

**OWQ- WATERSHED ASSESSMENT & PLANNING BRANCH
IDEM/OWQ/WAPB/WM
VIRTUAL FILE CABINET INDEX FORM**

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HUC Code: 05140104 Blue-Sinking

Site #: _____

Route Name: _____

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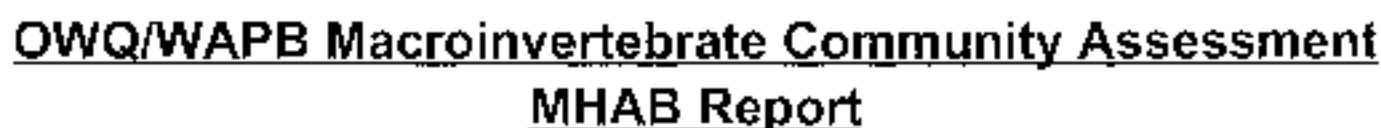
Analysis Set # _____

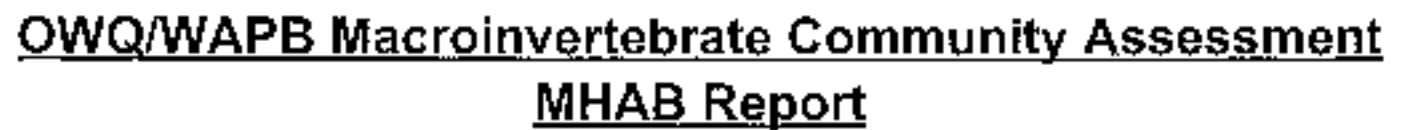
County: _____

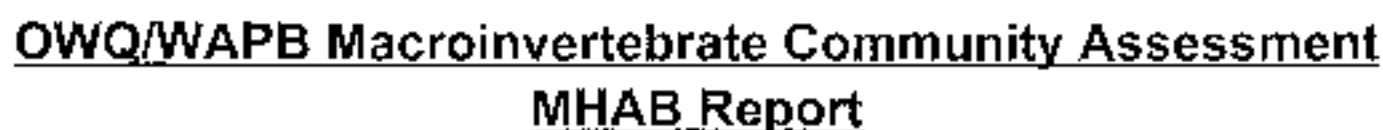
Cross Reference ID: _____

HUC: 05140104 Blue-Sinking: Macroinvertebrate Multi-
Comments: Habitat (MHAB) mIBI Reports

Redaction Reference ID: _____

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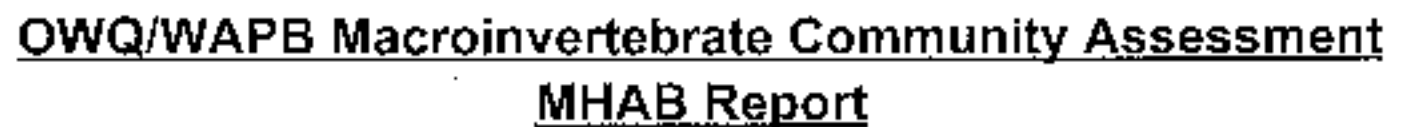
<u>Site Name</u>	<u>EPA ID</u>	<u>Macro Sample Type</u>	<u>Sample #</u>	<u>Macro Event #</u>	<u>Sample Date</u>	<u>County</u>
OBS 06-0011	15T-019	MHAB	AB22402	150914302	9/14/15	Washington
<u>Stream Name</u>		<u>Location</u>		<u>HUC 12</u>	<u>HUC014</u>	
Honey Run		North Honey Run Road		051401040601	05140104130020	
<u>Northing</u>	<u>Easting</u>	<u>Ecoregion</u>	<u>Gradient</u>	<u>Drainage Area</u>	<u>QHEI Score</u>	
4264891.99	596035.39	71	24.814	3.558	44	

Taxon	Count	Notes	HBI Tolerance
10107 (<i>Chordodes morgani</i>)	1		
1357 (<i>BRANCHIOBDELLIDAE</i>)	8		6
8996 (<i>Orconectes</i>)	1	1F	4
1253 (<i>SMINTHURIDAE</i>)	1		
3020 (<i>Stenonema tomorum</i>)	11		3
1018 (<i>LEPTOPHLEBIIDAE</i>)	1		2
3121 (<i>Choroterpes</i>)	1		4
3183 (<i>Caenis</i>)	27		3
3188 (<i>Caenis latipennis</i>)	3		
3054 (<i>Gomphus</i>)	1		5
3397 (<i>Macromia</i>)	1		2
3448 (<i>Somatochlora</i>)	2		1
3549 (<i>Enallagma divagans</i>)	6		
9095 (<i>Argia fumipennis</i>)	1		
3730 (<i>Neoporus dimidiatus</i>)	1	1A	
3740 (<i>Heterosternuta pulchra</i>)	3	3A	
3809 (<i>Gyrinus</i>)	1	1L	4
3773 (<i>Sialis</i>)	3		5
7984 (<i>Procladius</i>)	1		7
8227 (<i>Tanytarsini</i> (Tribe))	1		
9248 (<i>Ablabesmyia</i> (<i>Ablabesmyia</i>) <i>mallochi</i> grp.)	2		
8074 (<i>Thienemanniella</i>)	1		4
8086 (<i>Chironomus</i>)	2		8
8112 (<i>Dicrutendipes</i>)	2		6
8168 (<i>Paratendipes albimanus</i>)	4		4
8211 (<i>Stictochironomus</i>)	1		4
8228 (<i>Cladotanytarsus</i>)	4		4
8235 (<i>Paratanytarsus</i>)	3		4
8241 (<i>Tanytarsus</i>)	6		4

Type	Value	Metric Score
Total Taxa:	29	3
Total No. Individuals:	100	1
EPT Taxa:	5	5
% Orthocladinae + Tanytarsini of Chironomidae:	55.56	1
% Non-insects excluding Astacidae:	9	5
Diptera Taxa:	11	3
% Intolerant (0-3):	42	5
% Tolerant (8-10):	2	5
% Predators FFG 1:	16	1
% Shredders + Scrapers FFG 1:	0	1
% Collector-Filterers FFG 1:	7	5
% Sprawlers:	2	1
mIBI Metric Score:		36

Supplemental Metrics

HBI	3.84
Shannon-Weaver Index	4
Shannon Equitability	0.43
% Dominant 3 Taxon	46
% Chironomidae	27

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OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

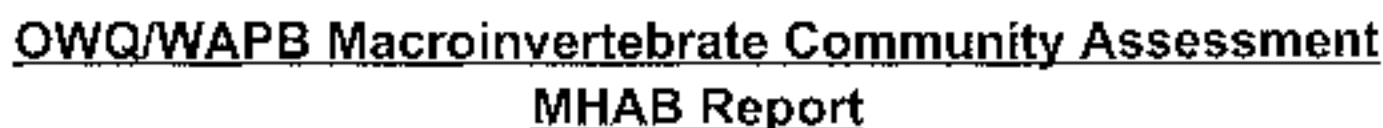
Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0002	15T-017	MHAB	AB22400	150914303	9/14/15	Washington
Stream Name		Location		HUC 12	HUC014	
South Fork Blue River		Bowers Knob Road		051401040601	05140104130030	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4264129.44	592474.83	71	9.935	25.347	43	

