



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU190-0001	20T-010	MHAB	AB42967	200714704	7/14/20	Knox
Stream Name		Location		HUC 12	HUOTO14	
Marsh Creek		E Springtown Road		051201111803	05120111190030	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4297817.29	465290.89	72	2.96	23.57	35	

TAXON	COUNT	NOTES	HBI Tolerance
1220 (PLATYHELMINTHES)	2		
1233 (ERPOBDELLIDAE)	1		
1090 (Physa)	10		8
1210 (BIVALVIA)	8	1 crushed while moving to vial	
2156 (Corbicula fluminea)	10		6
1083 (ACARI)	1		4
9031 (Lirceus)	1		8
1251 (ISOTOMIDAE)	1		
1253 (SMINTHURIDAE)	1		
3048 (Stenacron)	1		3
1012 (BAETIDAE)	6	damaged	4
7010 (Acerpenna macdunnoughi)	1	S20-029.4	1
3079 (Paracloeodes minutus)	8	S20-029.3	
9347 (Proclaeon viridoculare)	1	S20-29.2	
9361 (Caenis dimunata grp.)	19		
3109 (Isonychia)	1		2
3175 (Tricorythodes)	1		3
3245 (Boyeria vinosa)	1		4
3116 (Progomphus obscurus)	3	immature (<6 mm)	
3052 (Erpetogomphus designatus)	1	!	
3397 (Macromia)	3		2
7027 (Hetaerina americana)	13		
3542 (Ischnura posita)	1		
3546 (Enallagma)	6	no gills	9
3549 (Enallagma divagans)	9		
3568 (Argia)	3	no gills; early instar	5
7201 (Trichocorixa calva)	2	adults (1M adn 1F)	4
7122 (Microvelia)	2	1 nymph w/ wingpads and 1 adult w/ wings	
3600 (Peltodytes duodecimpunctatus)	1	adult	
3604 (Peltodytes sexmaculatus)	1	adult	
3846 (Berosus)	1	larva	7
3851 (Berosus peregrinus)	4	adults	6
3872 (Tropisternus)	3	larvae	
3877 (Tropisternus glaber)	2	adults	

Type	Value	Metric Score
Total Taxa:	71	5
Total No. Individuals:	326	5
EPT Taxa:	14	5
% Orthocladiinae + Tanytarsini of Chironomidae:	50	1
% Non-insects excluding Astacidae:	10.12	5
Diptera Taxa:	29	5
% Intolerant (0-3):	3.99	1
% Tolerant (8-10):	6.13	5
% Predators FFG 1:	19.33	3
% Shredders + Scrapers FFG 1:	6.13	1
% Collector-Filterers FFG 1:	11.66	3
% Sprawlers:	6.13	5
mIBI Metric Score:		44

Supplemental Metrics

	HBI	
	4.97	
Shannon-Weaver Index		3.67
Shannon Equitability		0.86
% Dominant 3 Taxon		23.62
% Chironomidae		46.01



