4     | Hydropsychidae (Common netspinner)     | 6     | 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)         |       | Psychomyiidae (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)    |    |
| Brachycentridae (Humpless-case caddisfly) |    | Dryopidae (Long-toed beetle)          |    | Culicidae (Mosquito)               |    |
| Glossosomatidae (Saddle-case caddisfly)   |    | Elmidae (Riffle beetle)               | 10 | Muscidae (Muscid fly)              |    |
| Goeridae (Goerid-case caddisfly)          |    | Gyrinidae (Whirligig beetle)          |    | Psychodidae (Moth fly)             |    |
| Helicopsychidae (Snail-case caddisfly)    |    | Sialidae (Alderfly)                   |    | Ptychopteridae (Phantom crane fly) |    |
| Lepidostomatidae (Case-maker caddisfly)   |    | Entomobryidae (Springtail)            |    | Stratiomyidae (Soldier fly)        | 6  |
| 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)     | 50 | 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)                 |    | Planorbidae (Orb snail)            |    |
| Cordulegastridae (Spiketail dragonfly)    |    | Gammaridae (Sideswimmer)              |    | Hirudinea (Leech)                  | 3  |
| Psephenidae (Water penny)                 | 26 | Palaemonidae (Freshwater shrimp)      |    | Nematoda (Round worm)              |    |
| Corydalidae (Hellgrammite/Fishfly)        |    | Bithyniidae (Bithynid snail)          |    | Nematomorpha (Horsehair worm)      |    |
| Athericidae (Watersnipe fly)              |    | Pleuroceridae (Rock snail)            |    | Oligochaeta (Aquatic worm)         | 15 |
| Blephariceridae (Net-wing midge)          |    | Viviparidae (Viviparid snail)         |    | Turbellaria (Flatworms)            |    |
| Hydrobiidae (Pebble snail)                |    | Corbiculidae (Asian clam)             |    | <b>Tolerance unknown</b>           |    |
| Unionidae (Mussel)                        |    | Sphaeriidae (Pea clam)                |    | Hydrozoa (Freshwater jellyfish)    |    |
|   |    |                                       |    | Neuroptera (Spongilliflies)        |    |
|   |    |                                       |    | Spongilla (Freshwater sponge)      |    |