Taxon	Count	Notes	HBI Tolerance
1357 (BRANCHIOBELLELLIDAE)	7		6
9008 (Orconectes rusticus)	1	1MI	6
1017 (HEPTAGENIIDAE)	4		4
3020 (Stononema femoratum)	7		3
9129 (Acorponna)	4		4
3066 (Baetis intercalaris)	9		3
3071 (Baetis flavistriga)	7		3
3183 (Caenis)	29		3
3188 (Caenis latipennis)	4		
3109 (Isonychia)	3		2
1120 (ANISOPTERA)	1		
7032 (Argia moesta)	1		
7117 (Trepobates)	1		
7118 (Trepobates inermis)	3		
7132 (Rhagovelia orander)	1		
7123 (Microvelia americana)	2		
3740 (Heterosternuta pulcher)	1	1A	
9216 (Tropisternus lateralis)	1	1A	
3959 (Helicrus lithophilus)	1	1A	
3432 (Cheumatopsyche)	37		3
8980 (Hydropsyche bottoni grp)	2		
8952 (Helicopsyche borealis)	6		3
9285 (Tipula (Yamatotipula))	1		
9111 (Ceratopogon)	1		
7955 (Conchapelopia)	1		4
7926 (Tanypodinae (Subfamily))	1		
8083 (Chironomini (Tribe))	15	1P	
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	4		
9261 (Thienemannimyia grp.)	3		
9284 (Tribelos jucundus)	1		
8086 (Chironomus)	49		8
8099 (Cryptochironomus)	4		5
9296 (Microtendipes pedellus grp)	1		
8168 (Paratendipes albimanus)	14		4
8172 (Phaenopsectra)	37		7
8228 (Clacotanytarsus)	17		4
8241 (Tanytarsus)	25	1P	4
9277 (Polypedilum (Triporura) scalaenum grp)	1		
1074 (EMPIIDAE)	1		6

Type	Value	Metric Score
Total Taxa:	39	3
Total No. Individuals:	308	5
EPT Taxa:	11	5
% Orthocladiinae + Tanytarsini of Chironomidae:	21.28	3
% Non-Insects excluding Astacidae:	2.27	5
Diptera Taxa:	17	5
% Intolerant (0-3):	31.82	5
% Tolerant (8-10):	15.91	3
% Predators FFG 1:	3.25	1
% Shredders + Scrapers FFG 1:	15.26	3
% Collector-Filterers FFG 1:	21.1	1
% Sprawlers:	1.62	1
mIBI Metric Score:		40

Supplemental Metrics

	HBI	4.87
Shannon-Weaver Index		4.18
Shannon Equitability		0.45
% Dominant 3 Taxon		39.94
% Chironomidae		56.17

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OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0002	15T-017	MHAB	AB22400	150914303	9/14/15	Washington
Stream Name		Location		HUC 12	HUC014	
South Fork Blue River		Bowers Knob Road		051401040601	05140104130030	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4264129.44	592474.83	71	9.935	25.347	43	

Taxon	Count	Notes	HBI Tolerance
1357 (BRANCHIOBELLIIDAE)	7		6
9008 (Orconectes rusticus)	1	1MI	6
1017 (HEPTAGENIIDAE)	4		4
3020 (Stenonema femoratum)	7		3
9129 (Acerpenna)	4		4
3066 (Bactis intercalaris)	9		3
3071 (Baelis flavistriga)	7		3
3183 (Caenis)	29		3
3188 (Caenis latipennis)	4		
3109 (sonychia)	3		2
1120 (ANISOPTERA)	1		
7032 (Argia moesta)	1		
7117 (Trepobates)	1		
7118 (Trepobates inermis)	3		
7132 (Rhagovelia oriander)	1		
7123 (Microvelia americana)	2		
3740 (Heterosternula pulcher)	1	1A	
9216 (Tropisternus lateralis)	1	1A	
3959 (Helichus lithophilus)	1	1A	
3432 (Cheumatopsyche)	37		3
8980 (Hydropsyche belteri grp.)	2		
8952 (Helicopsyche borealis)	6		3
9285 (Tipula (Yamatotipula))	1		
9111 (Ceratopogon)	1		
7955 (Conchapelopia)	1		4
7926 (Tanypodinae (Subfamily))	1		
8083 (Chironomini (Tribe))	15	1P	
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	4		
9261 (Thienemannimyia grp.)	3		
9284 (Tribelos jucundus)	1		
8086 (Chironomus)	49		8
8099 (Cryptochironomus)	4		5
9296 (Microtendipes pedellus grp.)	1		
8168 (Paratendipes albimanus)	14		4
8172 (Phaenopsectra)	37		7
8228 (Cladotanytarsus)	17		4
8241 (Tanytarsus)	25	1P	4
9277 (Polypodilum (Tripodura) scalacnum grp.)	1		
1074 (EMPIDIDAE)	1		6

Type	Value	Metric Score
Total Taxa:	39	3
Total No. Individuals:	308	5
EPT Taxa:	11	5
% Orthocladinae + Tanytarsini of Chironomidae:	24.28	3
% Non-insects excluding Asellidae:	2.27	5
Diptera Taxa:	17	5
% Intolerant (0-3):	31.82	5
% Tolerant (8-10):	15.91	3
% Predators FFG 1:	3.25	1
% Shredders + Scrapers FFG 1:	15.26	3
% Collector-Filterers FFG 1:	21.1	1
% Sprawlers:	1.62	1
mBI Metric Score:		40

Supplemental Metrics

HBI	4.87
Shannon-Weaver Index	4.18
Shannon Equitability	0.45
% Dominant 3 Taxa	39.94
% Chironomidae	56.17



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0022	15T-015	MHAB	AB22398	150910302	9/10/15	Washington
Stream Name		Location		HUC 12	HUC014	
South Fork Blue River		Lockenour Road		051401040602	05140104130040	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4263164.16	689357.69	71	5.599	37.319	42	

Taxon	Count	Notes	HBI Tolerance
9006 (<i>Orconectes juvenilis</i>)	2	1MI	
9011 (<i>O. n.sp. "alluvius"</i>)	2	1MI	
1251 (ISOTOMIDAE)	1		
1017 (HEPTAGENIIDAE)	4		4
3020 (<i>Stenonema femoratum</i>)	35		3
3065 (<i>Baetis</i>)	1		3
3365 (<i>Procladius</i>)	3		
1018 (LEPTOPHLEBIIDAE)	12		2
3121 (<i>Choroterpes</i>)	1		4
3130 (<i>Paraleptophlebia</i>)	8		3
3183 (<i>Caenis</i>)	36		3
3188 (<i>Caenis latipennis</i>)	2		
3549 (<i>Enallagma divagans</i>)	1		
3568 (<i>Argia</i>)	1		5
7032 (<i>Argia moesta</i>)	1		
7122 (<i>Microvelia</i>)	1		
7123 (<i>Microvelia americana</i>)	1		
9290 (<i>Gerridae (Gerrinae)</i>)	1		
7293 (<i>Psephenus horricki</i>)	2	2I	4
7307 (<i>Stenelmis</i>)	3	3L	5
7300 (<i>Dubiraphia villata</i>)	1	1A Slide 0263.2	
7298 (<i>Dubiraphia minima</i>)	1	1A Slide 0263.1	
3797 (<i>Nigronia serricornis</i>)	1		4
3432 (<i>Cheumatopsyche</i>)	2		3
3423 (<i>Hydropsyche</i>)	2		2
7610 (<i>Hexatoma</i>)	1		2
9153 (<i>Tribolus</i>)	2		5
8083 (<i>Chironomini (Tribe)</i>)	2		
9248 (<i>Ablabesmyia (Ablabesmyia) mallochii</i> grp.)	7		
9261 (<i>Thienemannimyia</i> grp.)	6		
8006 (<i>Orthocladiinae (Subfamily)</i>)	1		
8099 (<i>Cryptochironomus</i>)	2		5
8168 (<i>Paratendipes albimanus</i>)	13		4
8172 (<i>Phaenopsectra</i>)	4		7
8228 (<i>Cladotanytarsus</i>)	5		4
8236 (<i>Paratanytarsus</i>)	1		4
9093 (<i>Stempellinella</i>)	1		3
8241 (<i>Tanytarsus</i>)	4		4