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TAXON	COUNT	NOTES	HBI Tolerance
7307 (Stenelmis)	3	larvae	5
9266 (Stenelmis grossa)	18	adults (19M and 9F); Slide S20-029.1	
1160 (TRICHOPTERA)	2	early instar	
3432 (Cheumatopsyche)	3		3
3473 (Hydropsyche alvata)	2		
3000 (Hydroptila)	1	largest ind. had case	3
8922 (Nectopsyche candida)	10	small vial had ind. broken in half	
8923 (Nectopsyche diarina)	1		3
7843 (Dasyhelea)	1		
9370 (Ceratopogon grp.)	2		8
7984 (Procladius)	11		7
7926 (Tanypodinae (Subfamily))	2		
8083 (Chironomini (Tribe))	7		
8227 (Tanytarsini (Tribe))	3		
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	1		
9261 (Thienemannimyia grp.)	3		
8006 (Orthoclaadiinae (Subfamily))	1		
8067 (Rheocricotopus robacki)	2		4
8086 (Chironomus)	1		8
8099 (Cryptochironomus)	2		5
8104 (Cryptotendipes)	3		4
8112 (Dicrotendipes)	14		6
9165 (Saetheria tylus)	17		4
8228 (Cladotanytarsus)	38		4
8235 (Paratanytarsus)	1		4
9093 (Stempellinella)	1		3
8241 (Tanytarsus)	20		4
9260 (Cricotopus (Cricotopus) /Orthocladus (Orthocladus))	3		
9235 (Polypedilum (Tripodura))	1		
9277 (Polypedilum (Tripodura) scalaenum grp)	2		
9278 (Polypedilum (Tripodura) halterale-simulans grp)	5		
9241 (Polypedilum (Polypedilum) illinoense grp.)	6		
9344 (Cricotopus (Cricotopus) bicinctus)	4		
9346 (Cricotopus (Cricotopus) tremulus grp)	2		
1192 (STRATIOMYIDAE)	1	immature; stratiomys?	
8274 (Stratiomys)	1		
8397 (Hemerodromia)	2		

Residuals



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Identifier	Date	Count	%PSE
JMB	9/9/2020	8	97.55



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0012	20T-011	MHAB	AB42976	200715702	7/15/20	Knox
Stream Name		Location		HUC 12		HUCTO14
Marsh Creek		E Hunley Road		051201111803		05120111190030
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4300664.61	465237.78	72	3.392	20.805	43	

TAXON	COUNT	NOTES	HBI Tolerance
1084 (TURBELLARIA)	1		4
1517 (Pristina leidy)	1		8
1565 (Aeolosoma)	1		8
1234 (GLOSSIPHONIIDAE)	1	Placobdella?	
1233 (ERPOBDELLIDAE)	3		
1091 (Lymnaea)	1		6
1090 (Physa)	15		8
2156 (Corbicula fluminea)	1		6
2181 (Sphaerium)	1		6
8997 (Orconectes propinquus)	1	Form II male	4
1254 (ENTOMOBRYIDAE)	2	small/beat up	
1012 (BAETIDAE)	1	no palps? or abdomen	4
7011 (Acerpenna pygmaea)	1		2
9366 (Baetis intercalaris complex)	2	one without abdomen except first 3 segments, pattern intact	3
3079 (Paracloeodes minutus)	8		
3081 (Callibaetis)	1	gills in microvial	6
9347 (Procloeon viridoculare)	1	J20-001.3	
9361 (Caenis dimunata grp.)	14		
9362 (Caenis hilaris grp.)	1		
3228 (Anax junius)	1		
3282 (Plathemis lydia)	3		8
7025 (ZYGOPTERA)	2	very small	
7027 (Hetaerina americana)	18	some w/out gills but still lacking lateral spine on 8th seg.	
3540 (Ischnura)	1	imm.	9
7031 (Ischnura verticalis)	1		
3542 (Ischnura posita)	2		
3546 (Enallagma)	9	no gills / undeveloped,	9
3549 (Enallagma divagans)	8		
3551 (Enallagma exsulans)	3		
3568 (Argia)	5	small banded femur	5
9095 (Argia fumipennis)	3		
7207 (Belostoma)	3	imm.	
7122 (Microvelia)	1	imm.	
7139 (Merragata brunnea)	1		

Type	Value	Metric Score
Total Taxa:	66	5
Total No. Individuals:	210	3
EPT Taxa:	14	5
% Orthocladiinae + Tanytarsini of Chironomidae:	42.55	3
% Non-insects excluding Astacidae:	11.9	5
Diptera Taxa:	11	3
% Intolerant (0-3):	8.57	1
% Tolerant (8-10):	14.76	3
% Predators FFG 1:	36.19	5
% Shredders + Scrapers FFG 1:	11.9	3
% Collector-Filterers FFG 1:	13.81	3
% Sprawlers:	3.33	3
mIBI Metric Score:		42

