



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM-07-0010	21T-002	MHAB	AB47654	210824702	8/24/21	Jackson

Stream Name	Location	HUC 12	HUCTO14
Grassy Creek	CR 600	051202070706	05120207090020

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4294529.44	598192.59	55	1.972	12.633	46

TAXON	COUNT	NOTES	HBI Tolerance
1220 (PLATYHELMINTHES)	1		
1555 (Tubificinae with bifid chetae and hair)	3		
1234 (GLOSSIPHONIIDAE)	1		
1210 (BIVALVIA)	2	probably Sphaerium	
1083 (Acari)	5		4
1262 (AMPHIPODA)	2	imm. and dmg.	4
9068 (Gammarus)	13		6
9050 (Hyaella)	74		
3085 (Callibaetis fluctuans)	3		
9361 (Caenis Diminuta Gr.)	3		
1023 (AESHNIDAE)	2	imm.	3
3251 (Nasiaeschna pentacantha)	5		
1027 (CORDULIIDAE)	2	imm.	3
3540 (Ischnura)	2	no gills	9
1041 (CORIXIDAE)	14	nymphs, likely Trichocorixa	5
7201 (Trichocorixa calva)	2	adult F	4
7230 (Neoplea striola)	2		
7207 (Belostoma)	5	nymphs	
1038 (GERRIDAE)	1	imm. - probably Trepobates, antennae odd	
7122 (Microvelia)	2	1 nymph, 1 dmg. adult	
3604 (Peltodytes sexmaculatus)	1	adult	
7732 (Anopheles)	4		
9370 (Ceratopogon grp.)	1		8
8083 (Chironomini)	1		
9248 (Ablabesmyia Mallochi Gr.)	3		
8112 (Dicrotendipes)	5		6
8126 (Glyptotendipes)	1		6
9296 (Microtendipes Pedellus Gr.)	1		
8179 (Polypedilum)	1		
8235 (Paratanytarsus)	1		4
8241 (Tanytarsus)	3		4
9278 (Polypedilum Halterale Gr.)	1		
9241 (Polypedilum Illinoense Gr.)	38		

Type	Value	Metric Score
Total Taxa:	33	3
Total No. Individuals:	205	3
EPT Taxa:	2	1
% Orthocladiinae + Tanytarsini of Chironomidae:	7.27	5
% Non-insects excluding Astacidae:	49.27	1
Diptera Taxa:	12	3
% Intolerant (0-3):	1.95	1
% Tolerant (8-10):	1.46	5
% Predators FFG 1:	18.05	3
% Shredders + Scrapers FFG 1:	0.49	1
% Collector-Filterers FFG 1:	3.9	5
% Sprawlers:	0	1
mIBI Metric Score:		32

Supplemental Metrics

	HBI
Shannon-Weaver Index	5.17
Shannon Equitability	2.43
% Dominant 3 Taxon	0.69
% Chironomidae	61.46
	26.83



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM-07-0016	21T-013	MHAB	AB47665	210816903	8/16/21	Jackson

Stream Name		Location		HUC 12	HUCTO14
Tributary of Mutton Creek		CR 700 North		051202070704	05120207080020
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4315647.61	601462.41	55	11.518	5.117	48

TAXON	COUNT	NOTES	HBI Tolerance
1220 (PLATYHELMINTHES)	1		
1552 (Tubificinae with bifid chetae and no hair chetae)	1		
1206 (PLANORBIDAE)	1	aperature broken	6
1090 (Physa)	4		8
2156 (Corbicula fluminea)	2		6
1083 (Acari)	2		4
1251 (ISOTOMIDAE)	2		
9366 (Baetis intercalaris complex)	6	S21-024.3	3
3079 (Paracloeodes minutus)	15	S21-024.2	
3085 (Callibaetis fluctuans)	26		
9361 (Caenis Diminuta Gr.)	5		
1021 (GOMPHIDAE)	1	imm.	1
7026 (Calopteryx maculata)	2		
1026 (COENAGRIONIDAE)	1	likely Enallagma. imm.	9
3540 (Ischnura)	4	imm. or no gills	9
3542 (Ischnura posita)	2		
3546 (Enallagma)	11	imm. or no gills	9
3549 (Enallagma divagans)	1		
3568 (Argia)	2	imm. or no gills	5
7122 (Microvelia)	1	adult female; either M. americana or M. paludicola	
7128 (Microvelia hinei)	1	adult	
3600 (Peltodytes duodecimpunctatus)	1	adult female	
3851 (Berosus peregrinus)	2	adults	6
9216 (Tropisternus lateralis)	1	adult	
1096 (SCIRTIDAE)	2	larvae	5
7300 (Dubiraphia vittata)	2	adults (2M); Slide S21-024.1 (PL = 265 um)	
7295 (Ancyronyx variegatus)	8	adults	4
7321 (Macronychus glabratus)	1	adult	3
1057 (HYDROPSYCHIDAE)	1	imm.	4
3432 (Cheumatopsyche)	6		3
3423 (Hydropsyche)	2	imm.	4
9154 (Hydropsyche venularis)	6		3
8980 (Hydropsyche betteni grp)	2		

Type	Value	Metric Score
Total Taxa:	47	5
Total No. Individuals:	161	3
EPT Taxa:	9	5
% Orthocladiinae + Tanytarsini of Chironomidae:	8.82	5
% Non-insects excluding Astacidae:	6.83	5
Diptera Taxa:	14	5
% Intolerant (0-3):	12.42	1
% Tolerant (8-10):	13.66	3
% Predators FFG 1:	16.77	1
% Shredders + Scrapers FFG 1:	5.59	1
% Collector-Filterers FFG 1:	8.07	5
% Sprawlers:	1.24	1
mIBI Metric Score:		40

Supplemental Metrics

	HBI	Score
Shannon-Weaver Index	5.59	3.28
Shannon Equitability		0.85
% Dominant 3 Taxon		34.78
% Chironomidae		21.12



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
7732 (Anopheles)	1		
7984 (Procladius)	1		7
7926 (Tanypodinae)	1	1P	
9261 (Thienemannimyia Gr.)	2		
8023 (Cricotopus bicinctus)	1		7
8086 (Chironomus)	2		8
8099 (Cryptochironomus)	1		5
8104 (Cryptotendipes)	1		4
8112 (Dicrotendipes)	3		6
8162 (Paracladopelma)	5		7
8228 (Cladotanytarsus)	1		4
8241 (Tanytarsus)	1		4
9241 (Polypedilum Illinoense Gr.)	15		
9375 (Tipuloidea)	1		

Residuals

Identifier	Date	Count	%PSE
JMB	9/30/2021	1	99.21



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM070-0001	21T-025	MHAB	AB47676	210817701	8/17/21	Jennings

Stream Name	Location	HUC 12	HUCTO14
Vernon Fork Muscatatuck River	CR 60 South, Vernon	051202070701	05120207070010

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4315059.3	619553.85	55	4.424	197.56	87

TAXON	COUNT	NOTES	HBI Tolerance
1220 (PLATYHELMINTHES)	1		
1430 (Isochaetides curvisetosus)	1		
2287 (Laevapex fuscus)	1	?	
2211 (Pleurocera)	13		
2337 (Truncatelloidea)	1		7
2156 (Corbicula fluminea)	5		6
2181 (Sphaerium)	8		6
9031 (Lirceus)	1		8
8996 (Faxonius)	1		4
9016 (Faxonius sloanii)	1	form II male	
1017 (HEPTAGENIIDAE)	3		4
9156 (Maccaffertium)	1	exiguum/pulchellum, J21-065.2	
7001 (Nixe inconspicua)	1	J21-065.1	
7011 (Acerpenna pygmaea)	3		2
9366 (Baetis intercalaris complex)	31	J21-065.4-7	3
9347 (Procloeon viridoculare)	2	J21-065.3	
1018 (LEPTOPHLEBIIDAE)	1		2
3109 (Isonychia)	4		2
3099 (Hagenius brevistylus)	1	teeny tiny	1
1025 (MACROMIIDAE)	1	small, probably Macromia based on claws	3
7046 (Epitheca princeps)	1		
3568 (Argia)	1	gill undeveloped, tibialis?	5
7118 (Trepobates inermis)	1	male	
7116 (Metrobates hesperius)	1	male	
7122 (Microvelia)	1	nymph	
9290 (Gerridae (Gerrinae))	1	nymph	
9293 (Gerridae (Trepobatinae))	1	nymph, Trepobates?	
3600 (Peltodytes duodecimpunctatus)	2		
7293 (Psephenus herricki)	1		4
7307 (Stenelmis)	10	larvae	5
7317 (Stenelmis sexlineata)	12	adults	
7295 (Ancyronyx variegatus)	3	adults	4
3799 (Corydalus cornutus)	2		2
1045 (PHILOPOTAMIDAE)	1	imm.	3
3267 (Chimarra obscura)	33		4

Type	Value	Metric Score
Total Taxa:	61	5
Total No. Individuals:	325	5
EPT Taxa:	14	5
% Orthoclaadiinae + Tanytarsini of Chironomidae:	52.43	1
% Non-insects excluding Astacidae:	9.54	5
Diptera Taxa:	22	5
% Intolerant (0-3):	30.77	3
% Tolerant (8-10):	1.54	5
% Predators FFG 1:	5.23	1
% Shredders + Scrapers FFG 1:	4.62	1
% Collector-Filterers FFG 1:	36.92	1
% Sprawlers:	5.54	3
MIBI Metric Score:		40

Supplemental Metrics

	HBI
Shannon-Weaver Index	3.87
Shannon Equitability	3.3
% Dominant 3 Taxon	0.8
% Chironomidae	35.69
	31.69



**OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report**

TAXON	COUNT	NOTES	HBI Tolerance
3432 (Cheumatopsyche)	52		3
3419 (Hydropsyche Morosa Gr.)	11		
1054 (HYDROPTILIDAE)	1	imm.	4
8809 (Ochrotrichia)	1	? case bare, rounded valves, not very compressed	2
7814 (Simulium)	4		5
7984 (Procladius)	7		7
7926 (Tanypodinae)	1		
8083 (Chironomini)	7		
9248 (Ablabesmyia Mallochi Gr.)	7		
9261 (Thienemannimyia Gr.)	7		
9354 (Stempellinella fimbriata)	31		
8014 (Cardiocladius obscurus)	2		2
8017 (Corynoneura)	1		4
9345 (Lopescladius)	5	(neomodestus?)	
8074 (Thienemanniella)	7		4
8086 (Chironomus)	4	1 pupa	8
8099 (Cryptochironomus)	1		5
8112 (Dicrotendipes)	1	tylus? sideways	6
8179 (Polypedilum)	2		
8192 (Polypedilum flavum)	3	pupa: 1	
8202 (Saetheria)	6		
9165 (Saetheria tylus)	3		4
8228 (Cladotanytarsus)	6	Chironomus? Dicrotendipes? imm.	4
8238 (Rheotanytarsus)	1	lobopodema?	3
8241 (Tanytarsus)	1	pupa	4
8397 (Hemerodromia)	1		

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM090-0015	21T-010	MHAB	AB46789	210824704	8/24/21	Jackson

Stream Name		Location		HUC 12	HUCTO14
Vernon Fork Muscatatuck River		CR 50 North		051202070706	05120207090010
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4305037.95	599591.57	55	1.458	364.501	42

TAXON	COUNT	NOTES	HBI Tolerance
1220 (PLATYHELMINTHES)	1		
1426 (Branchiura sowerbyi)	2		6
1435 (Limnodrilus hoffmeisteri)	2		10
1421 (Aulodrilus pigueti)	1		7
1522 (Pristinella jenkiniae)	1	? head iffy	8
1552 (Tubificinae with bifid chetae and no hair chetae)	11		
1553 (Tubificinae with pectinate chetae and hair chetae)	1		
1555 (Tubificinae with bifid chetae and hair)	1	(thin upper teeth)	
1234 (GLOSSIPHONIIDAE)	1		
1233 (Erpobdellidae)	1		
2181 (Sphaerium)	11		6
1083 (Acari)	1		4
9050 (Hyaella)	17		
9019 (Cambarus)	1	female	2
9016 (Faxonius sloanii)	1	form II male	
3048 (Stenacron)	3		3
9361 (Caenis Diminuta Gr.)	5	not latipennis, probably diminuta, one with everted ovaries	
3259 (Pachydiplax longipennis)	1		
3282 (Plathemis lydia)	2		8
3397 (Macromia)	3		2
3553 (Enallagma geminatum)	1		
1041 (CORIXIDAE)	162	nymphs	5
7201 (Trichocorixa calva)	102	f 48 m 54	4
7202 (Trichocorixa kanza)	6	f 5 m 1	4
7183 (Palmacorixa)	1	probably nana? female	5
7217 (Ranatra buenoi)	1		
7111 (Rheumatobates)	1	nymph	
3851 (Berosus peregrinus)	1		6
3872 (Tropisternus)	1	larva	
1096 (SCIRTIDAE)	1		5
3959 (Helichus lithophilus)	2		
7300 (Dubiraphia vittata)	1	J21-058.1 ~255 um aedaeus	
3911 (Hydrochus)	1	pseudosquamifer	5

Type	Value	Metric Score
Total Taxa:	49	5
Total No. Individuals:	383	5
EPT Taxa:	4	1
% Orthocladiinae + Tanytarsini of Chironomidae:	0	5
% Non-insects excluding Astacidae:	13.32	5
Diptera Taxa:	14	5
% Intolerant (0-3):	2.61	1
% Tolerant (8-10):	3.66	5
% Predators FFG 1:	74.93	5
% Shredders + Scrapers FFG 1:	1.57	1
% Collector-Filterers FFG 1:	5.22	5
% Sprawlers:	0.78	1
MIBI Metric Score:		44

Supplemental Metrics

HBI	4.83
Shannon-Weaver Index	2.12
Shannon Equitability	0.54
% Dominant 3 Taxon	73.37
% Chironomidae	7.83



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
		?	
9154 (<i>Hydropsyche venularis</i>)	2	? smaller may be hard to id	3
8923 (<i>Nectopsyche diarina</i>)	1		3
7830 (<i>Atrichopogon</i>)	1	?	5
9370 (<i>Ceratopogon</i> grp.)	1	tenuous	8
7929 (<i>Clinotanypus pinguis</i>)	1		8
7984 (<i>Procladius</i>)	1		7
9153 (<i>Tribelos</i>)	2	fuscicorne?	5
7926 (<i>Tanypodinae</i>)	1	pupa missing thoracic horn?	
9248 (<i>Ablabesmyia Mallochi</i> Gr.)	1		
9284 (<i>Tribelos jucundum</i>)	2		
8086 (<i>Chironomus</i>)	6	2 pupa	8
8099 (<i>Cryptochironomus</i>)	1		5
8112 (<i>Dicrotendipes</i>)	4		6
8126 (<i>Glyptotendipes</i>)	9		6
8133 (<i>Harnischia</i>)	1		8
9241 (<i>Polypedilum Illinoense</i> Gr.)	1		

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM080-0013	21T-016	MHAB	AB47668	210817901	8/17/21	Jackson

Stream Name	Location	HUC 12	HUCTO14
Storm Creek Ditch	CR 400 North	051202070703	05120207080040

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4310857.62	603484.81	55	2.682	17.513	44

TAXON	COUNT	NOTES	HBI Tolerance
1220 (PLATYHELMINTHES)	2		
1552 (Tubificinae with bifid chetae and no hair chetae)	1		
1234 (GLOSSIPHONIIDAE)	2	one with many babies	
1090 (Physa)	3		8
1083 (Acari)	2		4
9036 (Caecidotea)	1		8
9050 (Hyaella)	25		
9056 (Crangonyx)	1		6
3083 (Callibaetis floridanus)	4		
9361 (Caenis Diminuta Gr.)	5		
3259 (Pachydiplax longipennis)	1		
3305 (Erythemis simplicicollis)	1		
3323 (Libellula pulchella)	1		
3331 (Sympetrum)	1		10
3540 (Ischnura)	1	gills undeveloped, probably posita	9
3542 (Ischnura posita)	3		
3546 (Enallagma)	1	small, probably divagans	9
1041 (CORIXIDAE)	3	nymphs	5
7201 (Trichocorixa calva)	5	4m 1f	4
7230 (Neoplea striola)	8	7 adults 1 nymph	
7207 (Belostoma)	3	nymph	
7216 (Ranatra)	2	imm.	
7217 (Ranatra buenoi)	1		
7220 (Ranatra nigra)	2		4
1037 (VELIIDAE)	1	this nymph appears to be Platyvelia or Steinovelia Steinovelia stagnalis seems most plausible based on range	
7138 (Merragata)	1	micropterous male, couldn't remove genital capsule	
3599 (Peltodytes dunavani)	1	? female	
3602 (Peltodytes muticus)	1		

Type	Value	Metric Score
Total Taxa:	48	5
Total No. Individuals:	119	1
EPT Taxa:	2	1
% Orthocladiinae + Tanytarsini of Chironomidae:	5	5
% Non-insects excluding Astacidae:	31.09	3
Diptera Taxa:	13	3
% Intolerant (0-3):	0	1
% Tolerant (8-10):	7.56	5
% Predators FFG 1:	27.73	3
% Shredders + Scrapers FFG 1:	5.88	1
% Collector-Filterers FFG 1:	6.72	5
% Sprawlers:	0	1
MIBI Metric Score:		34

Supplemental Metrics

HBI	5.84
Shannon-Weaver Index	3.36
Shannon Equitability	0.87
% Dominant 3 Taxon	32.77
% Chironomidae	16.81



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
3666 (<i>Hygrotus sayi</i>)	1	?	
3789 (<i>Liodessus flavicollis</i>)	2	pattern odd, 2 spots in front of elytra instead of fascia	6
3964 (<i>Suphisellus</i>)	1	larva	
3966 (<i>S. bicolor bicolor</i>)	1	bicolor subsp.??? adult	
1096 (SCIRTIDAE)	2		5
3911 (<i>Hydrochus</i>)	1	female	5
3794 (<i>Chauliodes pectinicornis</i>)	1	? imm.	
7732 (<i>Anopheles</i>)	1		
7780 (<i>Culex</i>)	5	some not 4th instar, with multiple tufts on siphon	
7801 (<i>Uranotaenia</i>)	1	sapphirina?	
7929 (<i>Clinotanypus pinguis</i>)	1		8
7960 (<i>Guttipelopia guttipennis</i>)	1		
8086 (<i>Chironomus</i>)	1		8
8123 (<i>Endochironomus</i>)	1	(nigricans?)	6
8126 (<i>Glyptotendipes</i>)	1		6
9264 (<i>Kiefferulus</i>)	3		
8158 (<i>Parachironomus carinatus</i>)	1		5
8241 (<i>Tanytarsus</i>)	1		4
8180 (<i>Polypedilum tritum</i>)	4		
9241 (<i>Polypedilum Illinoense</i> Gr.)	6	1 pupa	

Residuals

Identifier	Date	Count	%PSE
SEZ	10/25/2021	1	97.62



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM080-0014	21T-012	MHAB	AB47664	210817902	8/17/21	Jackson

Stream Name	Location	HUC 12	HUCTO14
Mutton Creek Ditch	CR 400 North	051202070704	05120207080020

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4310866.62	602644.25	55	2.112	29.807	48

