

Macroinvertebrate Sample Summary

version: 3.0 3/6/2009 2:55:34 PM

Assessment ID: 59263
 Station ID: 20081119-1500-kspyker (Latitude: 40.6683, Longitude: -78.4030)
 Method: 6-Dframe Composite, 200 subsample
 Location: BG7. Upstream sample. Water sample number 7191-865.

Metrics:

Total # Organisms: 228 Hilsenhoff: 1.70 %EPT: 64 FCPRSH: 13
 Taxa Richness: 17 Beck3: 19 Beck4: 19 Modified %EPT: 64
 Modified Caddis: 3 EPT: 8 %Mayflies: 14 %Dominant: 21
 Caddisfly Taxa: 3 Mayfly Taxa: 1 Modified EPT: 8 Modified %Mayflies: 14
 %Intol-Limestone: 79 %Tol-Limestone: 1 %Intol-Freestone: 83 %Tol-Freestone: 17
 Shannon Diversity: 2.22

Taxa:

Code	Standardized ID Level	Number	Tolerance
1020100100	Ameletus	31	0
1040300100	Taeniopteryx	1	2
1040500300	Paraleuctra	46	0
1040600100	Allocapnia	8	3
1040900600	Sweltsa	47	0
1080100200	Dolophilodes	2	0
1080500100	Rhyacophila	11	1
1080910100	Lepidostoma	1	1
1121901100	Dicranota	1	3
1121901500	Hexatoma	18	2
1121901600	Limnophila	8	3
1121901800	Molophilus	9	4
1121902300	Pseudolimnophila	7	2
1122100500	Simulium	1	6
1122200000	Chironomidae	34	6
11000000000	Oligochaeta	2	10
13040100100	Cambarus	1	6

Habitat:

1 Instream Cover: 5	2 Epifaunal Substrate: 8	
3 Embeddedness: 12	4 Velocity/Depth Regimes: 8	
5 Channel Alterations: 20	6 Sediment Deposition: 18	
7 Frequency of Riffles: 10	8 Channel Flow Status: 10	
9 Condition of Banks: 11	10 Bank Vegetation: 13	Total
11 Grazing or Disruptive: 20	12 Riparian Vegetation: 20	155

Metric Name	Standardization Value	Observed Value	Standardized Metric Score	Adjusted Metric Score
Beck's Index (version 3)	39	19	0.487	0.487
EPT Taxa Richness	23	8	0.348	0.348
Total Taxa Richness	35	17	0.486	0.486
Shannon Diversity Index (freestone)	2.90	2.22	0.766	0.766
Hilsenhoff Biotic Index	1.78	1.70	1.010	1.000
Percent Intolerant Individuals (freestone)	92.5	83.0	0.897	0.897
BG7			FREESTONE IBI Score =	66.4

Macroinvertebrate Sample Summary

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Assessment ID: 59264
 Station ID: 20081119-1415-kspyker (Latitude: 40.6569, Longitude: -78.4048)
 Method: 6-Dframe Composite, 200 subsample
 Location: BG6. Water sample number 7191-864.

Metrics:

Total # Organisms: 93 Hilsenhoff: 3.16 %EPT: 76 FCPRSH: 14
 Taxa Richness: 18 Beck3: 24 Beck4: 21 Modified %EPT: 49
 Modified Caddis: 4 EPT: 15 %Mayflies: 18 %Dominant: 19
 Caddisfly Taxa: 6 Mayfly Taxa: 2 Modified EPT: 12 Modified %Mayflies: 6
 %Intol-Limestone: 48 %Tol-Limestone: 0 %Intol-Freestone: 67 %Tol-Freestone: 33
 Shannon Diversity: 2.53

Taxa:

Code	Standardized ID Level	Number	Tolerance
1020400300	Baetis	11	6
1020800300	Ephemerella	6	1
1040100100	Pteronarcys	2	0
1040200000	Peltoperlidae	2	2
1040400700	Soyedina	2	0
1040500200	Leuctra	9	0
1040600100	Allocapnia	1	3
1040600400	Paracapnia	1	1
1040801200	Isoperla	1	2
1080100200	Dolophilodes	4	0
1080300500	Polycentropus	2	6
1080400300	Diplectrona	9	0
1080400700	Hydropsyche	12	5
1080500100	Rhyacophila	5	1
1081001500	Pycnopsyche	4	4
1101301000	Stenelmis	1	5
1121901500	Hexatoma	3	2
1122200000	Chironomidae	18	6