Supplemental Metrics

	HBI	Value
	HBI	5.63
Shannon-Weaver Index		3.69
Shannon Equitability		0.88
% Dominant 3 Taxon		23.33
% Chironomidae		22.38



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TAXON	COUNT	NOTES	HBI Tolerance
3599 (<i>Peltodytes dunavani</i>)	1		
3601 (<i>Peltodytes lengi</i>)	1		
3970 (<i>Hydrocanthus iricolor</i>)	1		
3846 (<i>Berosus</i>)	3	3L	7
3863 (<i>Paracymus</i>)	1	based on Florida Coleoptera character (claws)	
3872 (<i>Tropisternus</i>)	3	3L	
3877 (<i>Tropisternus glaber</i>)	1		
9217 (<i>Enochrus pygmaeus</i>)	3	3A	
3910 (<i>Helochares maculicollis</i>)	1		
1096 (SCIRTIDAE)	3	3L	5
7309 (<i>Stenelmis crenata</i>)	2	1m 1f? J20-001.2	5
9266 (<i>Stenelmis grossa</i>)	2	1m 1f? J20-001.1	
7295 (<i>Ancyronyx variegatus</i>)	1		4
7321 (<i>Macronychus glabratus</i>)	1	1A	3
3793 (<i>Chauliodes rastricornis</i>)	1		
3432 (<i>Cheumatopsyche</i>)	10		3
3473 (<i>Hydropsyche alvata</i>)	1		
1054 (HYDROPTILIDAE)	3	1 pupa, 2 imm.	4
1060 (LEPTOCERIDAE)	1	pupa	4
8926 (<i>Oecetis</i>)	1	tiny	3
8924 (<i>Nectopsyche exquisita</i>)	3	?	3
9370 (<i>Ceratopogon</i> grp.)	1		8
7984 (<i>Procladius</i>)	7		7
7926 (<i>Tanypodinae</i> (Subfamily))	1	pupa, no thoracic horn	
9261 (<i>Thienemannimyia</i> grp.)	1		
8112 (<i>Dicrotendipes</i>)	6	modestus? some neomodestus?	6
8221 (<i>Pseudochironomus</i>)	1		5
8228 (<i>Cladotanytarsus</i>)	4	2 pupae	4
8241 (<i>Tanytarsus</i>)	16		4
9277 (<i>Polypedilum</i> (<i>Tripodura</i>) <i>scalaenum</i> grp)	1		
9238 (<i>Polypedilum</i> (<i>Uresipedilum</i>) <i>flavum</i>)	4		
9241 (<i>Polypedilum</i> (<i>Polypedilum</i>) <i>illinoense</i> grp.)	6	1 pupa w/ last larval skin	

Residuals

Identifier	Date	Count	%PSE
MSG	8/31/2020	1	99.53



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Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0013	20T-009	MHAB	AB42968	200713803	7/13/20	Knox
Stream Name		Location		HUC 12		HUCTO14
Maria Creek		County Road 900 N		051201111802		05120111190020
Northing	Eastng	Ecoregion	Gradient	Drainage Area	QHEI Score	
4301141.36	469338.96	72	3.885	30.791	33	