TAXON	COUNT	NOTES	HBI Tolerance
1220 (PLATYHELMINTHES)	1		
1507 (Nais variabilis)	1	?	10
1234 (GLOSSIPHONIIDAE)	3	one with juveniles	
9050 (Hyalella)	35		
3081 (Callibaetis)	4	floridanus? *some features of floridanus & fluctuans	6
9361 (Caenis Diminuta Gr.)	12		
3251 (Nasiaeschna pentacantha)	2		
7046 (Eitheca princeps)	1		
9315 (Eitheca (Tetragoneuria))	2	E. semiaquea?	
3540 (Ischnura)	1	imm. verticalis or prognata?	9
3542 (Ischnura posita)	3		
3546 (Enallagma)	1	imm. antennatum? divagans? germinatum?	9
3549 (Enallagma divagans)	3		
7230 (Neoplea striola)	1		
7207 (Belostoma)	6	nymphs	
7216 (Ranatra)	2	nymphs buenoi?	
7217 (Ranatra buenoi)	1		
7111 (Rheumatobates)	1	female	
7112 (Rheumatobates palosi)	1	male	
1037 (VELIIDAE)	1	Steinovelina stagnalis? nymph? mature	
7128 (Microvelia hinei)	1	male	
1096 (SCIRTIDAE)	5	larvae	5
7296 (Dubiraphia)	1	female ~2.5 mm probably vittata	5
1193 (CULICIDAE)	2	Uranotaenia sapphirina? or imm. Aedes, not 4th instar	8
7732 (Anopheles)	2		
7960 (Guttipelopia guttipennis)	1		
8083 (Chironomini)	1	? imm.	
8112 (Dicrotendipes)	3	some modestus/neomo	6

Type	Value	Metric Score
Total Taxa:	34	3
Total No. Individuals:	108	1
EPT Taxa:	2	1
% Orthocladiinae + Tanytarsini of Chironomidae:	20	5
% Non-insects excluding Astacidae:	37.04	1
Diptera Taxa:	11	3
% Intolerant (0-3):	0	1
% Tolerant (8-10):	4.63	5
% Predators FFG 1:	25	3
% Shredders + Scrapers FFG 1:	6.48	1
% Collector-Filterers FFG 1:	6.48	5
% Sprawlers:	0.93	1
MIBI Metric Score:		30

Supplemental Metrics

	HBI
Shannon-Weaver Index	6.09
Shannon Equitability	2.79
% Dominant 3 Taxon	0.79
% Chironomidae	49.07
	13.89



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
		destus?	
8123 (Endochironomus)	2	nigricans? one maybe Tribelos?	6
9296 (Microtendipes Pedellus Gr.)	1		
8241 (Tanytarsus)	3		4
8180 (Polypedilum tritum)	1		
9278 (Polypedilum Halterale Gr.)	1		
9241 (Polypedilum Illinoense Gr.)	2		

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM080-0014	21T-012	MHAB	AB46802	210817903	8/17/21	Jackson

Stream Name		Location		HUC 12	HUCTO14
Mutton Creek Ditch		CR 400 North		051202070704	05120207080020
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4310866.62	602644.25	55	2.112	29.807	49

TAXON	COUNT	NOTES	HBI Tolerance
1220 (PLATYHELMINTHES)	3		
1485 (Chaetogaster diastrophus)	1		6
1234 (GLOSSIPHONIIDAE)	1		
1090 (Physsa)	1		8
1083 (Acari)	3		4
9036 (Caecidotea)	3		8
9050 (Hyaella)	40		
1110 (EPHEMEROPTERA)	1	very imm. maybe caenis	
3081 (Callibaetis)	5	floridanus?	6
9361 (Caenis Diminuta Gr.)	14	some not latipennis?	
1120 (ANISOPTERA)	1	imm. corduliid or libellulid, etc.	
3251 (Nasiaeschna pentacantha)	3		
3080 (Phanogomphus graslinellus)	1	might be a little immature	
3259 (Pachydiplax longipennis)	1		
7046 (Eitheca princeps)	1		
1026 (COENAGRIONIDAE)	1	imm.	9
3540 (Ischnura)	1	imm. prognata or posita	9
3542 (Ischnura posita)	3		
3549 (Enallagma divagans)	3		
3552 (Enallagma signatum)	1		
7230 (Neoplea striola)	3		
7207 (Belostoma)	4	nymph	
7217 (Ranatra buenoi)	2		
1037 (VELIIDAE)	1	very young nymph, maybe microvelia or steinovelia	
3600 (Peltodytes duodecimpunctatus)	1		
3602 (Peltodytes muticus)	1	? female, maybe sexmaculatus, median blotch poorly developed, punctures confused?	
1096 (SCIRTIDAE)	2		5
7300 (Dubiraphia vittata)	5	3m 2f J21-025.1	

Type	Value	Metric Score
Total Taxa:	47	5
Total No. Individuals:	136	3
EPT Taxa:	3	1
% Orthocladiinae + Tanytarsini of Chironomidae:	20	5
% Non-insects excluding Astacidae:	38.24	1
Diptera Taxa:	18	5
% Intolerant (0-3):	0	1
% Tolerant (8-10):	6.62	5
% Predators FFG 1:	18.38	3
% Shredders + Scrapers FFG 1:	7.35	1
% Collector-Filterers FFG 1:	3.68	5
% Sprawlers:	2.21	1
mIBI Metric Score:		36

Supplemental Metrics

	HBI
Shannon-Weaver Index	6.15
Shannon Equitability	3.08
% Dominant 3 Taxon	0.8
% Chironomidae	43.38
	18.38



**OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report**

TAXON	COUNT	NOTES	HBI Tolerance
		~280um aedaegus	
3911 (Hydrochus)	1	female?	5
1193 (CULICIDAE)	1	imm. (very small)	8
7732 (Anopheles)	1		
7780 (Culex)	1		
9195 (Labrundinia neopilosella)	1		
7926 (Tanyptodinae)	1	Fittkauimyia or Psectrotanypus? very imm.	
8083 (Chironomini)	1	imm. Chironomus?	
9248 (Ablabesmyia Mallochi Gr.)	1		
9317 (Zavreliella marmorata)	1		
8017 (Corynoneura)	1		4
8047 (Nanocladius)	1	alternantherae?	5
8086 (Chironomus)	2		8
8112 (Dicrotendipes)	2	1 pupa both modestus/neomodestus?	6
8123 (Endochironomus)	5	subtendens?	6
9296 (Microtendipes Pedellus Gr.)	1		
8172 (Phaenopsectra)	1	flavipes?	7
8241 (Tanytarsus)	2		4
9278 (Polypedilum Halterale Gr.)	1		
9241 (Polypedilum Illinoense Gr.)	4		

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment

MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM070-0029	21T-007	MHAB	AB47659	210817702	8/17/21	Jennings

Stream Name	Location	HUC 12	HUCTO14
Tea Creek	CR 650 West	051202070705	05120207070040

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4304896.05	610036.43	55	2.676	10.632	46

TAXON	COUNT	NOTES	HBI Tolerance
1220 (PLATYHELMINTHES)	1		
1090 (Physa)	5		8
1083 (Acari)	4		4
9050 (Hyalella)	1		
9056 (Crangonyx)	1		6
8996 (Faxonius)	2	M Form II	4
3020 (Stenonema femoratum)	1		3
3081 (Callibaetis)	3	Slide S21-065.1; C. floridanus?	6
3130 (Paraleptophlebia)	4		3
9361 (Caenis Diminuta Gr.)	4		
3245 (Boyeria vinosa)	4		4
3448 (Somatochlora)	3	early instars	1
3534 (Calopteryx)	2	no gills, probably C. maculata	4
3546 (Enallagma)	2	no gills	9
3552 (Enallagma signatum)	2		
3568 (Argia)	1	no gills	5
1038 (GERRIDAE)	1	nymph; likely Trepobates	
7107 (Limnporus canaliculatus)	1	adult	
7122 (Microvelia)	2	nymphs	
3600 (Peltodytes duodecimpunctatus)	3	adult F	
3772 (Copelatus glyphicus)	1	Adult F	
1096 (SCIRTIDAE)	4	L	5
7295 (Ancyronyx variegatus)	1	A	4
7732 (Anopheles)	1		
7984 (Procladius)	1		7
8083 (Chironomini)	1		
9248 (Ablabesmyia Mallochi Gr.)	8		
9250 (Ablabesmyia Rhamphae Gr.)	1		
9284 (Tribelos jucundum)	2		
8086 (Chironomus)	3		8
8112 (Dicrotendipes)	1		6
8126 (Glyptotendipes)	2		6
8157 (Parachironomus)	1		4
8168 (Paratendipes albimanus)	1		4
8172 (Phaenopsectra)	1		7
8179 (Polypedilum)	1		
8228 (Cladotanytarsus)	1		4

Type	Value	Metric Score
Total Taxa:	42	5
Total No. Individuals:	87	1
EPT Taxa:	4	3
% Orthocladiinae + Tanytarsini of Chironomidae:	12.12	5
% Non-insects excluding Astacidae:	13.79	5
Diptera Taxa:	19	5
% Intolerant (0-3):	11.49	1
% Tolerant (8-10):	11.49	5
% Predators FFG 1:	21.84	3
% Shredders + Scrapers FFG 1:	12.64	3
% Collector-Filterers FFG 1:	5.75	5
% Sprawlers:	2.3	1
MIBI Metric Score:		42

Supplemental Metrics

	HBI
	5
Shannon-Weaver Index	3.53
Shannon Equitability	0.94
% Dominant 3 Taxon	19.54
% Chironomidae	37.93



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
8235 (Paratanytarsus)	1		4
8238 (Rheotanytarsus)	2		3
8180 (Polypedilum tritum)	2		
9277 (Polypedilum Scalaenum Gr.)	1		
9241 (Polypedilum Illinoense Gr.)	3		

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment

MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM-07-0020	21T-022	MHAB	AB47674	210816701	8/16/21	Jennings

Stream Name	Location	HUC 12	HUCTO14
Sixmile Creek	CR 415 North	051202070702	05120207070050

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4322688.11	614537.51	55	16.916	8.944	57