Type	Value	Metric Score
Total Taxa:	38	3
Total No. Individuals:	178	3
EPT Taxa:	11	5
% Orthocladiinae + Tanytarsini of Chironomidae:	21	3
% Non-insects excluding Astacidae:	0	5
Diptera Taxa:	13	3
% Intolerant (0-3):	55.06	5
% Tolerant (8-10):	0	5
% Predators FFG 1:	4.49	1
% Shredders + Scrapers FFG 1:	5.06	1
% Collector-Filterers FFG 1:	5.62	5
% Sprawlers:	1.69	1
mIBI Metric Score:		40

Supplemental Metrics

HBI	3.36
Shannon-Weaver Index	4.16
Shannon Equitability	0.45
% Dominant 3 Taxon	47.19
% Chironomidae	28.09



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0018	15T-014	MHAB	AB22397	150908303	9/8/15	Washington
Stream Name		Location		HUC 12	HUC014	
South Fork Blue River		Main Street		051401040602	05140104130040	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4261868.36	586359.07	71	4.946	40.553	57	

Taxon	Count	Notes	HBI Tolerance
1552 (Tubificidae with bifid chetae and no hair chetae)	2		
2252 (Physella)	1		8
2181 (Sphaerium)	4		6
1083 (ACARI)	1		4
3020 (Stononema femoratum)	3		3
3074 (Centropilum)	2		3
3365 (Procladius)	1		
1018 (LIMNOPHILINIDAE)	1		2
3130 (Paraleptophlebia)	3		3
3183 (Caenis)	4		3
3188 (Caenis latipennis)	6		
3248 (Basiaeschna janata)	1		6
3054 (Gomphus)	1		5
3382 (Didymops transversa)	1		
7026 (Calopteryx maculata)	1		
3540 (Ischnura)	1		9
3546 (Enallagma)	13		9
3549 (Enallagma divagans)	15		
3560 (Enallagma basidens)	1		
7118 (Tropobates inermis)	1	knighti?	
7097 (Aquarius nebularis)	1		
7144 (Mesovelia)	1		
7163 (Saldula)	1		
9290 (Gerridae (Gerrinae))	3		
3946 (Cyphon)	3	3L	
9326 (Dubiraphia minima grp.)	2	2F	
7325 (HETEROCERIDAE)	5		
3773 (Sialis)	1		5
3314 (Nyctiophylax)	1		3
9329 (Archips)	1	Semi-aquatic	
7732 (Anopheles)	3	3P	
7780 (Culex)	1		
7840 (Natarsia)	1		6
7963 (Labrundinia)	1		4
7965 (Larsia)	1	1P	4
7926 (Tanyptodinae (Subfamily))	1		
8083 (Chironomini (Tribe))	4	1 Parachironomus? (Slide 21)	
9248 (Ablabesmyia (Ablabesmyia) malloch. grp.)	4		
9261 (Thienemannimyia grp.)	1		
9284 (Tribelos jucundus)	2		
8086 (Chironomus)	9		8
8099 (Cryptochironomus)	3		5

Type	Value	Metric Score
Total Taxa:	47	5
Total No. Individuals:	135	3
EPT Taxa:	8	5
% Orthocladinae + Tanytarsini of Chironomidae:	7.69	6
% Non-insects excluding Astacidae:	5.93	5
Diptera Taxa:	17	5
% Intolerant (0-3):	10.37	1
% Tolerant (8-10):	17.78	3
% Predators FFG 1:	32.59	3
% Shredders + Scrapers FFG 1:	2.96	1
% Collector-Filterers FFG 1:	16.3	3
% Sprawlers:	3.7	3

mIBI Metric Score: 42

Supplemental Metrics

HBI	6
Shannon-Weaver Index	4.89
Shannon Equitability	0.52
% Dominant 3 Taxon	30.37
% Chironomidae	28.89



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Taxon	Count	Notes	HBI Tolerance
8104 (Cryptotendipes)	1		4
8126 (Glyptotendipes)	1		6
8235 (Paratanytarsus)	1		4
8241 (Tanytarsus)	2		4
9241 (Polypedilum (Polypedilum) illinoense grp.)	7		



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0012	15T-013	MHAB	A322396	150908302	9/8/16	Washington
Stream Name		Location		HUC 12	HUC014	
Tributary of South Fork Blue River		Mahuron Rd		051401040602	05140104130040	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4262721.29	585836.38	71	18.083	3.45	50	

Taxon	Count	Notes	HBI Tolerance
1357 (BRANCHIOBELLIIDAE)	4		6
1083 (ACARI)	1		2
9032 (Lirceus forficatus)	2		
9050 (Hyalella)	18		
8996 (Orconectes)	3		2
1251 (ISOPTOMIDAE)	2		
1017 (HEPTAGENIIDAE)	3		2
3020 (Stenonema femoratum)	11		3
3074 (Contreptilum)	1		3
1018 (LEPTOPHLEBIIDAE)	4		2
3121 (Choroterpes)	1		2
3130 (Paraleptophlebia)	4		3
3183 (Caenis)	20		3
3188 (Caenis latipennis)	14		
7026 (Glopteryx maculata)	3		
3568 (Argia)	1		5
7117 (Trepobates)	1		
7293 (Psephenus herricki)	3	3L	4
7309 (Stonelmia crenata)	7	7A; Slide 0259.1	5
9326 (Dubiraphia minima grp)	1	1F	
3773 (Sialis)	1		5
7084 (Procladius)	1		7
8083 (Chironomini (Tribe))	1		
9248 (Ablabesmyia (Ablabesmyia) mallochii grp.)	1		
9296 (Microtendipes pedellus grp)	1		
8168 (Paratendipes albimanus)	1		4
8172 (Phaenopsocetra)	1		7
8211 (Stictochironomus)	1		4
8228 (Cladotanytarsus)	2		4
9093 (Stempellinella)	1		3
8241 (Tanytarsus)	4		4
9241 (Polypodilum (Polypodilum) illinoense grp.)	1		
8266 (Nemotolus)	1		

Type	Value	Metric Score
Total Taxa:	33	3
Total No. Individuals:	121	1
EPT Taxa:	8	5
% Orthocladinae + Tanytarsini of Chironomidae:	46.67	3
% Non-Insects excluding Astacidae:	20.66	3
Diptera Taxa:	12	3
% Intolerant (0-3):	33.33	5
% Tolerant (8-10):	0	5
% Predators FFG 1:	5.79	1
% Shredders + Scrapers FFG 1:	9.09	1
% Collector-Filterers FFG 1:	3.31	5
% Sprawlers:	1.65	1
mIBI Metric Score:		36

Supplemental Metrics

	HBI
Shannon-Weaver Index	4.2
Shannon Equitability	0.45
% Dominant 3 Taxon	42.98
% Chironomidae	12.4