TAXON	COUNT	NOTES	HBI Tolerance
1084 (TURBELLARIA)	1		4
1233 (ERPOBDELLIDAE)	6		
1090 (Physa)	1		8
1210 (BIVALVIA)	2	>1 mm	
2156 (Corbicula fluminea)	2		6
1083 (ACARI)	4		4
9031 (Lirceus)	1		8
3081 (Callibaetis)	2	gills double G20-017.2	6
9361 (Caenis dimunata grp.)	4	one specimen with triad of dots less conspicuous	
1026 (COENAGRIONIDAE)	7		9
3540 (Ischnura)	3		9
7031 (Ischnura verticalis)	3		
3542 (Ischnura posita)	3		
3546 (Enallagma)	16	no gills or poorly developed pigment	9
3549 (Enallagma divagans)	37		
3557 (Enallagma civile)	1		
3560 (Enallagma basidens)	1		
1041 (CORIXIDAE)	3	nymph	5
7202 (Trichocorixa kanza)	1	1 adult female	4
1039 (BELOSTOMATIDAE)	1	nymph imm.	
7117 (Trepobates)	1	imm.	
7105 (Gerris marginatus)	1	adult male	
3600 (Peltodytes duodecimpunctatus)	1	1 adult	
3606 (Peltodytes litoralis)	1	1 adult, hind legs yellow	
3789 (Liodessus flavicollis)	1	1 adult	6
3854 (Berosus aculeatus)	1	1 adult female	
3959 (Helichus lithophilus)	1	1A	
9266 (Stenelmis grossa)	4	4 adults	
7296 (Dubiraphia)	1	1 larva	5
7300 (Dubiraphia vittata)	1	1 adult male, penis ~ 250 um, G20-017.4	
3899 (Helophorus)	1	1 adult G20-017.1	5
1073 (CHIRONOMIDAE(all other))	1		6

Type	Value	Metric Score
Total Taxa:	43	5
Total No. Individuals:	141	3
EPT Taxa:	2	1
% Orthocladiinae + Tanytarsini of Chironomidae:	25	3
% Non-insects excluding Astacidae:	12.06	5
Diptera Taxa:	12	3
% Intolerant (0-3):	0	1
% Tolerant (8-10):	19.86	3
% Predators FFG 1:	56.74	5
% Shredders + Scrapers FFG 1:	1.42	1
% Collector-Filterers FFG 1:	3.55	5
% Sprawlers:	2.13	1
mIBI Metric Score:		36

Supplemental Metrics

	HBI	
	6.83	
Shannon-Weaver Index		3.07
Shannon Equitability		0.82
% Dominant 3 Taxon		42.55
% Chironomidae		19.86



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TAXON	COUNT	NOTES	HBI Tolerance
7943 (Ablabesmyia)	1		5
7984 (Procladius)	2		7
8083 (Chironomini (Tribe))	2		
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	1		
8104 (Cryptotendipes)	1		4
8112 (Dicrotendipes)	4		6
8228 (Cladotanytarsus)	3		4
8235 (Paratanytarsus)	2		4
8241 (Tanytarsus)	2		4
9278 (Polypedilum (Tripodura) halterale-simulans grp)	6		
9241 (Polypedilum (Polypedilum) illinoense grp.)	3		

Residuals

Identifier	Date	Count	%PSE
SEZ	8/11/2020	1	99.29



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Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0007	20T-004	MHAB	AB42961	200714703	7/14/20	Knox
Stream Name		Location		HUC 12	HUOTO14	
Maria Creek		N Perry Road		051201111804	05120111190040	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4295921.95	463720.13	72	1.971	78.969	28	

TAXON	COUNT	NOTES	HBI Tolerance
1260 (NEMATODA)	2		6
1515 (Pristina aequisetata)	2		8
1517 (Pristina leidy)	3		8
1561 (Nais communis/variabilis complex)	24	or pardalis?	
1553 (Tubificidae with pectinate chetae and hair chetae)	1	? or Pristinella sima?	
1555 (Tubificidae with bifid chetae and hair)	1		
1556 (NAIDIDAE w/bifid chetae + hair chetae)	3		
1565 (Aeolosoma)	1	?	8
1090 (Physa)	5		8
3048 (Stenacron)	2	interpunctatum colors	3
1012 (BAETIDAE)	1	callibaetis based on patterns/mouthparts	4
9129 (Acerpenna)	1	beat up, ID based on no villopore, labial palps	4
9366 (Baetis intercalaris complex)	4	J20-010.3	3
3079 (Paracloeodes minutus)	3		
3083 (Callibaetis floridanus)	4		
9347 (Proclaeon viridoculare)	2	based on sternal patterns J20-010.2	
9361 (Caenis dimunata grp.)	11		
3175 (Tricorythodes)	7	one mangled	3
1020 (LIBELLULIDAE)	1	imm.	9
3397 (Macromia)	1	pacifica?	2
3542 (Ischnura posita)	1		
3549 (Enallagma divagans)	1		
3568 (Argia)	1	imm. no gills	5
1041 (CORIXIDAE)	64	imm.	5
7201 (Trichocorixa calva)	24	12f, 12m, some kanza?	4
7202 (Trichocorixa kanza)	4	all male	4
7203 (Trichocorixa sexcincta)	1	? female	4
7183 (Palmacorixa)	1	1 female	5
3600 (Peltodytes)	1		