TAXON	COUNT	NOTES	HBI Tolerance
1260 (Nemata)	1		6
1526 (Slavina appendiculata)	1		6
1486 (Chaetogaster limnaei)	2		6
1504 (Nais pardalis)	1		8
1501 (Nais bretscheri)	1		6
1561 (Nais communis/variabilis complex)	1		
1552 (Tubificinae with bifid chetae and no hair chetae)	1		
1565 (Aeolosoma)	1		8
1204 (GASTROPODA)	1	no shell, damaged, ferrissia?	7
1087 (Ferrissia)	5		6
1088 (Gyraulus)	2	? imm?	8
1090 (Physa)	20		8
1083 (Acari)	2		4
9031 (Lirceus)	3		8
8996 (Faxonius)	2	female	4
9016 (Faxonius sloanii)	3	form II male	
3020 (Stenonema femoratum)	5		3
9361 (Caenis Diminuta Gr.)	13		
3245 (Boyeria vinosa)	1		4
3448 (Somatochlora)	1	ensigera grp?	1
1022 (CALOPTERYGIDAE)	2	? imm.	5
3534 (Calopteryx)	2	no gills, imm.	4
1026 (COENAGRIONIDAE)	3	imm.	9
3546 (Enallagma)	1	no gills	9
3549 (Enallagma divagans)	2		
3568 (Argia)	7	imm. no gills	5
9095 (Argia fumipennis)	1		
7225 (Notonecta irrorata)	1		
1038 (GERRIDAE)	4	nymphs Aquarius?	
7111 (Rheumatobates)	1	beat up female	
7120 (Trepobates pictus)	2	males	
7123 (Microvelia americana)	1		
3600 (Peltodytes duodecimpunctatus)	14		
7307 (Stenelmis)	4	3 females (crenata?) 1 larva	5
3000 (Hydroptila)	1		3

Type	Value	Metric Score
Total Taxa:	57	5
Total No. Individuals:	237	3
EPT Taxa:	3	1
% Orthoclaadiinae + Tanytarsini of Chironomidae:	53.23	1
% Non-insects excluding Astacidae:	17.72	5
Diptera Taxa:	22	5
% Intolerant (0-3):	3.38	1
% Tolerant (8-10):	13.5	3
% Predators FFG 1:	13.5	1
% Shredders + Scrapers FFG 1:	17.72	3
% Collector-Filterers FFG 1:	23.21	1
% Sprawlers:	2.95	1
mIBI Metric Score:		30

Supplemental Metrics

	HBI
Shannon-Weaver Index	5.29
Shannon Equitability	3.3
% Dominant 3 Taxon	0.82
% Chironomidae	36.71
	52.32



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
7975 (Thienemannimyia)	1	pharate larva	
7984 (Procladius)	2		7
9153 (Tribelos)	1		5
9248 (Ablabesmyia Mallochi Gr.)	4		
9261 (Thienemannimyia Gr.)	8		
9354 (Stempellinella fimbriata)	2		
8051 (Orthocladius)	1	robacki?	4
8086 (Chironomus)	1		8
8099 (Cryptochironomus)	4		5
8104 (Cryptotendipes)	2		4
8112 (Dicrotendipes)	5		6
9296 (Microtendipes Pedellus Gr.)	1		
9335 (Paratendipes albimanus grp)	10		
8172 (Phaenopsectra)	8		7
8192 (Polypedilum flavum)	7		
8206 (Stenochironomus)	1		4
8228 (Cladotanytarsus)	1		4
8235 (Paratanytarsus)	8		4
8238 (Rheotanytarsus)	1		3
8241 (Tanytarsus)	53	7 pupae	4
9277 (Polypedilum Scalaenum Gr.)	2		
9241 (Polypedilum Illinoense Gr.)	1		

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM070-0020	21T-009	MHAB	AB47661	210818901	8/18/21	Jackson

Stream Name	Location	HUC 12	HUCTO14
Vernon Fork Muscatatuck River	US 31	051202070705	05120207070070

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4307017.25	602222.65	55	1.458	292.076	74

TAXON	COUNT	NOTES	HBI Tolerance
1085 (Tubificinae)	1	w/ hair chastae, bifid ventrals with short upper teeth, papillate, foreign matter adhered to body wall	10
1430 (Isochaetides curvisetosus)	1		
1502 (Nais communis)	1		8
1357 (BRANCHIOBELLELLIDAE)	19		6
2211 (Pleurocera)	3		
2156 (Corbicula fluminea)	4		6
2181 (Sphaerium)	2		6
9050 (Hyalella)	3		
8996 (Faxonius)	2	females	4
1251 (ISOTOMIDAE)	1	Isotoma viridis?	
1254 (Entomobryidae)	1	Entomobrya assuta?	
1017 (HEPTAGENIIDAE)	1	imm.	4
9156 (Maccaffertium)	3	imm. pulchellum/exiguum?	
3019 (Maccaffertium exiguum)	5	J21-037.3	2
3018 (Maccaffertium pulchellum)	9	? J21-037.4, 037.5	2
3048 (Stenacron)	4		3
9366 (Baetis intercalaris complex)	16	J21-037.6, 037.7	3
3109 (Isonychia)	19		2
3175 (Tricorythodes)	4		3
3129 (Stylurus)	1	plagiatus? not final instar	4
7027 (Hetaerina americana)	1		
3568 (Argia)	1	no gills	5
3572 (Argia tibialis)	2		
1041 (CORIXIDAE)	5	nymphs	5
7201 (Trichocorixa calva)	4	2m 2f	4
7209 (Belostoma lutarium)	1		
3600 (Peltodytes duodecimpunctatus)	2		
3604 (Peltodytes sexmaculatus)	2	1f 1m	
3776 (Uvarus)	1	falli (or lacustris?)	
3851 (Berosus peregrinus)	1		6

Type	Value	Metric Score
Total Taxa:	54	5
Total No. Individuals:	227	3
EPT Taxa:	13	5
% Orthoclaadiinae + Tanytarsini of Chironomidae:	17.86	5
% Non-insects excluding Astacidae:	14.98	5
Diptera Taxa:	10	3
% Intolerant (0-3):	50.66	5
% Tolerant (8-10):	1.76	5
% Predators FFG 1:	7.49	1
% Shredders + Scrapers FFG 1:	10.13	3
% Collector-Filterers FFG 1:	24.23	1
% Sprawlers:	0	1
mIBI Metric Score:		42

Supplemental Metrics

	HBI	Score
	HBI	3.63
Shannon-Weaver Index		3.37
Shannon Equitability		0.84
% Dominant 3 Taxon		32.6
% Chironomidae		12.33



**OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report**

TAXON	COUNT	NOTES	HBI Tolerance
1096 (SCIRTIDAE)	1		5
7293 (Psephenus herricki)	1		4
7307 (Stenelmis)	2	larvae	5
7310 (Stenelmis decorata)	1	J21-037.1	
7317 (Stenelmis sexlineata)	5		
7300 (Dubiraphia vittata)	1	J21-037.2 ~260 um (slightly bent)	
7295 (Ancyronyx variegatus)	1		4
7321 (Macronychus glabratus)	1		3
3799 (Corydalis cornutus)	2		2
3267 (Chimarra obscura)	3		4
3432 (Cheumatopsyche)	16		3
3423 (Hydropsyche)	6	imm.	4
9154 (Hydropsyche venularis)	36	some less mature with incomplete pigment on the side?	3
1054 (HYDROPTILIDAE)	3		4
8083 (Chironomini)	1	Glyptotendipes?	
9250 (Ablabesmyia Rhamphae Gr.)	2	1 pupa w/ exuvia rhampe grp?	
9261 (Thienemannimyia Gr.)	3		
8086 (Chironomus)	2		8
8112 (Dicrotendipes)	2		6
8179 (Polypedilum)	1	pupa	
8192 (Polypedilum flavum)	8		
8238 (Rheotanytarsus)	3		3
8241 (Tanytarsus)	2		4
9241 (Polypedilum Illinoense Gr.)	4		

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM-07-0017	21T-019	MHAB	AB47671	210816703	8/16/21	Jennings

Stream Name	Location	HUC 12	HUCTO14
Sixmile Creek	CR 500 South	051202070702	05120207070060

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4307645.38	607307.92	55	2.423	30.679	44

TAXON	COUNT	NOTES	HBI Tolerance
1426 (Branchiura sowerbyi)	1		6
1090 (Physa)	2		8
2156 (Corbicula fluminea)	2		6
1083 (Acari)	1		4
8996 (Faxonius)	2	F & damaged M form II	4
1251 (ISOTOMIDAE)	1		
1017 (HEPTAGENIIDAE)	1	imm., no gills	4
3020 (Stenonema femoratum)	1		3
3036 (Leucrocota)	2		2
3183 (Caenis)	5	imm. - prob. C. diminuta grp.; dmg.	3
9361 (Caenis Diminuta Gr.)	41		
9215 (Sparbarus)	1	has three ocellar tubercles & operculate gills with posterolateral corners evenly rounded; imm.	
3109 (Isonychia)	3		2
3175 (Tricorythodes)	32		3
1021 (GOMPHIDAE)	1		1
3546 (Enallagma)	4		9
3549 (Enallagma divagans)	2		
1038 (GERRIDAE)	2	N; very imm.	
7111 (Rheumatobates)	1	N	
3600 (Peltodytes duodecimpunctatus)	6	A	
3846 (Berosus)	3	L	7
3851 (Berosus peregrinus)	5	A	6
1096 (SCIRTIDAE)	1	L	5
7307 (Stenelmis)	2	adult F	5
7296 (Dubiraphia)	1	adult F	5
3899 (Helophorus)	1	A	5
3267 (Chimarra obscura)	3		4
1057 (HYDROPSYCHIDAE)	2		4
3432 (Cheumatopsyche)	53		3
3419 (Hydropsyche Morosa Gr.)	1		
3487 (Hydropsyche simulans)	6		2
8922 (Nectopsyche candida)	2		

Type	Value	Metric Score
Total Taxa:	53	5
Total No. Individuals:	280	5
EPT Taxa:	14	5
% Orthoclaadiinae + Tanytarsini of Chironomidae:	26.44	3
% Non-insects excluding Astacidae:	2.14	5
Diptera Taxa:	21	5
% Intolerant (0-3):	41.07	5
% Tolerant (8-10):	3.57	5
% Predators FFG 1:	11.07	1
% Shredders + Scrapers FFG 1:	5.36	1
% Collector-Filterers FFG 1:	29.29	1
% Sprawlers:	4.64	3
MIBI Metric Score:		44