Habitat:

1 Instream Cover:	11	2 Epifaunal Substrate:	18	
3 Embeddedness:	16	4 Velocity/Depth Regimes:	11	
5 Channel Alterations:	20	6 Sediment Deposition:	20	
7 Frequency of Riffles:	18	8 Channel Flow Status:	14	
9 Condition of Banks:	17	10 Bank Vegetation:	18	Total
11 Grazing or Disruptive:	17	12 Riparian Vegetation:	13	193

Metric Name	Standardization Value	Observed Value	Standardized Metric Score	Adjusted Metric Score
Beck's Index (version 3)	39	24	0.615	0.615
EPT Taxa Richness	23	15	0.652	0.652
Total Taxa Richness	35	18	0.514	0.514
Shannon Diversity Index (freestone)	2.90	2.53	0.872	0.872
Hilsenhoff Biotic Index	1.78	3.16	0.832	0.832
Percent Intolerant Individuals (freestone)	92.5	67.0	0.724	0.724
BG6			FREESTONE IBI Score =	70.2

Macroinvertebrate Sample Summary

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Assessment ID: 59265
 Station ID: 20081119-1330-kspyker (Latitude: 40.6440, Longitude: -78.4013)
 Method: 6-Dframe Composite, 200 subsample
 Location: BG5. Upstream Bells Gap Run. Water sample number 7191-863.

Metrics:

Total # Organisms: 221 Hilsenhoff: 3.11 %EPT: 42 FCPRSH: 10
 Taxa Richness: 23 Beck3: 29 Beck4: 27 Modified %EPT: 35
 Modified Caddis: 3 EPT: 16 %Mayflies: 19 %Dominant: 36
 Caddisfly Taxa: 5 Mayfly Taxa: 6 Modified EPT: 13 Modified %Mayflies: 15
 %Intol-Limestone: 40 %Tol-Limestone: 1 %Intol-Freestone: 80 %Tol-Freestone: 20
 Shannon Diversity: 2.33

Taxa:

Code	Standardized ID Level	Number	Tolerance
1020100100	Ameletus	19	0
1020400300	Baetis	7	6
1020600000	Heptageniidae	1	3
1020600100	Epeorus	11	0
1020800300	Ephemerella	1	1
1021200500	Paraleptophlebia	2	1
1040100100	Pteronarcys	3	0
1040300100	Taeniopteryx	5	2
1040500200	Leuctra	5	0
1040600400	Paracapnia	4	1
1040900600	Sweltsa	10	0
1080100200	Dolophilodes	13	0
1080300500	Polycentropus	3	6
1080400300	Diplectrona	1	0
1080400500	Ceratopsyche	5	5
1081100100	Neophylax	2	3
1101300600	Optioservus	3	4
1121900700	Antocha	1	3
1121901500	Hexatoma	10	2
1122200000	Chironomidae	31	6
11000000000	Oligochaeta	3	10
13030200100	Gammarus	80	4
13040100100	Cambarus	1	6

Habitat:

1 Instream Cover: 12	2 Epifaunal Substrate: 18	
3 Embeddedness: 17	4 Velocity/Depth Regimes: 12	
5 Channel Alterations: 18	6 Sediment Deposition: 18	
7 Frequency of Riffles: 18	8 Channel Flow Status: 12	
9 Condition of Banks: 16	10 Bank Vegetation: 8	Total
11 Grazing or Disruptive: 10	12 Riparian Vegetation: 9	168

Metric Name	Standardization Value	Observed Value	Standardized Metric Score	Adjusted Metric Score
Beck's Index (version 3)	39	29	0.744	0.744
EPT Taxa Richness	23	16	0.696	0.696
Total Taxa Richness	35	23	0.657	0.657
Shannon Diversity Index (freestone)	2.90	2.33	0.803	0.803
Hilsenhoff Biotic Index	1.78	3.11	0.838	0.838
Percent Intolerant Individuals (freestone)	92.5	80.0	0.865	0.865
BG5		FREESTONE IBI Score =		76.7

Assessment ID: 59266
 Station ID: 20081119-1300-kspyker (Latitude: 40.6431, Longitude: -78.4031)
 Method: 6-Dframe Composite, 200 subsample
 Location: BG4. Bells Gap. Water sample number 7191-862.