Type	Value	Metric Score
Total Taxa:	71	5
Total No. Individuals:	455	5
EPT Taxa:	13	5
% Orthocladiinae + Tanytarsini of Chironomidae:	14.17	5
% Non-insects excluding Astacidae:	9.23	5
Diptera Taxa:	30	5
% Intolerant (0-3):	4.84	1
% Tolerant (8-10):	7.91	5
% Predators FFG 1:	32.09	3
% Shredders + Scrapers FFG 1:	5.93	1
% Collector-Filterers FFG 1:	10.11	3
% Sprawlers:	10.55	5
mIBI Metric Score:		48

Supplemental Metrics

	HBI	Value
	HBI	5.49
Shannon-Weaver Index		3.3
Shannon Equitability		0.77
% Dominant 3 Taxon		37.58
% Chironomidae		52.75



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TAXON	COUNT	NOTES	HBI Tolerance
duodecimpunctatus)			
3828 (Dineutus)	1	larva	4
3851 (Berosus peregrinus)	8		6
3872 (Tropisternus)	1	larva	
3879 (Enochrus)	2	larvae	
3884 (Enochrus ochraceus)	1	has some features of sublongus but that doesn't occur in Indiana	
1096 (SCIRTIDAE)	4	4L	5
7307 (Stenelmis)	1	larva	5
9266 (Stenelmis grossa)	6	5 males, 1 female J20 -010.1	
3432 (Cheumatopsyche)	2		3
9154 (Hydropsyche venularis)	2	?	3
3000 (Hydroptila)	3		3
8923 (Nectopsyche diarina)	1		3
7452 (Tipula)	1	Yamatotipula	7
7830 (Atrichopogon)	1		5
7843 (Dasyhelea)	1	Dasyhelea?	
1073 (CHIRONOMIDAE(all other))	1	unclear maybe P. halterale grp or orthoclad?	6
7984 (Procladius)	32		7
9153 (Tribelos)	1	fuscicorne?	5
8083 (Chironomini (Tribe))	9	1 pupae	
8227 (Tanytarsini (Tribe))	1	pupa, no abdomen, tanytarsus?	
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	4		
9261 (Thienemannimyia grp.)	2		
8006 (Orthoclaadiinae (Subfamily))	1	O. dorenius?	
8086 (Chironomus)	24		8
8099 (Cryptochironomus)	13		5
8112 (Dicrotendipes)	75	4 pupae most modestus/neomoderatus?	6
8126 (Glyptotendipes)	20		6
8179 (Polypedilum)	1	1 pupa? 1 probably halterale grp, antennae obscured	
9165 (Saetheria tylus)	4		4
8206 (Stenochironomus)	1		4
8221 (Pseudochironomus)	1		5
8228 (Cladotanytarsus)	7	1 pupa?	4
8235 (Paratanytarsus)	1		4
8241 (Tanytarsus)	20	6 pupae	4
9260 (Cricotopus (Cricotopus) /Orthocladus (Orthocladus))	1	O. dorenius?	