Supplemental Metrics

	HBI	Score
Shannon-Weaver Index	3.85	3.16
Shannon Equitability		0.8
% Dominant 3 Taxon		45
% Chironomidae		31.07



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
9370 (Ceratopogon grp.)	2		8
7940 (Natarsia)	4		6
7926 (Tanypodinae)	2		
8083 (Chironomini)	4	2P & 2L	
9248 (Ablabesmyia Mallochi Gr.)	2		
9250 (Ablabesmyia Rhamphae Gr.)	2		
9261 (Thienemannimyia Gr.)	8		
9284 (Tribelos jucundum)	2		
8086 (Chironomus)	2		8
8099 (Cryptochironomus)	11		5
8112 (Dicrotendipes)	3		6
8126 (Glyptotendipes)	1		6
9296 (Microtendipes Pedellus Gr.)	1		
8179 (Polypedilum)	2		
8192 (Polypedilum flavum)	11		
8228 (Cladotanytarsus)	4		4
8238 (Rheotanytarsus)	10		3
9093 (Stempellinella)	2		3
8241 (Tanytarsus)	7		4
9278 (Polypedilum Halterale Gr.)	1		
9241 (Polypedilum Illinoense Gr.)	8		

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM080-0025	21T-015	MHAB	AB47667	210816901	8/16/21	Jennings
Stream Name		Location		HUC 12		HUCTO14
Mutton Creek		CR 300 North		051202070704		05120207080010
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4320605.46	606864.92	55	6.52	8.239	53	

TAXON	COUNT	NOTES	HBI Tolerance
1515 (Pristina aequisetia)	1		8
1552 (Tubificinae with bifid chetae and no hair chetae)	1		
1090 (Physsa)	1		8
2181 (Sphaerium)	8		6
8996 (Faxonius)	4	females (imm.)	4
3020 (Stenonema femoratum)	1		3
3048 (Stenacron)	6		3
7011 (Acerpenna pygmaea)	2		2
3065 (Baetis)	1	imm. intercalaris? J21-029.1	3
1018 (LEPTOPHLEBIIDAE)	1	imm.	2
9361 (Caenis Diminuta Gr.)	8		
3109 (Isonychia)	2		2
3248 (Basiaeschna janata)	1		6
9351 (Phanogomphus)	1		
3448 (Somatochlora)	1	ensigera?	1
3534 (Calopteryx)	1	maculata? small	4
3546 (Enallagma)	1	no gills	9
3549 (Enallagma divagans)	6		
9095 (Argia fumipennis)	4		
3572 (Argia tibialis)	2		
1038 (GERRIDAE)	1	Gerrinae? nymph	
7111 (Rheumatobates)	1	nymph	
7112 (Rheumatobates palosi)	1	? male adult	
7117 (Trepobates)	1	nymph	
7118 (Trepobates inermis)	1	adult female	
7122 (Microvelia)	1	(Kirkaldya) female,	
3600 (Peltodytes duodecimpunctatus)	4		
3959 (Helichus lithophilus)	1		
3960 (Helichus basalis)	1	female	
7307 (Stenelmis)	1	larva	5
7309 (Stenelmis crenata)	2	J21-029.2	5
7296 (Dubiraphia)	1	female, larger than other one (~2.5mm) weird quadrinotata or small bivittata?	5
7300 (Dubiraphia vittata)	1	J21-029.3 aedeagus	

Type	Value	Metric Score
Total Taxa:	56	5
Total No. Individuals:	157	3
EPT Taxa:	13	5
% Orthoclaadiinae + Tanytarsini of Chironomidae:	11.54	5
% Non-insects excluding Astacidae:	7.01	5
Diptera Taxa:	17	5
% Intolerant (0-3):	32.48	5
% Tolerant (8-10):	3.18	5
% Predators FFG 1:	14.65	1
% Shredders + Scrapers FFG 1:	8.28	1
% Collector-Filterers FFG 1:	44.59	1
% Sprawlers:	1.91	1
MIBI Metric Score:		42

Supplemental Metrics

	HBI	
Shannon-Weaver Index	3.96	3.3
Shannon Equitability		0.82
% Dominant 3 Taxon		38.85
% Chironomidae		16.56



**OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report**

TAXON	COUNT	NOTES	HBI Tolerance
		~280um	
1045 (PHILOPOTAMIDAE)	1	pupa	3
3267 (Chimarra obscura)	20		4
3432 (Cheumatopsyche)	33		3
3423 (Hydropsyche)	1	imm.	4
8980 (Hydropsyche betteni grp)	1		
8952 (Helicopsyche borealis)	2		3
7732 (Anopheles)	2		
7814 (Simulium)	1		5
9105 (Ablabesmyia janta)	1	variety II	5
7984 (Procladius)	1		7
8227 (Tanytarsini)	1		
9261 (Thienemannimyia Gr.)	1		
9284 (Tribelos jucundum)	1		
8066 (Rheocricotopus)	1	robacki?	5
8084 (Axarus)	2		
8086 (Chironomus)	2		8
8099 (Cryptochironomus)	2		5
9296 (Microtendipes Pedellus Gr.)	1		
9335 (Paratendipes albimanus grp)	5		
8172 (Phaenopsectra)	1		7
8192 (Polypedilum flavum)	5		
8211 (Stictochironomus)	1		4
8238 (Rheotanytarsus)	1		3

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment

MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM080-0027	21T-014	MHAB	AB47666	210816902	8/16/21	Jackson

Stream Name	Location	HUC 12	HUCTO14
Mutton Creek	CR 800 North	051202070704	05120207080020

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4317303.85	603360.99	55	4.798	18.199	52

TAXON	COUNT	NOTES	HBI Tolerance
1561 (Nais communis/variabilis complex)	2		
1357 (BRANCHIOBELLELLIDAE)	2		6
1090 (Physsa)	1		8
2156 (Corbicula fluminea)	3		6
2181 (Sphaerium)	6		6
1083 (Acari)	2		4
9050 (Hyaella)	5		
8996 (Faxonius)	1	female	4
1110 (EPHEMEROPTERA)	1	imm.	
3020 (Stenonema femoratum)	1		3
9347 (Procloeon viridoculare)	1	? J21-013.1 no gills, small	
9361 (Caenis Diminuta Gr.)	11	one very beat up	
3248 (Basiaeschna janata)	1		6
3251 (Nasiaeschna pentacantha)	1		
1021 (GOMPHIDAE)	1	imm.	1
3448 (Somatochlora)	2	ensigera? imm.	1
1026 (COENAGRIONIDAE)	1	not argia	9
3542 (Ischnura posita)	1		
3546 (Enallagma)	3		9
3549 (Enallagma divagans)	28		
3557 (Enallagma civile)	1	or germinatum, leaning toward imm. civile	
3560 (Enallagma basidens)	1		
3568 (Argia)	3	small / no gills	5
9095 (Argia fumipennis)	5		
3572 (Argia tibialis)	7		
7230 (Neoplea striola)	1		
7209 (Belostoma lutarium)	1		
7217 (Ranatra buenoi)	1		
1038 (GERRIDAE)	1	nymph, Limnopus?	
7111 (Rheumatobates)	1	nymph	
7107 (Limnopus canaliculatus)	1	macropterous male?	
7108 (Limnopus dissortis)	1	macropterous male?	
7122 (Microvelia)	1	nymph	
7123 (Microvelia americana)	1	male	

Type	Value	Metric Score
Total Taxa:	59	5
Total No. Individuals:	167	3
EPT Taxa:	6	3
% Orthoclaadiinae + Tanytarsini of Chironomidae:	50.94	1
% Non-insects excluding Astacidae:	12.57	5
Diptera Taxa:	18	5
% Intolerant (0-3):	4.79	1
% Tolerant (8-10):	4.19	5
% Predators FFG 1:	39.52	5
% Shredders + Scrapers FFG 1:	2.4	1
% Collector-Filterers FFG 1:	11.98	3
% Sprawlers:	4.19	3
MIBI Metric Score:		40

Supplemental Metrics

	HBI
Shannon-Weaver Index	4.99
Shannon Equitability	3.54
% Dominant 3 Taxon	0.87
% Chironomidae	28.74
	31.74



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
3600 (<i>Peltodytes duodecimpunctatus</i>)	5		
9114 (<i>Copelatus chevrolati</i>)	1		
3809 (<i>Gyrinus</i>)	1	confinis group?	4
1096 (SCIRTIDAE)	2		5
7295 (<i>Ancyronyx variegatus</i>)	1	adult	4
3000 (<i>Hydroptila</i>)	1	imm.	3
8926 (<i>Oecetis</i>)	1	tiny	3
7723 (<i>Dixella</i>)	1		
1077 (CERATOPOGONIDAE)	1	pupa (<i>Psychodidae</i> ?)	6
7984 (<i>Procladius</i>)	3		7
9464 (<i>Nanocladius crassicornus/rectinervis</i> complex)	1		
8083 (Chironomini)	2		
9248 (<i>Ablabesmyia Mallochi</i> Gr.)	1		
9261 (<i>Thienemannimyia</i> Gr.)	1		
8023 (<i>Cricotopus bicinctus</i>)	1		7
8074 (<i>Thienemanniella</i>)	2		4
8086 (<i>Chironomus</i>)	2		8
8099 (<i>Cryptochironomus</i>)	1		5
8112 (<i>Dicrotendipes</i>)	6		6
8211 (<i>Stictochironomus</i>)	3		4
8228 (<i>Cladotanytarsus</i>)	4	1 pupa	4
8235 (<i>Paratanytarsus</i>)	8	2 pupae	4
8238 (<i>Rheotanytarsus</i>)	2		3
8241 (<i>Tanytarsus</i>)	9		4
9241 (<i>Polypedilum Illinoense</i> Gr.)	7		

Residuals

Identifier	Date	Count	%PSE
SEZ	10/12/2022	0	100



OWQ/WAPB Macroinvertebrate Community Assessment

MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM090-0003	21T-001	MHAB	AB47653	210824701	8/24/21	Jackson

Stream Name	Location	HUC 12	HUCTO14
Vernon Fork Muscatatuck River	CR 600 South	051202070706	05120207090010