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0006	16T-012	MHAB	AB22395	150910301	9/10/15	Washington
Stream Name		Location		HUC 12	HUC014	
Tributary of South Fork Blue River		Shorts Corner Rd		051401040602	05140104130040	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4262344.06	585445.99	71	16.406	6.328	63	

Taxon	Count	Notes	HBI Tolerance
1396 (LUMBRICULIDAE)	1		5
1552 (Tubificidae with bifid chetae and no hair chetae)	1		
1357 (BRANCHIOBELLIIDAE)	13		6
9031 (Iricous)	3		8
1017 (HEPTAGENIIDAE)	9		4
9090 (Mucocalterium medicopuncta)	2		2
3020 (Stenonema femoratum)	7		3
1012 (BAETIDAE)	3		4
3088 (Baetis intercalaris)	10		3
1018 (LEPTOPILEBIIDAE)	10		2
3130 (Paraleptophlebia)	8		3
3183 (Caenis)	6		3
3188 (Caenis latipennis)	2		
3109 (Isonychia)	1		2
3245 (Boyeria vinosa)	1		4
3120 (Stylogomphus)	1		
9095 (Argia fumipennis)	1		
3348 (Acronuria)	4		1
9290 (Gerridae (Gerrinae))	1		
7293 (Psephenus herricki)	30	30L	4
7307 (Stonelmis)	2	2L	5
7309 (Stonelmis crenata)	7	7A; Slides 0266.1 & .2	5
7296 (Dubiraphia)	2	2L	5
3773 (Sialis)	4		5
3797 (Nigronia serricornis)	2		4
3003 (Chimarra aterrima)	10		2
1057 (HYDROPSYCHIDAE)	5		4
3432 (Cheumatopsyche)	6		3
8952 (Helicopsyche borealis)	1		3
7610 (Hexatoma)	3		2
9285 (Tipula (Yamatotipula))	1		
7941 (Natarsia ballinoreus)	1		6
8083 (Chironomini (Tribe))	3		
5062 (Paraphaenocladus)	1	Good specimen	
8168 (Paratendipes albimanus)	4		4
8211 (Stictochironomus)	2		4
8235 (Paratanytarsus)	1		4
8241 (Tanytarsus)	1		4
8277 (Polypedium (Tripodura) scalaenum grp)	1		

Type	Value	Metric Score
Total Taxa:	39	3
Total No. Individuals:	171	3
EPT Taxa:	15	5
% Orthocladinae + Tanytarsini of Chironomidae:	21.43	5
% Non-Insects excluding Astacidae:	0.53	5
Diptera Taxa:	10	3
% Intolerant (0-3):	40.35	5
% Tolerant (8-10):	1.75	5
% Predators FFG 1:	9.36	1
% Shredders + Scrapers FFG 1:	24.56	5
% Collector-Filterers FFG 1:	13.45	3
% Sprawlers:	0.58	1
mIBI Metric Score:		44

Supplemental Metrics

	HBI	3.69
Shannon-Weaver Index		4.58
Shannon Equitability		0.49
% Dominant 3 Taxon		30.99
% Chironomidae		8.19



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0004	15T-011	MHAB	AB22384	150908304	9/8/15	Washington
Stream Name		Location		HUC 12	HUCTD14	
South Fork Blue River		Martinsburg Road		051401040604	05140104130050	
Northing	Eastng	Ecoregion	Gradient	Drainage Area	QHEI Score	
4261525.27	583994.41	71	4.221	51.847	61	

Taxon	Count	Notes	HBI Tolerance
1357 (BRANCHIOBELLIIDAE)	1		6
2181 (Sphaerium)	1		6
1083 (ACARI)	2		4
9056 (Crangonyx)	2		8
8996 (Orconectes)	3	2M, 1F	4
9090 (Maccaffertium mediopuncta)	2	Slide 0265.3	2
3020 (Stenonema femoralum)	7		3
3048 (Stenacron)	2		3
7010 (Acerponna macdunnoughi)	3		1
3066 (Baetis intercalaris)	3		3
3074 (Centroptilum)	1		3
3121 (Choroterpes)	1		4
3130 (Paraleptophlebia)	8		3
3188 (Caenis latipennis)	5		
3197 (Ephemera)	1		3
3245 (Boycia vinosa)	3		4
3382 (Didymops transversa)	2		
7026 (Calopteryx maculata)	5		
3546 (Enallagma)	4		9
3549 (Enallagma divagans)	6		
3568 (Argia)	1		5
7111 (Rheumatobates)	2		
7097 (Aquarius nebularis)	1		
3809 (Gyrinus)	1	1L	4
7293 (Psophenus herricki)	1	1L	4
7307 (Stenelmis)	3	3L	5
7309 (Stenelmis crenata)	2	2A; Slide 0265.1	5
7317 (Stenelmis sexlineata)	1	1A	
7296 (Dubiraphia)	1	1L	5
7300 (Dubiraphia vittata)	2	2A; Slide 0265.2; 256um	
7321 (Macronychus glabratus)	1	1A	3
3267 (Chimarra obscura)	8		4
1057 (HYDROPSYCHIDAE)	4		4
3432 (Cheumatopsycho)	57		3
8937 (Triacnodos)	2		
7610 (Hexatoma)	5		2
7984 (Procladius)	1		7
7326 (Tanypodinae (Subfamily))	3	1P	
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	2		
9261 (Thienemannimyia grp.)	4		
9284 (Tribelos jucundus)	2		
8151 (Microtendipes)	1		7
8235 (Paratanytarsus)	1		4
8238 (Rheotanytarsus)	1	1P	3

Type	Value	Metric Score
Total Taxa:	48	5
Total No. Individuals:	185	3
EPT Taxa:	14	5
% Orthocladinae + Tanytarsini of Chironomidae:	15	5
% Non-Insects excluding Astacidae:	8.65	5
Diptera Taxa:	13	3
% Intolerant (0-3):	49.73	5
% Tolerant (8-10):	2.16	5
% Predators FFG 1:	18.38	3
% Shredders + Scrapers FFG 1:	7.03	1
% Collector-Filterers FFG 1:	38.92	1
% Sprawlers:	1.08	1
mIBI Metric Score:		42

Supplemental Metrics

HBI	3.7
Shannon-Weaver Index	4.46
Shannon Equitability	0.18
% Dominant 3 Taxon	41.08
% Chironomidae	10.81



OWQ/WAPB Macroinvertebrate Community Assessment

MHAB Report

Taxon	Count	Notes	HBI Tolerance
9093 (Stenopodidea)	1		3
9238 (Polypodilum (Uresipodilum) flavum)	3		
9241 (Polypodilum (Polypodilum) illinoense grp.)	1		
8355 (Tabanus)	1		5



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0020	15T-009	MHAB	AB22392	150909305	9/9/15	Washington
Stream Name		Location		HUC 12		HUC014
South Fork Blue River		B g Springs Rd		051401040606		05140104130080
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4259519.19	577372.36	71	2.935	87.674	70	