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TAXON	COUNT	NOTES	HBI Tolerance
9277 (Polypedilum (Tripodura) scalaenum grp)	2		
9278 (Polypedilum (Tripodura) halterale-simulans grp)	6		
9238 (Polypedilum (Uresipedilum) flavum)	5		
9241 (Polypedilum (Polypedilum) illinoense grp.)	5		
9346 (Cricotopus (Cricotopus) tremulus grp)	3		
8274 (Stratiomys)	1		
8320 (Chrysops)	2		5

Residuals

Identifier	Date	Count	%PSE
MSG	9/1/2020	3	99.34



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Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0014	20T-015	MHAB	AB42966	200714804	7/14/20	Knox
Stream Name		Location		HUC 12	HUOTO14	
Tributary of Maria Creek		Freelandville Road		051201111801	05120111190010	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4303633.71	469396.62	72	7.362	2.96	24	

TAXON	COUNT	NOTES	HBI Tolerance
1260 (NEMATODA)	1		6
1552 (Tubificidae with bifid chetae and no hair chetae)	4		
1234 (GLOSSIPHONIIDAE)	1		
1233 (ERPOBDELLIDAE)	4		
1090 (Physa)	40		8
1083 (ACARI)	1		4
1251 (ISOTOMIDAE)	1		
3048 (Stenacron)	1		3
3081 (Callibaetis)	2		6
9361 (Caenis dimunata grp.)	9	white globular stuff covering many specimens, fungi?	
3228 (Anax junius)	1	female nymph	
1026 (COENAGRIONIDAE)	3	small instars with under developed eye + gill pigmentation	9
3540 (Ischnura)	3	gills missing	9
7031 (Ischnura verticalis)	5		
3542 (Ischnura posita)	7		
1041 (CORIXIDAE)	2	nymphs	5
7201 (Trichocorixa calva)	3	1 male + 2 females	4
7105 (Gerris marginatus)	1	1 male	
3850 (Berosus pantherinus)	1	10 elytral spots	
3872 (Tropisternus)	1	larva	
3884 (Enochrus ochraceus)	1	male see slide G20-073	
1193 (CULICIDAE)	1		8
9369 (Bezzia grp.)	1		7
7984 (Procladius)	1		7
7926 (Tanytopodinae (Subfamily))	1		
8227 (Tanytarsini (Tribe))	1		
8086 (Chironomus)	6		8
8112 (Dicotendipes)	9		6
8123 (Endochironomus)	2		6
8235 (Paratanytarsus)	3		4
8241 (Tanytarsus)	1		4
9204 (Phaenopsectra/Tribelos)	1		
9241 (Polypedilum (Polypedilum) illinoense grp.)	1		

Type	Value	Metric Score
Total Taxa:	33	3
Total No. Individuals:	120	1
EPT Taxa:	3	3
% Orthocladiinae + Tanytarsini of Chironomidae:	19.23	5
% Non-insects excluding Astacidae:	42.5	1
Diptera Taxa:	12	3
% Intolerant (0-3):	0.83	1
% Tolerant (8-10):	44.17	1
% Predators FFG 1:	25	3
% Shredders + Scrapers FFG 1:	35.83	5
% Collector-Filterers FFG 1:	2.5	5
% Sprawlers:	0.83	1
mIBI Metric Score:		32

Supplemental Metrics

	HBI	
	7.16	
Shannon-Weaver Index		2.72
Shannon Equitability		0.78
% Dominant 3 Taxon		48.33
% Chironomidae		21.67



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

Residuals

Identifier	Date	Count	%PSE
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OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0009	20T-006	MHAB	AB42962	200713801	7/13/20	Knox
Stream Name		Location		HUC 12		HUCTO14
Tilley Ditch		E Pepmeir Road		051201111802		05120111190020
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4298547.08	468476.93	72	4.379	9.299	42	