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4294456.83	596911.39	55	1.343	391.167	43

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificinae with bifid chetae and no hair chetae)	1		
1319 (Helobdella stagnalis)	3		8
1090 (Physsa)	2		8
9050 (Hyaella)	34		
1017 (HEPTAGENIIDAE)	1	small, beat up, Stenacron?	4
9156 (Maccaffertium)	1	J21-010.1 terminatum/ exiguum/ pulchellum	
3109 (Isonychia)	7		2
7046 (Epiteca princeps)	1	(Epicordulia)	
3546 (Enallagma)	1	no gills	9
3549 (Enallagma divagans)	2		
3568 (Argia)	1	no gills	5
3572 (Argia tibialis)	8		
1041 (CORIXIDAE)	1	nymph	5
7230 (Neoplea striola)	4		
7217 (Ranatra buenoi)	2		
7220 (Ranatra nigra)	2		4
7113 (Rheumatobates rileyi)	1	male	
7116 (Metrobates hesperius)	6	3 adults 3 nymphs 1 headless nymph	
3809 (Gyrinus)	1		4
7307 (Stenelmis)	1	larva	5
7310 (Stenelmis decorata)	7	J21-010.2 m5 f2	
7317 (Stenelmis sexlineata)	1		
9266 (Stenelmis grossa)	13	J21-010.3/.4/.5 m 9 f 4	
9490 (Stenelmis cheryl)	1		
7321 (Macronychus glabratus)	1	adult	3
1160 (TRICHOPTERA)	1	Hydroptilid or Hydropsychid? imm.	
3432 (Cheumatopsyche)	10		3
9154 (Hydropsyche venularis)	11	? rossi/simulans?	3
1054 (HYDROPTILIDAE)	1		4
8908 (Ceraclea maculata)	1	could be punctata / tarsipunctata?	4
8837 (Neureclipsis)	1		

Type	Value	Metric Score
Total Taxa:	41	5
Total No. Individuals:	142	3
EPT Taxa:	9	3
% Orthoclaadiinae + Tanytarsini of Chironomidae:	7.14	5
% Non-insects excluding Astacidae:	28.17	3
Diptera Taxa:	10	3
% Intolerant (0-3):	20.42	3
% Tolerant (8-10):	4.93	5
% Predators FFG 1:	20.42	3
% Shredders + Scrapers FFG 1:	8.45	1
% Collector-Filterers FFG 1:	11.97	3
% Sprawlers:	2.11	1
mIBI Metric Score:		38

Supplemental Metrics

	HBI
	4
Shannon-Weaver Index	3
Shannon Equitability	0.81
% Dominant 3 Taxon	40.85
% Chironomidae	9.86



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
crepuscularis)			
9153 (Tribelos)	1	fuscicorne?	5
9250 (Ablabesmyia Rhamphae Gr.)	3	monilis/rhamphae	
9261 (Thienemannimyia Gr.)	2		
8086 (Chironomus)	1		8
8099 (Cryptochironomus)	1		5
8112 (Dicrotendipes)	1		6
8192 (Polypedilum flavum)	1		
8228 (Cladotanytarsus)	1	(Sp. C)	4
9278 (Polypedilum Halterale Gr.)	1		
9241 (Polypedilum Illinoense Gr.)	2		

Residuals

Identifier	Date	Count	%PSE
SEZ	10/5/2021	5	96.48



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM080-0005	21T-017	MHAB	AB47669	210817904	8/17/21	Jennings

Stream Name		Location		HUC 12	HUCTO14
Tributary to Richart Lake		CR 900 West		051202070703	05120207080040
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4314106.22	605913.95	55	17.212	1.529	56

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificinae with bifid chetae and no hair chetae)	1		
1357 (BRANCHIOBDELLIDAE)	2		6
1090 (Physsa)	9		8
1083 (Acari)	1		4
9031 (Lirceus)	2		8
9056 (Crangonyx)	1		6
8996 (Faxonius)	7	female	4
9016 (Faxonius sloanii)	3	male form II	
3048 (Stenacron)	1		3
1020 (LIBELLULIDAE)	1	imm.	9
7026 (Calopteryx maculata)	1		
1026 (COENAGRIONIDAE)	1	probably Argia, imm.	9
3549 (Enallagma divagans)	1	imm.	
3568 (Argia)	1	probably tibialis but maybe apicalis	5
1038 (GERRIDAE)	3	2 definitely Gerrinae, one probably (very imm.)	
7122 (Microvelia)	2	nymphs	
7123 (Microvelia americana)	1	?	
1096 (SCIRTIDAE)	2		5
3267 (Chimarra obscura)	1		4
3432 (Cheumatopsyche)	1		3
7732 (Anopheles)	1		
9153 (Tribelos)	1	fuscicorne?	5
8227 (Tanytarsini)	1	pupa, no abdomen	
9248 (Ablabesmyia Mallochi Gr.)	4		
8086 (Chironomus)	2		8
8126 (Glyptotendipes)	1		6
8167 (Paratendipes)	1	pupa	6
9335 (Paratendipes albimanus grp)	14		
8172 (Phaenopsectra)	1	flavipes	7
8211 (Stictochironomus)	5		4
8714 (Lytogaster)	1	? maybe Nostima?	

Type	Value	Metric Score
Total Taxa:	31	3
Total No. Individuals:	74	1
EPT Taxa:	3	3
% Orthoclaadiinae + Tanytarsini of Chironomidae:	3.33	5
% Non-insects excluding Astacidae:	21.62	3
Diptera Taxa:	11	3
% Intolerant (0-3):	2.7	1
% Tolerant (8-10):	20.27	3
% Predators FFG 1:	12.16	1
% Shredders + Scrapers FFG 1:	17.57	3
% Collector-Filterers FFG 1:	6.76	5
% Sprawlers:	0	1
MIBI Metric Score:		32

Supplemental Metrics

	HBI	Score
Shannon-Weaver Index	5.88	2.99
Shannon Equitability		0.87
% Dominant 3 Taxon		40.54
% Chironomidae		40.54



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment

MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM070-0029	21T-007	MHAB	AB46803	210817703	8/17/21	Jennings
Stream Name		Location		HUC 12		HUCTO14
Tea Creek		CR 650 West		051202070705		05120207070040
Northing	Eastng	Ecoregion	Gradient	Drainage Area	QHEI Score	
4304896.05	610036.43	55	2.676	10.632	43	

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificinae with bifid chetae and no hair chetae)	2		
1357 (BRANCHIOBDELLIDAE)	1		6
1206 (PLANORBIDAE)	1	shell very broken	6
1090 (Physa)	1		8
1083 (Acari)	1		4
9031 (Lirceus)	1		8
8996 (Faxonius)	3	1 Form II M & 2F	4
3020 (Stenonema femoratum)	3		3
9361 (Caenis Diminuta Gr.)	3		
3245 (Boyeria vinosa)	1		4
1021 (GOMPHIDAE)	1	early instar (~5.5 mm long)	1
3448 (Somatochlora)	5	early instars	1
7026 (Calopteryx maculata)	2		
3546 (Enallagma)	1	no gills	9
1038 (GERRIDAE)	1	Nymph; likely Limnopus	
1096 (SCIRTIDAE)	1	larva	5
7296 (Dubiraphia)	1	Adult F	5
7295 (Ancyronyx variegatus)	1	A	4
7963 (Labrundinia)	3		4
7977 (Zavrelimyia)	1		4
9153 (Tribelos)	1		5
8083 (Chironomini)	4		
9248 (Ablabesmyia Mallochi Gr.)	13		
9261 (Thienemannimyia Gr.)	1		
9284 (Tribelos jucundum)	7		
8086 (Chironomus)	5		8
8112 (Dicrotendipes)	2		6
8126 (Glyptotendipes)	1		6
9335 (Paratendipes albimanus grp)	2		
8179 (Polypedilum)	1		
8228 (Cladotanytarsus)	1		4
8235 (Paratanytarsus)	3		4
8238 (Rheotanytarsus)	1		3
8241 (Tanytarsus)	4		4
9240 (Polypedilum Fallax Gr.)	1		
9241 (Polypedilum Illinoense Gr.)	4		
8355 (Tabanus)	1		5

Type	Value	Metric Score
Total Taxa:	37	3
Total No. Individuals:	86	1
EPT Taxa:	2	1
% Orthocladiinae + Tanytarsini of Chironomidae:	16.36	5
% Non-insects excluding Astacidae:	8.14	5
Diptera Taxa:	19	5
% Intolerant (0-3):	11.63	1
% Tolerant (8-10):	9.3	5
% Predators FFG 1:	17.44	1
% Shredders + Scrapers FFG 1:	4.65	1
% Collector-Filterers FFG 1:	6.98	5
% Sprawlers:	3.49	3
mIBI Metric Score:		36

Supplemental Metrics

	HBI	Value
Shannon-Weaver Index	HBI	4.56
Shannon Equitability		3.27
% Dominant 3 Taxon		0.91
% Chironomidae		29.07
		63.95



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM-07-0021	21T-006	MHAB	AB47658	210816704	8/16/21	Jennings

Stream Name	Location	HUC 12	HUCTO14
Tea Creek	CR 650 South	051202070705	05120207070040

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4305200.12	613696.23	55	20.301	4.617	57

TAXON	COUNT	NOTES	HBI Tolerance
1357 (BRANCHIOBELLELLIDAE)	28		6
1087 (Ferrissia)	1	fragilis?	6
1090 (Physa)	7		8
9056 (Crangonyx)	1		6
9016 (Faxonius sloanii)	5	1 Form I, 4 Form II	
1017 (HEPTAGENIIDAE)	2	imm. beatup.	4
3020 (Stenonema femoratum)	2		3
3365 (Proclleon)	1	imm. beat up J21-042.1	
9361 (Caenis Diminuta Gr.)	2		
1038 (GERRIDAE)	2	Gerrinae nymphs, probably Aquarius remigis	
7099 (Aquarius remigis)	2	1m 1f	
9494 (Agabinus)	1	? larva	
9112 (Laccophilus fasciatus)	1		
7307 (Stenelmis)	1	larva	5
7732 (Anopheles)	5	4 larvae 1 pupa	
7977 (Zavrelimyia)	1		4
9248 (Ablabesmyia Mallochi Gr.)	6		
8086 (Chironomus)	1		8
8099 (Cryptochironomus)	6		5
9296 (Microtendipes Pedellus Gr.)	1		
9335 (Paratendipes albimanus grp)	5		
8211 (Stictochironomus)	5		4
9277 (Polypedilum Scalaenum Gr.)	1		