Metrics:

Total # Organisms: 250 Hilsenhoff: 2.80 %EPT: 75 FCPRSH: 17
 Taxa Richness: 27 Beck3: 35 Beck4: 33 Modified %EPT: 63
 Modified Caddis: 4 EPT: 22 %Mayflies: 38 %Dominant: 22
 Caddisfly Taxa: 6 Mayfly Taxa: 7 Modified EPT: 19 Modified %Mayflies: 37
 %Intol-Limestone: 58 %Tol-Limestone: 0 %Intol-Freestone: 76 %Tol-Freestone: 24
 Shannon Diversity: 2.65

Taxa:

Code	Standardized ID Level	Number	Tolerance
1020100100	Ameletus	4	0
1020400300	Baetis	3	6
1020600100	Epeorus	37	0
1020600200	Heptagenia	13	4
1020600702	Maccaffertium	25	3
1020800400	Eurylophella	1	4
1021200500	Paraleptophlebia	12	1
1040100100	Pteronarcys	3	0
1040300100	Taeniopteryx	1	2
1040400300	Paranemoura	1	2
1040500200	Leuctra	12	0
1040600400	Paracapnia	4	1
1040700400	Acroneuria	2	0
1040800700	Malirekus	9	2
1040801200	Isoperla	1	2
1040900600	Sweltsa	4	0
1080100200	Dolophilodes	7	0
1080300500	Polycentropus	3	6
1080400300	Diplectrona	7	0
1080400500	Ceratopsyche	25	5
1080500100	Rhyacophila	13	1
1081001500	Pycnopsyche	1	4
1101300600	Optioservus	1	4
1101300800	Oulimnius	2	5
1121900400	Tipula	1	4
1121901500	Hexatoma	4	2
1122200000	Chironomidae	54	6

Habitat:

1 Instream Cover:	18	2 Epifaunal Substrate:	18
3 Embeddedness:	18	4 Velocity/Depth Regimes:	18
5 Channel Alterations:	18	6 Sediment Deposition:	18
7 Frequency of Riffles:	18	8 Channel Flow Status:	10
9 Condition of Banks:	14	10 Bank Vegetation:	15
11 Grazing or Disruptive:	20	12 Riparian Vegetation:	20
			Total
			205

Metric Name	Standardization Value	Observed Value	Standardized Metric Score	Adjusted Metric Score
Beck's Index (version 3)	39	35	0.897	0.897
EPT Taxa Richness	23	22	0.957	0.957
Total Taxa Richness	35	27	0.771	0.771
Shannon Diversity Index (freestone)	2.90	2.65	0.914	0.914
Hilsenhoff Biotic Index	1.78	2.80	0.876	0.876
Percent Intolerant Individuals (freestone)	92.5	76.0	0.822	0.822
BG4		FREESTONE IBI Score =		87.3

Macroinvertebrate Sample Summary

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Assessment ID: 59281
Station ID: 20081119-1300-kspyker (Latitude: 40.6402, Longitude: -78.3993)
Method: 6-Dframe Composite, 200 subsample
Location: BG3. Water sample number 7191-861.

Metrics:

Total # Organisms: 220 Hilsenhoff: 2.29 %EPT: 84 FCPRSH: 17
Taxa Richness: 28 Beck3: 35 Beck4: 34 Modified %EPT: 69
Modified Caddis: 3 EPT: 23 %Mayflies: 35 %Dominant: 18
Caddisfly Taxa: 5 Mayfly Taxa: 8 Modified EPT: 19 Modified %Mayflies: 34
%Intol-Limestone: 67 %Tol-Limestone: 0 %Intol-Freestone: 85 %Tol-Freestone: 15
Shannon Diversity: 2.85

Taxa:

Code	Standardized ID Level	Number	Tolerance
1020100100	Ameletus	5	0
1020400300	Baetis	2	6
1020400800	Dipheter	1	6
1020600100	Epeorus	39	0
1020600200	Heptagenia	10	4
1020600702	Maccaffertium	10	3
1020800400	Eurylophella	1	4
1021200500	Paraleptophlebia	10	1
1040100100	Pteronarcys	2	0
1040300100	Taeniopteryx	2	2
1040300400	Strophopteryx	2	3
1040500200	Leuctra	5	0
1040600100	Allocapnia	1	3
1040600400	Paracapnia	4	1
1040700400	Acroneuria	2	0
1040800700	Malirekus	14	2
1040801200	Isoperla	4	2
1040900600	Sweltsa	5	0
1060200400	Nigronia	1	2
1080100200	Dolophilodes	8	0
1080300500	Polycentropus	5	6
1080400300	Diplectrona	12	0
1080400500	Ceratopsyche	24	5
1080500100	Rhyacophila	16	1
1101300600	Optioservus	3	4
1121901500	Hexatoma	5	2
1122200000	Chironomidae	25	6
13030200100	Gammarus	2	4

Habitat:

1 Instream Cover:	15	2 Epifaunal Substrate:	18
3 Embeddedness:	18	4 Velocity/Depth Regimes:	11
5 Channel Alterations:	18	6 Sediment Deposition:	17
7 Frequency of Riffles:	18	8 Channel Flow Status:	13
9 Condition of Banks:	15	10 Bank Vegetation:	15
11 Grazing or Disruptive:	18	12 Riparian Vegetation:	11
		Total	187

Metric Name	Standardization Value	<i>Observed Value</i>	Standardized Metric Score	Adjusted Metric Score
Beck's Index (version 3)	39	35	0.897	0.897
EPT Taxa Richness	23	23	1.000	1.000
Total Taxa Richness	35	28	0.800	0.800
Shannon Diversity Index (freestone)	2.90	2.85	0.983	0.983
Hilsenhoff Biotic Index	1.78	2.29	0.938	0.938
Percent Intolerant Individuals (freestone)	92.5	85.0	0.919	0.919
	BG3	FREESTONE IBI Score =		92.3

Macroinvertebrate Sample Summary

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Assessment ID: 59282
Station ID: 20081119-1200-kspyker (Latitude: 40.6386, Longitude: -78.3951)
Method: 6-Dframe Composite, 200 subsample
Location: BG2. Water sample number 7191-860.

Metrics:

Total # Organisms: 209 Hilsenhoff: 1.80 %EPT: 86 FCPRSH: 17
Taxa Richness: 26 Beck3: 38 Beck4: 34 Modified %EPT: 74
Modified Caddis: 6 EPT: 20 %Mayflies: 18 %Dominant: 14
Caddisfly Taxa: 7 Mayfly Taxa: 5 Modified EPT: 18 Modified %Mayflies: 17
%Intol-Limestone: 77 %Tol-Limestone: 0 %Intol-Freestone: 90 %Tol-Freestone: 10
Shannon Diversity: 2.79

Taxa:

Code	Standardized ID Level	Number	Tolerance
1020100100	Ameletus	1	0
1020400300	Baetis	2	6
1020600100	Epeorus	18	0
1020800300	Ephemerella	2	1
1021200500	Paraleptophlebia	15	1
1040100100	Pteronarcys	7	0
1040200200	Tallaperla	5	0
1040500200	Leuctra	8	0
1040600400	Paracapnia	9	1
1040700400	Acroneuria	2	0
1040800700	Malirekus	27	2
1040801200	Isoperla	2	2
1040900600	Sweltsa	5	0
1080100200	Dolophilodes	10	0
1080400300	Diplectrona	29	0
1080400500	Ceratopsyche	23	5
1080500100	Rhyacophila	10	1
1081000300	Apatania	2	3
1081001500	Pycnopsyche	1	4
1081100100	Neophylax	2	3
1101300800	Oulimnius	1	5
1121200100	Chelifera	1	6
1121900400	Tipula	3	4
1121901100	Dicranota	1	3
1121901500	Hexatoma	6	2
1122200000	Chironomidae	17	6

Habitat:

1 Instream Cover:	18	2 Epifaunal Substrate:	18
3 Embeddedness:	16	4 Velocity/Depth Regimes:	15
5 Channel Alterations:	18	6 Sediment Deposition:	18
7 Frequency of Riffles:	18	8 Channel Flow Status:	13
9 Condition of Banks:	15	10 Bank Vegetation:	15
11 Grazing or Disruptive:	20	12 Riparian Vegetation:	20
		Total	204

Metric Name	Standardization Value	<i>Observed Value</i>	Standardized Metric Score	Adjusted Metric Score
Beck's Index (version 3)	39	<i>38</i>	0.974	0.974
EPT Taxa Richness	23	<i>20</i>	0.870	0.870
Total Taxa Richness	35	<i>26</i>	0.743	0.743
Shannon Diversity Index (freestone)	2.90	<i>2.79</i>	0.962	0.962
Hilsenhoff Biotic Index	1.78	<i>1.80</i>	0.998	0.998
Percent Intolerant Individuals (freestone)	92.5	<i>90.0</i>	0.973	0.973
	BG2	FREESTONE IBI Score =		92.0

Macroinvertebrate Sample Summary

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Assessment ID: 59283
Station ID: 20081119-1100-kspyker (Latitude: 40.6367, Longitude: -78.3936)
Method: 6-Dframe Composite, 200 subsample
Location: BG1. Water sample number 7191-859.

Metrics:

Total # Organisms: 209 Hilsenhoff: 2.22 %EPT: 79 FCPRSH: 20
Taxa Richness: 31 Beck3: 42 Beck4: 39 Modified %EPT: 67
Modified Caddis: 7 EPT: 24 %Mayflies: 35 %Dominant: 22
Caddisfly Taxa: 9 Mayfly Taxa: 6 Modified EPT: 21 Modified %Mayflies: 34
%Intol-Limestone: 68 %Tol-Limestone: 0 %Intol-Freestone: 82 %Tol-Freestone: 18
Shannon Diversity: 2.75

Taxa:

Code	Standardized ID Level	Number	Tolerance
1020100100	Ameletus	2	0
1020400300	Baetis	2	6
1020600100	Epeorus	47	0
1020600200	Heptagenia	5	4
1020600702	Maccaffertium	3	3
1021200500	Paraleptophlebia	14	1
1040100100	Pteronarcys	3	0
1040300100	Taeniopteryx	11	2
1040400300	Paranemoura	1	2
1040500200	Leuctra	5	0
1040500300	Paraleuctra	3	0
1040700400	Acroneuria	6	0
1040800200	Diploperla	12	2
1040800700	Malirekus	2	2
1040900600	Sweltsa	3	0
1080100200	Dolophilodes	2	0
1080300500	Polycentropus	3	6
1080400300	Diplectrona	12	0
1080400500	Ceratopsyche	19	5
1080500100	Rhyacophila	5	1
1080600100	Glossosoma	1	0
1080910100	Lepidostoma	2	1
1081000300	Apatania	1	3
1081001500	Pycnopsyche	1	4
1101300600	Optioservus	1	4
1101300800	Oulimnius	2	5
1121900400	Tipula	1	4
1121901100	Dicranota	1	3
1121901500	Hexatoma	3	2
1122100400	Prosimulium	3	2
1122200000	Chironomidae	33	6

Habitat:

1 Instream Cover:	18	2 Epifaunal Substrate:	18
3 Embeddedness:	18	4 Velocity/Depth Regimes:	17
5 Channel Alterations:	19	6 Sediment Deposition:	17
7 Frequency of Riffles:	18	8 Channel Flow Status:	11
9 Condition of Banks:	15	10 Bank Vegetation:	15
11 Grazing or Disruptive:	20	12 Riparian Vegetation:	20
		Total	206

Metric Name	Standardization Value	Observed Value	Standardized Metric Score	Adjusted Metric Score
Beck's Index (version 3)	39	42	1.077	1.000
EPT Taxa Richness	23	24	1.043	1.000
Total Taxa Richness	35	31	0.886	0.886
Shannon Diversity Index (freestone)	2.90	2.75	0.948	0.948
Hilsenhoff Biotic Index	1.78	2.22	0.946	0.946
Percent Intolerant Individuals (freestone)	92.5	82.0	0.886	0.886
	BG1	FREESTONE IBI Score =		94.4