Taxon	Count	Notes	HBI Tolerance
1086 (OLIGOCHAETA)	1		8
1357 (BRANCHIOBELLELLIDAE)	1		6
2215 (Elimia)	21		
2181 (Sphaerium)	6		6
1083 (ACARI)	4		4
9011 (O. n.sp. "alluvius")	1	1 MI	
1017 (HEPTAGENIIDAE)	8		4
9156 (Maccaffertium)	3	not mediopunctatum	
9090 (Maccaffertium mediopuncta)	3	Slide 0262.4	2
3020 (Stenonema femoratum)	1		3
3048 (Stenacron)	2		3
1012 (BAETIDAE)	6		4
3066 (Baetis intercalaris)	4		3
3365 (Proclueon)	2		
3183 (Caenis)	3		3
3109 (Isonychia)	7		2
1120 (ANISOPTERA)	1	immature, Libellulidae/Cordulidae	
3546 (Enallagma)	1		9
3549 (Enallagma divagans)	2		
3568 (Argia)	1		5
3572 (Argia tibialis)	3		
1029 (PERLIDAE)	2	immature	1
3366 (Agneta)	21		2
9290 (Gerridae (Gerrinae))	1	Aquarius/Gerris	
3959 (Helichus lithophilus)	1	1A	
7293 (Psephenus herricki)	9	9L	4
7307 (Stenelmis)	7	7L	5
7309 (Stenelmis crenata)	29	21M, 8F; Slides 0262.2, 0262.3	5
7317 (Stenelmis sexlineata)	19	11M, 8F	
7300 (Dubiraphia vittata)	1	1M; PL=245 um, Slide 0262.1	
9116 (Optioservus trivittatus)	3	13A	4
7321 (Macronychus glabratus)	1	1A	3
3773 (Sialis)	3		5
3799 (Corydalis cornutus)	6		2
1045 (PHILOPOTAMIDAE)	9		3
3267 (Chimarra obscura)	22		4
1057 (HYDROPSYCHIDAE)	15		4
3432 (Cheumatopsyche)	50		3
9149 (Hydropsyche demora)	4		
3480 (Hydropsyche frisoni)	2		2
3487 (Hydropsyche simulans)	2		2
8980 (Hydropsyche bettoni grp)	4		

Type	Value	Metric Score
Total Taxa:	61	5
Total No. Individuals:	353	5
EPT Taxa:	22	5
% Orthocladinae + Tanytarsini of Chironomidae:	37.25	3
% Non-insects excluding Astacidae:	9.35	5
Diptera Taxa:	17	5
% Intolerant (0-3):	33.99	5
% Tolerant (8-10):	0.57	5
% Predators FFG 1:	12.75	1
% Shredders + Scrapers FFG 1:	15.3	3
% Collector-Filterers FFG 1:	32.58	1
% Sprawlers:	2.27	1
mIBI Metric Score:		44

Supplemental Metrics

	HBI	3.62
Shannon-Weaver Index		4.97
Shannon Equitability		0.53
% Dominant 3 Taxon		28.61
% Chironomidae		14.45



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MHAB Report

Taxon	Count	Notes	HBI Tolerance
9319 (Coratopsyche "checkerboard" grp.)	4		
8952 (Helicopsyche borealis)	1		3
7830 (Atrichopogon)	1	1P	5
7926 (Tanyptodinae (Subfamily))	1		
8083 (Chironomina (Tribe))	1		
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	2		
9261 (Thienemanniomyia grp.)	2		
8006 (Orthocladiinae (Subfamily))	3	2P	
8047 (Nanocladius)	1		5
8060 (Parametriocnemus)	1		3
9284 (Tribelos jucundus)	1		
8192 (Polypedilum flavum)	20		
8235 (Paratanytarsus)	3		4
9093 (Stempellinea)	5		3
8241 (Tanytarsus)	6		4
9240 (Polypedilum (Polypedilum) fallax grp.)	1		
9241 (Polypedilum (Polypedilum) illinoense grp.)	4		
1078 (TABANIDAE)	1		6
8355 (Tabanus)	3		5



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0020	15T-009	MHAB	AB23278	150909306	9/9/15	Washington
Stream Name		Location		HUC 12	HUC014	
South Fork Blue River		Big Springs Rd		051401040606	05140104130080	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4259519.19	577372.36	71	2.935	87.674	71	

Taxon	Count	Notes	HBI Tolerance
1435 (Limnodrilus hoffmeisteri)	1	PL=450 um	10
2215 (Elimia)	23		
1210 (BIVALVIA)	1	imm	
2156 (Corbicula fluminea)	2		6
2181 (Sphaerium)	3		6
1083 (ACARI)	4		4
1110 (EPHEMEROPTERA)	1	immature	
1017 (HEPTAGENIIDAE)	2	immature	4
3024 (Maccaffertium terminatum)	2		2
9090 (Maccaffertium mediopuncta)	2		2
3020 (Stenonema femoratum)	1		3
1012 (BAETIDAE)	6	immature, damaged	4
3065 (Baetis)	3		3
3066 (Baetis intercalaris)	3		3
3074 (Centroptilum)	1	damaged	3
3121 (Choroterpes)	2		4
1007 (EPHEMERELLIDAE)	1	immature	1
3183 (Caenis)	1		3
3109 (Isonychia)	18		2
3245 (Boyeria vinosa)	1		4
3382 (Didymops transversa)	1		
7026 (Calopteryx maculata)	1		
3546 (Enallagma)	2		9
3549 (Enallagma divagans)	8		
3572 (Argia tibialis)	1		
3348 (Acroneuria)	1		1
3366 (Agnotina)	36		2
7118 (Trepobates inermis)	1	F, T. knighti?	
7131 (Rhagovelia obesa)	3		
7293 (Psephenus herricki)	3	3L	4
7307 (Stenelmis)	5	5L	5
7309 (Stenelmis crenata)	25	17M, 8F; Slides 0264.3, 0264.4	5
7317 (Stenelmis sexlineata)	11	9M, 2F	
7296 (Dubiraphia)	2	2L	5
7300 (Dubiraphia vittata)	10	8M, 2F; Slides 0264.1, 245um; 0264.2, 256 um	
7302 (Microcylløpus pusillus)	1	1A	3
9116 (Optioservus trivittatus)	1	1A	4
7295 (Ancyronyx variegatus)	3	3A	4
7321 (Macronychus glabratus)	1	1A	3
3773 (Sialis)	2		5
3797 (Nigronia serricornis)	1		4
3799 (Corydalus cornutus)	10		2
1045 (PHILOPOTAMIDAE)	5		3

Type	Value	Metric Score
Total Taxa:	73	5
Total No. Individuals:	384	5
EPT Taxa:	27	5
% Orthocladiinae + Tanytarsini of Chironomidae:	41.82	3
% Non-insects excluding Astacidae:	8.85	5
Diptera Taxa:	19	5
% Intolerant (0-3):	37.24	5
% Tolerant (8-10):	0.78	5
% Predators FFG 1:	18.75	3
% Shredders + Scrapers FFG 1:	11.46	3
% Collector-Filterers FFG 1:	35.68	1
% Sprawlers:	2.34	1
mIBI Metric Score:		46

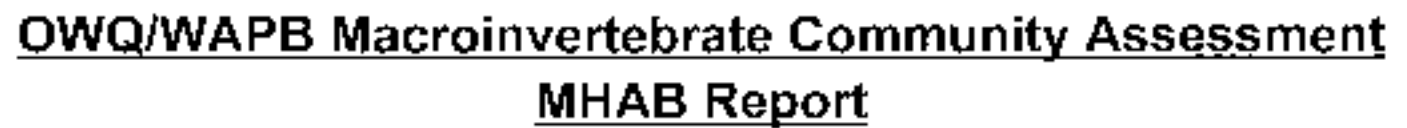
Supplemental Metrics

HBI	3.51
Shannon-Weaver Index	5.04
Shannon Equitability	0.54
% Dominant 3 Taxon	30.73
% Chironomidae	14.32