Type	Value	Metric Score
Total Taxa:	23	3
Total No. Individuals:	87	1
EPT Taxa:	4	5
% Orthoclaadiinae + Tanytarsini of Chironomidae:	0	5
% Non-insects excluding Astacidae:	42.53	1
Diptera Taxa:	9	3
% Intolerant (0-3):	2.3	1
% Tolerant (8-10):	9.2	5
% Predators FFG 1:	13.79	1
% Shredders + Scrapers FFG 1:	10.34	3
% Collector-Filterers FFG 1:	5.75	5
% Sprawlers:	6.9	5
mIBI Metric Score:		38

Supplemental Metrics

HBI	5.76
Shannon-Weaver Index	2.54
Shannon Equitability	0.81
% Dominant 3 Taxon	47.13
% Chironomidae	29.89

Residuals

Identifier	Date	Count	%PSE



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM-07-0019	21T-021	MHAB	AB47673	210816702	8/16/21	Jennings

Stream Name	Location	HUC 12	HUCTO14
Sixmile Creek	CR 175 North	051202070702	05120207070050

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4318694.71	612124.45	55	9.933	13.834	67

TAXON	COUNT	NOTES	HBI Tolerance
1357 (BRANCHIOBELLELLIDAE)	24		6
1234 (GLOSSIPHONIIDAE)	1		
8996 (Faxonius)	2	F	4
3048 (Stenacron)	4		3
9365 (Baetis flavistriga complex)	1	S21-035.4	3
9366 (Baetis intercalaris complex)	18	S21-035.2 & .3	3
3079 (Paracloeodes minutus)	1		
9361 (Caenis Diminuta Gr.)	5		
3016 (Arigomphus cornutus)	1		
7026 (Calopteryx maculata)	1		
3546 (Enallagma)	2	no gills	9
3568 (Argia)	1	no gills	5
1038 (GERRIDAE)	5	imm., likely a larger genus	
7115 (Metrobates)	5		
7132 (Rhagovelia oriander)	3	adult M	
7307 (Stenelmis)	2	adult F	5
7300 (Dubiraphia vittata)	6	S21-035.1 (PL - 255 um); Adults (2M & 4F)	
7321 (Macronychus glabratus)	2	A	3
1057 (HYDROPSYCHIDAE)	1	imm.	4
3432 (Cheumatopsyche)	11		3
8980 (Hydropsyche betteni grp)	1		
7926 (Tanypodinae)	7	5L & 2P	
9248 (Ablabesmyia Mallochi Gr.)	3		
9261 (Thienemannimyia Gr.)	17		
8023 (Cricotopus bicinctus)	1		7
8099 (Cryptochironomus)	3		5
8112 (Dicrotendipes)	1		6
9296 (Microtendipes Pedellus Gr.)	3		
8179 (Polypedilum)	1		
8192 (Polypedilum flavum)	18		
8211 (Stictochironomus)	3		4
8241 (Tanytarsus)	1		4
9260 (Cricotopus / Orthocladius)	1		
9241 (Polypedilum Illinoense Gr.)	8		
8320 (Chrysops)	1		5

Type	Value	Metric Score
Total Taxa:	35	3
Total No. Individuals:	165	3
EPT Taxa:	8	5
% Orthocladiinae + Tanytarsini of Chironomidae:	4.48	5
% Non-insects excluding Astacidae:	15.15	5
Diptera Taxa:	14	5
% Intolerant (0-3):	21.82	3
% Tolerant (8-10):	1.21	5
% Predators FFG 1:	15.76	1
% Shredders + Scrapers FFG 1:	4.24	1
% Collector-Filterers FFG 1:	7.88	5
% Sprawlers:	1.82	1
MIBI Metric Score:		42

Supplemental Metrics

HBI	4.44
Shannon-Weaver Index	3
Shannon Equitability	0.84
% Dominant 3 Taxon	36.36
% Chironomidae	40.61



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM-07-0015	21T-005	MHAB	AB47657	210824703	8/24/21	Jackson

Stream Name	Location	HUC 12	HUCTO14
John McDonald Ditch	CR 125 South	051202070706	05120207090010

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4302210.85	600156.26	55	2.349	4.799	42

TAXON	COUNT	NOTES	HBI Tolerance
1233 (Erpobdellidae)	1		
1089 (Helisoma)	3	immatures	6
1090 (Physa)	4	1 is very small and broken, can't find small one, may have slipped out of vial	8
2181 (Sphaerium)	1		6
2162 (Pisidium)	1		6
9031 (Lirceus)	1		8
9036 (Caecidotea)	6		8
9050 (Hyalella)	13		
9056 (Crangonyx)	1		6
9016 (Faxonius sloanii)	1	male form 2	
3248 (Basiaeschna janata)	2		6
3251 (Nasiaeschna pentacantha)	1		
1021 (GOMPHIDAE)	2	poor condition	1
9351 (Phanogomphus)	3	middle sized probably exilis, smallest & largest might be graslinellus, single S7 spinule each	
1020 (LIBELLULIDAE)	1	IMM, poor condition, no lateral spines, sympetrum?	9
3326 (Libellula cyanea)	1	probably not F-0	
7045 (Epiteca)	1		
1026 (COENAGRIONIDAE)	1	IMM, 1 mm length	9
3540 (Ischnura)	2	no gills, one with undeveloped gills probably posita	9
3546 (Enallagma)	15	no gills	9
3549 (Enallagma divagans)	41		
3552 (Enallagma signatum)	1		
1041 (CORIXIDAE)	3	IMM	5
7189 (Sigara)	4	IDed to grossolineata, leave at genus	

Type	Value	Metric Score
Total Taxa:	46	5
Total No. Individuals:	162	3
EPT Taxa:	0	1
% Orthoclaadiinae + Tanytarsini of Chironomidae:	12.5	5
% Non-insects excluding Astacidae:	19.14	3
Diptera Taxa:	11	3
% Intolerant (0-3):	1.23	1
% Tolerant (8-10):	25.93	1
% Predators FFG 1:	55.56	5
% Shredders + Scrapers FFG 1:	6.17	1
% Collector-Filterers FFG 1:	3.09	5
% Sprawlers:	0	1
mIBI Metric Score:		34

Supplemental Metrics

	HBI
Shannon-Weaver Index	6.81
Shannon Equitability	3.12
% Dominant 3 Taxon	0.81
% Chironomidae	42.59
	14.81



**OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report**

TAXON	COUNT	NOTES	HBI Tolerance
		per Paul	
7201 (<i>Trichocorixa calva</i>)	7	4 male 3 female	4
7186 (<i>Palmacorixa nana</i>)	1	male	4
7225 (<i>Notonecta irrorata</i>)	2		
7230 (<i>Neoplea striola</i>)	1	head separated, but 1 individual	
3599 (<i>Peltodytes dunavani</i>)	1	female, Key was inconsistent and caused to ID to pedunculatus but Paul IDed to dunavani	
3602 (<i>Peltodytes muticus</i>)	1		
3729 (<i>Neoporus clypealis</i>)	2		
3828 (<i>Dineutus</i>)	1	female, Marissa thinks assimilis, Julien thinks hornii	4
1096 (SCIRTIDAE)	2		5
7300 (<i>Dubiraphia vittata</i>)	3	2 male, 1 female, 1 male penis mounted on slide M21-01.1, penis length: 265 um	
3773 (<i>Sialis</i>)	4		5
9370 (<i>Ceratopogon</i> grp.)	3		8
7929 (<i>Clinotanypus pinguis</i>)	6		8
9248 (<i>Ablabesmyia Mallochi</i> Gr.)	2		
9261 (<i>Thienemannimyia</i> Gr.)	1		
9284 (<i>Tribelos jucundum</i>)	1		
8086 (<i>Chironomus</i>)	3		8
8112 (<i>Dicrotendipes</i>)	1		6
8179 (<i>Polypedilum</i>)	1	pupa	
8241 (<i>Tanytarsus</i>)	3	1 pupa	4
8180 (<i>Polypedilum tritum</i>)	1		
9241 (<i>Polypedilum Illinoense</i> Gr.)	5		

Residuals

Identifier	Date	Count	%PSE
JMB	12/8/2021	18	88.89



OWQ/WAPB Macroinvertebrate Community Assessment

MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM-07-0014	21T-018	MHAB	AB47670	210816904	8/16/21	Jennings
Stream Name		Location		HUC 12		HUCTO14
Storm Creek		Base Road		051202070703		05120207080030
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4315612.51	605087.48	55	4.073	9.378	53	

TAXON	COUNT	NOTES	HBI Tolerance
1090 (Physa)	1		8
2181 (Sphaerium)	5		6
9031 (Lirceus)	1		8
9056 (Crangonyx)	2		6
8996 (Faxonius)	2	females	4
9016 (Faxonius sloanii)	3	Form II males	
7011 (Acerpenna pygmaea)	6		2
9366 (Baetis intercalaris complex)	2	J21-007.2	3
1018 (LEPTOPHLEBIIDAE)	1	imm. gills are filaments, maybe choroterpes basalis (gill 1 not forked)	2
3245 (Boyeria vinosa)	1		4
3248 (Basiaeschna janata)	6	one post molt	6
3251 (Nasiaeschna pentacantha)	1	big	
3116 (Progomphus obscurus)	1	big	
3448 (Somatochlora)	1	not mature	1
7026 (Calopteryx maculata)	3		
1026 (COENAGRIONIDAE)	1	small	9
3542 (Ischnura posita)	5	? 2 might be verticalis, outer bands obscure	
3546 (Enallagma)	1	no gills	9
3549 (Enallagma divagans)	6		
1038 (GERRIDAE)	1	imm. probably Rheumatobates/Metrobates	
7122 (Microvelia)	1	(Kirkaldya) female, americana?	
1096 (SCIRTIDAE)	1		5
7300 (Dubiraphia vittata)	6	J21-007.1 ~285um aedaegus 2f 4m	
1057 (HYDROPSYCHIDAE)	1	imm.	4
3432 (Cheumatopsyche)	19		3
8980 (Hydropsyche betteni grp)	1		
1054 (HYDROPTILIDAE)	1	imm. maybe Hydropsychidae?	4
7723 (Dixella)	6		