TAXON	COUNT	NOTES	HBI Tolerance
1498 (Nais)	2		8
1552 (Tubificidae with bifid chetae and no hair chetae)	2		
1087 (Ferrissia)	2	I accidentally crushed shell of one	6
1090 (Physa)	17	some very small were crushed when picked up	8
1210 (BIVALVIA)	1	tiny	
2156 (Corbicula fluminea)	9		6
9031 (Lirceus)	1		8
9001 (Orconectes immunis)	8	females, form II males, or small instars	
1251 (ISOTOMIDAE)	2		
3048 (Stenacron)	2		3
1012 (BAETIDAE)	1	see slide G20-001.1+2	4
3081 (Callibaetis)	4		6
3183 (Caenis)	4	possibly C. hillaris grp. triad of dots not apparent	3
9361 (Caenis dimunata grp.)	55		
3248 (Basiaeschna janata)	1		6
7025 (ZYGOPTERA)	1		
1026 (COENAGRIONIDAE)	77	very small instars, eye pattern poorly developed, or damaged	9
3540 (Ischnura)	8	no gills or gills poorly pigmented	9
7031 (Ischnura verticalis)	2		
3542 (Ischnura posita)	6		
3546 (Enallagma)	23	no gills or poorly developed	9
3549 (Enallagma divagans)	13		
3568 (Argia)	3	no gills	5
3569 (Argia apicalis)	1		
9095 (Argia fumipennis)	2		
1041 (CORIXIDAE)	4	nymphs	5
7208 (Belostoma flumineum)	1		4

Type	Value	Metric Score
Total Taxa:	61	5
Total No. Individuals:	465	5
EPT Taxa:	6	3
% Orthocladiinae + Tanytarsini of Chironomidae:	31.18	3
% Non-insects excluding Astacidae:	7.31	5
Diptera Taxa:	26	5
% Intolerant (0-3):	2.37	1
% Tolerant (8-10):	27.53	1
% Predators FFG 1:	16.34	1
% Shredders + Scrapers FFG 1:	6.02	1
% Collector-Filterers FFG 1:	8.17	5
% Sprawlers:	1.94	1
mIBI Metric Score:		36

Supplemental Metrics

	HBI	
	HBI	6.66
Shannon-Weaver Index		3.04
Shannon Equitability		0.74
% Dominant 3 Taxon		48.17
% Chironomidae		40



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TAXON	COUNT	NOTES	HBI Tolerance
7107 (<i>Limnporus canaliculatus</i>)	1		
7145 (<i>Mesovelgia mulsanti</i>)	1		
3600 (<i>Peltodytes duodecimpunctatus</i>)	5	some without sublateral elytral blotch	
3851 (<i>Berosus peregrinus</i>)	1		6
9266 (<i>Stenelmis grossa</i>)	3	2 females + 1 male; see slide G20-001.4	
7296 (<i>Dubiraphia</i>)	3	3 larvae	5
7300 (<i>Dubiraphia vittata</i>)	7	4 males + 3 females; G20-001.3 ~240 um	
3000 (<i>Hydroptila</i>)	4	2 without cases, may have lost one when spilled the vial	3
1073 (CHIRONOMIDAE(all other))	1		6
7964 (<i>Labrundinia pilosella</i>)	1		3
7984 (<i>Procladius</i>)	4		7
8083 (<i>Chironomini</i> (Tribe))	2		
8227 (<i>Tanytarsini</i> (Tribe))	1		
9248 (<i>Ablabesmyia</i> (<i>Ablabesmyia</i>) <i>mallochi</i> grp.)	2		
9261 (<i>Thienemannimyia</i> grp.)	1		
8006 (<i>Orthocladiinae</i> (Subfamily))	2		
8099 (<i>Cryptochironomus</i>)	4		5
8104 (<i>Cryptotendipes</i>)	2		4
8112 (<i>Dicrotendipes</i>)	92		6
8162 (<i>Paracladopelma</i>)	1		7
8166 (<i>Paralauterborniella nigrohalterale</i>)	1		
8179 (<i>Polypedilum</i>)	1		
8206 (<i>Stenochironomus</i>)	1		4
8228 (<i>Cladotanytarsus</i>)	9		4
8235 (<i>Paratanytarsus</i>)	13		4
8241 (<i>Tanytarsus</i>)	27		4
9260 (<i>Cricotopus</i> (<i>Cricotopus</i>) / <i>Orthocladius</i> (<i>Orthocladius</i>))	2		
9277 (<i>Polypedilum</i> (<i>Tripodura</i>) <i>scalaenum</i> grp)	2		
9278 (<i>Polypedilum</i> (<i>Tripodura</i>) <i>halterale-simulans</i> grp)	5		
9241 (<i>Polypedilum</i> (<i>Polypedilum</i>) <i>illinoense</i> grp.)	8		
9344 (<i>Cricotopus</i> (<i>Cricotopus</i>) <i>bicinctus</i>)	1		
9346 (<i>Cricotopus</i> (<i>Cricotopus</i>) <i>tremulus</i> grp)	3		
8355 (<i>Tabanus</i>)	1		5
1074 (EMPIDIDAE)	1		6