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Taxon	Count	Notes	HBI Tolerance
3267 (Chironomus obscura)	34		4
1057 (HYDROPSYCHIDAE)	0		4
3432 (Chaumatopsyche)	48		3
9149 (Hydropsyche demora)	3		
3480 (Hydropsyche frisoni)	1		2
3487 (Hydropsyche simulans)	1		2
8980 (Hydropsyche belteni grp)	4		
9319 (Ceratopsyche "checkerboard" grp)	1		
1055 (LIMNEPHILIDAE)	1	P	4
8885 (Pycnopsyche)	1		3
1060 (LEPTOCERIDAE)	1	immature	4
7452 (Tipula)	1	immature	7
7814 (Simulium)	7		5
8083 (Chironomini (Tribe))	4		
8227 (Tanytarsini (Tribe))	3	1P	
8006 (Orthocladinae (Subfamily))	1		
8011 (Brillia flavifrons)	1		
8017 (Corynoneura)	2		4
8074 (Thienemanniella)	2		4
8079 (Xylotopus par)	1		
8112 (Dicrotendipes)	1		6
8192 (Polypedilum flavum)	23		
8228 (Cladotanytarsus)	1		4
8238 (Rheotanytarsus)	2	1P	3
9093 (Stempellinella)	4		3
8241 (Tanytarsus)	6		4
9240 (Polypedilum (Polypedilum) fallax grp.)	1		
9241 (Polypedilum (Polypedilum) illinoense grp.)	3		
1078 (TABANIDAE)	3		6
8355 (Tabanus)	2		5

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Type	Value	Metric Score
Total Taxa:	13	1
Total No. Individuals:	42	1
EPT Taxa:	1	1
% Orthocladinae + Tanytarsini of Chironomidae:	100	1
% Non-insects excluding Astacidae:	9.52	5
Diptera Taxa:	2	1
% Intolerant (0-3):	2.38	1
% Tolerant (8-10):	23.81	3
% Predators FFG 1:	59.52	5
% Shredders + Scrapers FFG 1:	7.14	1
% Collector-Filterers FFG 1:	4.76	5
% Sprawlers:	0	1
mIBI Metric Score:		26

<u>Supplemental Metrics</u>	
HBI	7.18
Shannon-Weaver Index	2.95
Shannon Equitability	0.32
% Dominant 3 Taxon	64.29
% Chironomidae	2.38



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0013	15T-006	MHAB	AB22389	150909304	9/9/15	Washington
Stream Name		Location		HUC 12	HUC014	
Bear Creek		State Road 135		051401040603	05140104130060	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4257413.16	580095.54	71	14.316	13.198	67	

Taxon	Count	Notes	HBI Tolerance
1498 (Nais)	2		8
1555 (Tubificidae with bifid chetae and hair)	1		
2272 (Planorbella)	4		
2252 (Physella)	2		8
2215 (Elimia)	13		
2181 (Sphaerium)	5		6
3248 (Basiaeschna janata)	1		6
3054 (Gomphus)	1		5
3099 (Hagenius brevistylus)	1		1
3120 (Styllogomphus)	1		1
3546 (Enallagma)	1		9
3600 (Peltodytes duodecimpunctatus)	14	14A	
3740 (Heterosternuta pulcher)	1	1A	
3877 (Tropisternus glaber)	1	1A	
3959 (Helichus lithophilus)	1	1A	
3960 (Helichus basalis)	1	1A	
7307 (Stenelmis)	7	1F, 16L	5
7317 (Stenelmis sexlineata)	2	2A	
7296 (Dubiraphia)	1	1F	5
3773 (Sialis)	6		5
3797 (Nigronia serricornis)	2		4
3799 (Corydalis cornutus)	1		2
7941 (Natarsia baltimorus)	1		6
8082 (Chironominae (Subfamily))	1		
8227 (Tanytarsini (Tribe))	1		
8261 (Thienemannimyia grp.)	2		
8006 (Orthocladiinae (Subfamily))	1		
8099 (Cryptochironomus)	7		5
9296 (Microtendipes pedellus grp.)	1		
8172 (Phaenopsectra)	4		7
8211 (Stictochironomus)	1		4
8228 (Cladotanytarsus)	4		4
9221 (Stempellina)	1		
8241 (Tanytarsus)	2		4
9238 (Polypedilum (Uresipedilum) flavum)	2		

Type	Value	Metric Score
Total Taxa:	35	3
Total No. Individuals:	107	1
EPT Taxa:	0	1
% Orthocladiinae + Tanytarsini of Chironomidae:	32.14	3
% Non-insects excluding Astacidae:	25.23	3
Diptera Taxa:	13	3
% Intolerant (0-3):	2.8	1
% Tolerant (8-10):	4.67	5
% Predators FFG 1:	19.63	3
% Shredders + Scrapers FFG 1:	21.5	5
% Collector-Filterers FFG 1:	7.48	5
% Sprawlers:	6.54	5
mIBI Metric Score:		38

Supplemental Metrics

	HBI	5.18
Shannon-Weaver Index		4.35
Shannon Equitability		0.47
% Dominant 3 Taxon		41.12
% Chironomidae		26.17



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0014	15T-005	MHAB	AB22388	150909303	9/9/15	Washington
Stream Name		Location		HUC 12	HUC014	
Bear Creek		Martinsburg Fire Rd		051401040603	05140104130060	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4255100.51	582256.6	71	18.785	10.019	56	

Taxon	Count	Notes	HBI Tolerance
1357 (BRANCHIOBDELLIDAE)	3		6
2215 (Elmia)	3		
2181 (Sphaerium)	3		6
9068 (Gammarus)	1		6
9006 (Orconectes juvenilis)	2		
1012 (BAETIDAE)	2		4
3365 (Procladius)	1		
3166 (Eurylophella)	5		2
3183 (Caenis)	8		3
3188 (Caenis latipennis)	3		
3245 (Boyeria vinosa)	1		4
3248 (Basiaeschna janata)	3		6
3120 (Stylogomphus)	1		1
1022 (CALOPTERYGIDAE)	1		5
7026 (Calopteryx maculata)	1		
3549 (Enallagma divagans)	21		
9095 (Argia fumipennis)	1		
7120 (Trepobates pictus)	6		
7107 (Limnoporus canaliculatus)	1		
7131 (Rhagovelia obesa)	14		
7123 (Microvelia americana)	2		
3600 (Pellodonta duodecimpunctatus)	1	1A	
3959 (Helichus lithophilus)	1	1A	
7293 (Psephenus herricki)	15	15L	4
7307 (Stenelmis)	7	7L	5
7309 (Stenelmis crenata)	8	8A; Slide 0260.1	5
7296 (Dubiraphia)	3	3L	5
7300 (Dubiraphia vittata)	5	5A; Slide 0260.2	
7321 (Macronychus glabratus)	1	1A	3
3797 (Nigronia serricornis)	2		4
3432 (Cheumatopsyche)	2		3
3423 (Hydropsyche)	3		4
8980 (Hydropsyche betteni grp)	3		
6920 (Nectopsyche)	1		2
6952 (Holicopsyche borealis)	6		3
7814 (Simulium)	2		5
7926 (Tanypodinae (Subfamily))	1		
9261 (Thienemanniomyia grp.)	3		
8099 (Cryptochironomus)	2		5
8211 (Stictochironomus)	1		4
8228 (Cladotanytarsus)	7		4
8235 (Paratanytarsus)	1		4
9221 (Stempellina)	1		
9093 (Stempellineila)	2		3