Type	Value	Metric Score
Total Taxa:	44	5
Total No. Individuals:	107	1
EPT Taxa:	7	3
% Orthocladiinae + Tanytarsini of Chironomidae:	15	5
% Non-insects excluding Astacidae:	8.41	5
Diptera Taxa:	17	5
% Intolerant (0-3):	28.04	3
% Tolerant (8-10):	3.74	5
% Predators FFG 1:	28.04	3
% Shredders + Scrapers FFG 1:	2.8	1
% Collector-Filterers FFG 1:	24.3	1
% Sprawlers:	1.87	1
mIBI Metric Score:		38

Supplemental Metrics

	HBI	
	4.19	
Shannon-Weaver Index		3.32
Shannon Equitability		0.88
% Dominant 3 Taxon		28.97
% Chironomidae		18.69



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
7732 (Anopheles)	1		
7943 (Ablabesmyia)	1	pupa	5
9162 (Nilotanypus fimbriatus)	1		3
7984 (Procladius)	1		7
7926 (Tanypodinae)	1	pupa, maybe Larsia/Paramerina	
9248 (Ablabesmyia Mallochi Gr.)	4		
9261 (Thienemannimyia Gr.)	2		
8006 (Orthocladiinae)	1	probably Corynoneura, no antennae	
8066 (Rheocricotopus)	1	robacki?	5
9296 (Microtendipes Pedellus Gr.)	1	pupa w/ head capsule of larva	
9335 (Paratendipes albimanus grp)	1		
8192 (Polypedilum flavum)	2		
9165 (Saetheria tylus)	1	?	4
8211 (Stictochironomus)	1		4
8228 (Cladotanytarsus)	1		4
9241 (Polypedilum Illinoense Gr.)	1		

Residuals

Identifier	Date	Count	%PSE
SEZ	10/1/2021	1	99.07



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM070-0036	21T-023	MHAB	AB47675	210818702	8/18/21	Jennings

Stream Name	Location	HUC 12	HUCTO14
Vernon Fork Muscatatuck River	CR 400 West	051202070701	05120207070020

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4312526.91	613944.76	55	1.437	218.283	62

TAXON	COUNT	NOTES	HBI Tolerance
2156 (Corbicula fluminea)	2		6
1083 (Acari)	1		4
3048 (Stenacron)	1		3
9366 (Baetis intercalaris complex)	5	Slide S21-089.1	3
9361 (Caenis Diminuta Gr.)	10		
3197 (Ephemera)	1	imm.	3
3109 (Isonychia)	5		2
3175 (Tricorythodes)	1		3
3099 (Hagenius brevistylus)	1	Photo taken, then released	1
9351 (Phanogomphus)	1	imm.	
9125 (Phanogomphus exilis)	1		
1020 (LIBELLULIDAE)	1	imm.	9
7027 (Hetaerina americana)	2		
1026 (COENAGRIONIDAE)	2	imm.	9
3546 (Enallagma)	8	imm./no gills	9
3549 (Enallagma divagans)	1		
7117 (Trepobates)	1	imm.	
7107 (Limnoporus canaliculatus)	1	A	
3600 (Peltodytes duodecimpunctatus)	1	A	
3828 (Dineutus)	1		4
3846 (Berosus)	8	L	7
3851 (Berosus peregrinus)	1	A	6
3872 (Tropisternus)	8	L	
3959 (Helichus lithophilus)	1	A	
7317 (Stenelmis sexlineata)	8	A	
7295 (Ancyronyx variegatus)	1	A	4
3799 (Corydalus cornutus)	3		2
3267 (Chimarra obscura)	29		4
1057 (HYDROPSYCHIDAE)	3	imm. / teneral	4
3432 (Cheumatopsyche)	57		3
3487 (Hydropsyche simulans)	8		2
3000 (Hydroptila)	3		3
7814 (Simulium)	2		5
9370 (Ceratopogon grp.)	4		8
7984 (Procladius)	12		7
9153 (Tribelos)	2		5
7926 (Tanypodinae)	1		
8083 (Chironomini)	3		
9248 (Ablabesmyia Mallochi Gr.)	10		

Type	Value	Metric Score
Total Taxa:	52	5
Total No. Individuals:	322	5
EPT Taxa:	11	3
% Orthocladiinae + Tanytarsini of Chironomidae:	5.76	5
% Non-insects excluding Astacidae:	0.93	5
Diptera Taxa:	20	5
% Intolerant (0-3):	26.71	3
% Tolerant (8-10):	10.56	5
% Predators FFG 1:	14.29	1
% Shredders + Scrapers FFG 1:	4.04	1
% Collector-Filterers FFG 1:	32.3	1
% Sprawlers:	4.35	3
MIBI Metric Score:		42

Supplemental Metrics

	HBI	Value
Shannon-Weaver Index	4.67	
Shannon Equitability		3.17
% Dominant 3 Taxon		0.8
% Chironomidae		40.06
		43.17



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
9250 (Ablabesmyia Rhamphae Gr.)	1		
9261 (Thienemannimyia Gr.)	9		
8023 (Cricotopus bicinctus)	2		7
8086 (Chironomus)	19		8
8099 (Cryptochironomus)	2		5
8112 (Dicrotendipes)	3		6
8126 (Glyptotendipes)	2		6
8179 (Polypedilum)	8		
8192 (Polypedilum flavum)	43		
8228 (Cladotanytarsus)	2		4
8238 (Rheotanytarsus)	1		3
8241 (Tanytarsus)	3		4
9241 (Polypedilum Illinoense Gr.)	16		

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Warning: Macro Data is not finalized (status is not "Approved"); IBI scores may not be final.

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WEM-07-0018	21T-020	MHAB	AB47672	210818701	8/18/21	Jennings
Stream Name		Location		HUC 12		HUCTO14
Sixmile Creek		CR 200 South		051202070702		05120207070060
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4312478.94	609858.73	55	9.117	24.444	62	

TAXON	COUNT	NOTES	HBI Tolerance
2156 (Corbicula fluminea)	1		6
8996 (Faxonius)	2	2F	4
1251 (ISOTOMIDAE)	1		
3048 (Stenacron)	1		3
1012 (BAETIDAE)	6	dmg.	4
9366 (Baetis intercalaris complex)	15	S21-036.2 & .3	3
9361 (Caenis Diminuta Gr.)	5		
3248 (Basiaeschna janata)	2		6
3099 (Hagenius brevistylus)	2	Photos taken, then released	1
7046 (Epiteca princeps)	1		
3448 (Somatochlora)	3	imm.	1
7026 (Calopteryx maculata)	2		
1026 (COENAGRIONIDAE)	2	imm.	9
3546 (Enallagma)	10	no gills, imm.	9
3549 (Enallagma divagans)	4		
3568 (Argia)	3	no gills	5
9095 (Argia fumipennis)	3		
3572 (Argia tibialis)	1		
7122 (Microvelia)	3	3N	
7123 (Microvelia americana)	2	A (1M & 1F)	
3600 (Peltodytes duodecimpunctatus)	37	A	
3851 (Berosus peregrinus)	1	A	6
3959 (Helichus lithophilus)	1	A	
7293 (Psephenus herricki)	1	L	4
7317 (Stenelmis sexlineata)	1	A	
7300 (Dubiraphia vittata)	9	S21-036.1 (PL = 250 um); adults (4M & 5F)	
7295 (Ancyronyx variegatus)	13	A	4
7321 (Macronychus glabratus)	6	A	3
3267 (Chimarra obscura)	8		4
1057 (HYDROPSYCHIDAE)	4	imm.	4
3432 (Cheumatopsyche)	24		3
3000 (Hydroptila)	1		3
7814 (Simulium)	3		5
7965 (Larsia)	1		4
7984 (Procladius)	1		7
7926 (Tanypodinae)	4	3L & 1P	
8083 (Chironomini)	1		

Type	Value	Metric Score
Total Taxa:	52	5
Total No. Individuals:	236	3
EPT Taxa:	8	5
% Orthocladiinae + Tanytarsini of Chironomidae:	12.28	5
% Non-insects excluding Astacidae:	0.42	5
Diptera Taxa:	20	5
% Intolerant (0-3):	23.73	3
% Tolerant (8-10):	5.08	5
% Predators FFG 1:	17.8	1
% Shredders + Scrapers FFG 1:	2.97	1
% Collector-Filterers FFG 1:	19.92	3
% Sprawlers:	2.54	1
MIBI Metric Score:		42

Supplemental Metrics

	HBI
Shannon-Weaver Index	4.14
Shannon Equitability	3.32
% Dominant 3 Taxon	0.84
% Chironomidae	34.32
	24.15



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
9248 (Ablabesmyia Mallochi Gr.)	4		
9250 (Ablabesmyia Rhamphae Gr.)	1		
9261 (Thienemannimyia Gr.)	6		
9284 (Tribelos jucundum)	1		
8099 (Cryptochironomus)	2		5
8112 (Dicrotendipes)	1		6
8126 (Glyptotendipes)	1		6
9296 (Microtendipes Pedellus Gr.)	1		
8179 (Polypedilum)	3		
8192 (Polypedilum flavum)	3		
8238 (Rheotanytarsus)	4		3
8241 (Tanytarsus)	2		4
8981 (Cricotopus/Orthocladius)	1		
9241 (Polypedilum Illinoense Gr.)	20		
8397 (Hemerodromia)	1		

Residuals

Identifier	Date	Count	%PSE
------------	------	-------	------