Type	Value	Metric Score
Total Taxa:	46	5
Total No. Individuals:	194	3
EPT Taxa:	10	5
% Orthocladiinae + Tanytarsini of Chironomidae:	60	1
% Non-insects excluding Astacidae:	19.59	3
Diptera Taxa:	11	3
% Intolerant (0-3):	13.4	1
% Tolerant (8-10):	0	5
% Predators FFG 1:	29.38	3
% Shredders + Scrapers FFG 1:	21.65	5
% Collector-Filterers FFG 1:	5.67	5
% Sprawlers:	2.06	1
mIBI Metric Score:		40

Supplemental Metrics

	HBI
Shannon-Weaver Index	4.71
Shannon Equitability	0.5
% Dominant 3 Taxon	34.54
% Chironomidae	10.31



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

Taxon	Count	Notes	HBI Tolerance
8241 (Tanytarsus)	1		4
9238 (Polypodilum (Uresipodilum) flavum)	1		



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0021	157-004	MHAB	AB22387	150909302	9/9/15	Washington
Stream Name		Location		HUC 12	HUC14	
Bear Creek		Wetzel Rd		051401040603	05140104130060	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4253692	582844.1	71	22.189	5.927	47	

Taxon	Count	Notes	HBI Tolerance
1260 (NEMATODA)	1		6
1357 (BRANCHIOBDELLIDAE)	14		6
2215 (Elimia)	20		
1083 (ACARI)	3		4
9068 (Gammarus)	4		6
8996 (Orconectes)	5	3MII, 2F	4
9156 (Maccaffertium)	1		
1012 (BAETIDAE)	2	Damaged	4
3066 (Baetis intercalaris)	1		3
3071 (Baetis flavistriga)	2		3
3183 (Caenis)	9		3
3109 (Isonychia)	3		2
3245 (Boyeria vinosa)	1		4
3120 (Stylogomphus)	3		1
3348 (Acroneuria)	1		1
1038 (GERRIDAE)	1		
7293 (Psephenus horricki)	9	9L	4
9326 (Dubiraphia minima grp)	2	2F	
7321 (Macronychus glabratus)	1	1L	3
3432 (Cheumatopsyche)	8		3
9149 (Hydropsycho demora)	1		
8980 (Hydropsyche betteni grp)	22		
8952 (Helicopsyche borealis)	38		3
1072 (TIPULIDAE)	1	1P	3
8083 (Chironomini (Tribe))	1		
8227 (Tanytarsini (Tribe))	1		
9261 (Thienemannimyia grp.)	3		
8006 (Orthocladiinae (Subfamily))	2	1P	
8074 (Thienemanniella)	1		4
8099 (Cryptochironomus)	5		5
8112 (Dicrotendipes)	1		6
8151 (Microtendipes)	6		7
8211 (Stictochironomus)	1		4
8226 (Cladotanytarsus)	2		4
9093 (Stompellinella)	4		3
8241 (Tanytarsus)	2		4
9277 (Polypedilum (Tripodura) scalaenum grp)	1		
9238 (Polypedilum (Uresipedilum) flavum)	3		
8274 (Stratiomys)	3		

Type	Value	Metric Score
Total Taxa:	39	3
Total No. Individuals:	189	3
EPT Taxa:	11	5
% Orthocladiinae + Tanytarsini of Chironomidae:	36.36	3
% Non-insects excluding Astacidae:	22.22	3
Diptera Taxa:	16	5
% Intolerant (0-3):	37.57	5
% Tolerant (8-10):	0	5
% Predators FFG 1:	6.35	1
% Shredders + Scrapers FFG 1:	24.87	5
% Collector-Filterers FFG 1:	12.17	3
% Sprawlers:	6.88	5
mIBI Metric Score:		46

Supplemental Metrics

	HBI
	3.85
Shannon-Weaver Index	4.32
Shannon Equitability	0.46
% Dominant 3 Taxon	42.33
% Chironomidae	17.46



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0015	15T-003	MHAB	AB22386	150909301	9/9/15	Washington
Stream Name		Location		HUC 12	HUCTO14	
Licking Creek		Palmyra Rd		051401040606	05140104130080	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4254701.66	575964.62	71	16.269	8.697	66	

Taxon	Count	Notes	HBI Tolerance
1396 (LUMBRICULIDAE)	1		5
1232 (NAIDIDAE)	1		8
1552 (Tubificidae with bifid chetae and no hair chetae)	1		
1357 (BRANCHIOBDELLIDAE)	2		6
1233 (ERPOBDELLIDAE)	2		
2215 (Elimia)	14		
2156 (Corbicula fluminea)	1		6
2181 (Sphaerium)	15		6
9031 (Lirceus)	12		8
9008 (Orconectes rusticus)	6	1MI, 4MII, 1F	6
1251 (ISOTOMIDAE)	2		
1017 (HEPTAGENIIDAE)	12	Immature, Damaged	4
9156 (Maccaffertium)	30		
3022 (Maccaffertium modestum)	1		1
3020 (Stenonema femoratum)	1		3
3036 (Leucrocuta)	6		2
3049 (Stenacron interpunctatum)	5		7
7011 (Acerpenna pygmaea)	1		2
3065 (Baelis)	2		3
3066 (Baetis intercalaris)	4		3
3071 (Baetis flavistriga)	8		3
3183 (Caenis)	1		3
3109 (Isonychia)	7		2
3120 (Stylogomphus)	1		1
7032 (Argia moesta)	8		
3366 (Agneta)	14		2
7131 (Rhagovelia obesa)	4	3M, 1F	
7293 (Psephenus herricki)	92	92L	4
7307 (Stenelmis)	6	6L	5
7309 (Stenelmis crenata)	10	4M, 6F; Slide 0261.1	5
7317 (Stenelmis sexlineata)	1	1A	
7302 (Microcyloepus pusillus)	1	1A	3
3797 (Nigronia serricornis)	2		4
3003 (Chimarra aterrima)	8		2
1057 (HYDROPSYCHIDAE)	2	Immature	4
3432 (Cheumatopsyche)	11		3
8980 (Hydropsyche betteni grp)	4		
1055 (LIMNEPHILIDAE)	1	1P	4
1072 (TIPULIDAE)	1		3
7814 (Simulium)	1		5
7941 (Natarsia baltimorens)	1		6
7926 (Tanypodinae (Subfamily))	2		
8227 (Tanytarsini (Tribe))	1		
9261 (Thienemannimyia grp.)	2		

Type	Value	Metric Score
Total Taxa:	49	5
Total No. Individuals:	314	5
EPT Taxa:	18	5
% Orthocladiinae + Tanytarsini of Chironomidae:	41.67	3
% Non-insects excluding Astacidae:	15.61	5
Diptera Taxa:	11	3
% Intolerant (0-3):	21.97	3
% Tolerant (8-10):	4.14	5
% Predators FFG 1:	10.83	1
% Shredders + Scrapers FFG 1:	37.26	5
% Collector-Filterers FFG 1:	14.65	3
% Sprawlers:	0.96	1
mIBI Metric Score:		44

Supplemental Metrics

	HBI	4.11
Shannon-Weaver Index		4.28
Shannon Equitability		0.46
% Dominant 3 Taxon		43.63
% Chironomidae		3.82



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Taxon	Count	Notes	HBI Tolerance
8006 (Orthocladinae (Subfamily))	1		
8000 (Parametriocnemus)	2		3
9100 (Tvetenia)	1	1P	5
8179 (Polypedilum)	1		
9238 (Polypedilum (Uresipedilum) (ayum)	1		



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Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS-06-0016	15T-002	MHAB	AB22385	150908402	9/8/15	Washington
Stream Name		Location		HUC 12	HUC014	
South Fork Blue River		Palmyra Road		051401040606	05140104130080	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4255928.98	575467.63	71	3.264	94.742	62	

Taxon	Count	Notes	HBI Tolerance
1357 (BRANCHIOBELLEIDAE)	8		6
1207 (VIVIPARIDAE)	1		6
2215 (Elimia)	9		
2181 (Sphaerium)	5		6
1083 (ACARI)	1		4
8996 (Orconectes)	3	2MI, 1F	4
9006 (Orconectes juvenilis)	1	1MI	
1251 (ISOTOMIDAE)	1		
1017 (HEPTAGENIIDAE)	5		4
9090 (Maccaffertium mediopuncta)	4		2
3049 (Stenacron interpunctatum)	1		7
1012 (BAETIDAE)	2		4
3065 (Baetis)	4		3
3066 (Baetis intercalaris)	5		3
3183 (Caenis)	1		3
1011 (EPHEMERIDAE)	1		4
3109 (Isonychia)	6		2
3245 (Boyeria vinosa)	2		4
3397 (Macromia)	1		2
3546 (Enallagma)	3		9
3549 (Enallagma divagans)	8		
7032 (Argia moesta)	1		
3572 (Argia tibialis)	5		
1130 (PLECOPTERA)	1	Immature	
3366 (Agnetina)	6		2
3600 (Peltodytes duodecimpunctatus)	1	1A	
7293 (Psephenus hericki)	4	1A, 3L	4
7307 (Stenelmis)	6	6L	5
7309 (Stenelmis crenata)	13	5M, 8F; Slide 0257.1	5
7300 (Dabiraphia vittata)	8	4M, 4F; Slide 0257.2 256um	
9116 (Optioservus trivittatus)	1	1A	4
7295 (Ancyronyx variegatus)	14	14A	4
7321 (Macronychus glabratus)	1	1A	3
3773 (Sialis)	2		5
3799 (Corydalis comutus)	7		2
3267 (Chimarra obscura)	17		4
1057 (HYDROPSYCHIDAE)	1	Immature	4
3432 (Cheumatopsyche)	11		3
3314 (Nyctiophylax)	1		3
7814 (Simulium)	1		5
9162 (Nilotanytus timbriatus)	1		3
8083 (Chironomini (Tribe))	2		
8227 (Tanytarsini (Tribe))	1		

Type	Value	Metric Score
Total Taxa:	51	5
Total No. Individuals:	204	3
EPT Taxa:	15	5
% Orthocladiinae + Tanytarsini of Chironomidae:	22.22	5
% Non-Insects excluding Astacidae:	11.76	5
Diptera Taxa:	12	3
% Intolerant (0-3):	25	3
% Tolerant (8-10):	1.47	5
% Predators FFG 1:	19.61	3
% Shredders + Scrapers FFG 1:	14.71	3
% Collector-Filterers FFG 1:	22.55	1
% Sprawlers:	0	1
mIBI Metric Score:		42

Supplemental Metrics

	HBI
	3.99
Shannon-Weaver Index	5.05
Shannon Equitability	0.54
% Dominant 3 Taxon	22.55
% Chironomidae	13.24



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Taxon	Count	Notes	HBI Tolerance
8006 (Orthocladinae (Subfamily))	1		
8112 (Dicrotendipes)	1		6
8206 (Stenochironomus)	1		4
8238 (Rhectanytarsus)	3		3
9221 (Stempellina)	1		
9238 (Polypodilum (Uresipodilum) flavum)	15		
9241 (Polypodilum (Polypodilum) illinoense grp.)	1		
8355 (Tabanus)	4		5



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
OBS130-0002	15T-001	MHAB	AB22384	150908401	9/8/15	Washington
Stream Name		Location		HUC 12	HUC14	
South Fork Blue River		Fredericksburg Road		051401040606	05140104130080	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4254348.2	571270.79	71	3.479	126.08	64	

Taxon	Count	Notes	HBI Tolerance
1260 (NEMATODA)	2		6
1426 (Branchiura sowerbyi)	1		6
1552 (Tubificidae with bifid chetae and no hair chetae)	2		
2215 (Elimia)	2		
2156 (Corbicula fluminea)	1		6
8996 (Orconectos)	1	1F	4
1017 (HEPTAGENIIDAE)	1		4
3020 (Stenonema femoratum)	3		3
3065 (Baetis)	7		3
3066 (Baetis intercalaris)	3		3
3183 (Caenis)	1		3
3197 (Ephemera)	2		3
3245 (Boyeria vinosa)	4		4
7026 (Calopteryx maculata)	1		
3549 (Enallagma divagans)	5		
3572 (Argia tibialis)	4		
3366 (Agneta)	17		2
3960 (Helichus basalis)	1	1A	
7293 (Psephenus herricki)	8	8L	4
7307 (Stenelmis)	6	6L	5
7309 (Stenelmis cronata)	33	24M, 9F; Slides 0255.1 & 0225.2	5
7317 (Stenelmis sexlineata)	5	5A	
7300 (Dubiraphia vittata)	8	4M, 4F; Slide 0255.4, 246urn	
7295 (Ancyronyx variegatus)	23	23A	4
7321 (Macronychus glabratus)	2	2A	3
3799 (Corydalis cornutus)	1		2
3267 (Chimarra obscura)	7		4
3432 (Cheumatopsyche)	45		3
8980 (Hydropsyche betteni grp)	2		
9222 (Cnephia/Polycentropus)	1		
7610 (Hexatoma)	2		2
7941 (Natarsia baltimorus)	1		6
7946 (Ablabesmyia mallochii)	1		5
9153 (Tribelos)	2		5
7926 (Tanyptodinae (Subfamily))	2		
8082 (Chironominae (Subfamily))	1		
8083 (Chironomini (Tribe))	4		
8227 (Tanytarsini (Tribe))	2		
9261 (Thienemannimyia grp.)	5		
8086 (Chironomus)	8		8
8099 (Cryptochironomus)	6		5
8151 (Microtendipes)	2		7

Type	Value	Metric Score
Total Taxa:	50	5
Total No. Individuals:	258	5
EPT Taxa:	11	3
% Orthocladinae + Tanytarsini of Chironomidae:	8.93	5
% Non-Insects excluding Astacidae:	3.1	5
Diptera Taxa:	20	5
% Intolerant (0-3):	32.17	5
% Tolerant (8-10):	3.1	5
% Predators FFG 1:	16.67	1
% Shredders + Scrapers FFG 1:	18.6	3
% Collector-Filterers FFG 1:	22.87	1
% Sprawlers:	2.33	1
mIBI Metric Score:		44

Supplemental Metrics

	HBI
	3.98
Shannon-Weaver Index	4.64
Shannon Equitability	0.5
% Dominant 3 Taxon	39.15
% Chironomidae	21.71



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Taxon	Count	Notes	HB Tolerance
8172 (Phaenopsectra)	1		7
8228 (Cladotanytarsus)	1		4
8241 (Tanytarsus)	2		4
9277 (Polypedilum (Tripodura) scalaenum grp)	2		
9238 (Polypedilum (Uresipedilum) flavum)	12		
9240 (Polypedilum (Polypedilum) fallax grp.)	2		
9241 (Polypedilum (Polypedilum) illinoense grp.)	2		
8355 (Tabanus)	1		5