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Residuals

Identifier	Date	Count	%PSE
RAC	8/6/2020	6	98.71



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU190-0002	20T-016	MHAB	AB42965	200714802	7/14/20	Knox
Stream Name		Location		HUC 12	HUOTO14	
Maria Creek		CR 1050 N/Freelandville Road		051201111801	05120111190010	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4303709.05	469930.39	72	5.282	17.468	38	

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificidae with bifid chetae and no hair chetae)	1		
1090 (Physa)	7		8
1094 (Corbicula)	4		
9019 (Cambarus)	1	1F	2
8996 (Orconectes)	1	1F	4
3048 (Stenacron)	2	R20-045.2, L&R maxilla & mandible	3
3081 (Callibaetis)	1	R20-045.3 labium & proleg, R20-045.4 mandible	6
1013 (CAENIDAE)	3	imm.	7
9361 (Caenis dimunata grp.)	15		
3397 (Macromia)	1		2
7027 (Hetaerina americana)	1		
1026 (COENAGRIONIDAE)	1	imm.	9
3540 (Ischnura)	1	no gills	9
3542 (Ischnura posita)	1		
3546 (Enallagma)	2		9
3549 (Enallagma divagans)	35		
3560 (Enallagma basidens)	1		
3568 (Argia)	1	imm.	5
9095 (Argia fumipennis)	1		
3572 (Argia tibialis)	1		
7207 (Belostoma)	1	imm.	
7216 (Ranatra)	1	imm.	
7111 (Rheumatobates)	5	imm.	
7107 (Limnoporus canaliculatus)	1	1M	
7122 (Microvelia)	3	imm.	
3600 (Peltodytes duodecimpunctatus)	1		
3606 (Peltodytes litoralis)	1		
3851 (Berosus peregrinus)	8		6
9266 (Stenelmis grossa)	5	R20-045.1 genitalia & protarsus	
1057 (HYDROPSYCHIDAE)	1	imm.	4
3432 (Cheumatopsyche)	1		3
9154 (Hydropsyche venularis)	1		3
8818 (Oxyethira)	1		5
7964 (Labrundinia pilosella)	1		3
7984 (Procladius)	7		7

Type	Value	Metric Score
Total Taxa:	45	5
Total No. Individuals:	148	3
EPT Taxa:	8	5
% Orthocladiinae + Tanytarsini of Chironomidae:	11.11	5
% Non-insects excluding Astacidae:	8.11	5
Diptera Taxa:	12	3
% Intolerant (0-3):	4.73	1
% Tolerant (8-10):	7.43	5
% Predators FFG 1:	43.92	5
% Shredders + Scrapers FFG 1:	11.49	3
% Collector-Filterers FFG 1:	4.73	5
% Sprawlers:	4.73	3
mIBI Metric Score:		48

Supplemental Metrics

	HBI	Value
	HBI	5.93
Shannon-Weaver Index		3.09
Shannon Equitability		0.81
% Dominant 3 Taxon		39.86
% Chironomidae		24.32



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
7926 (Tanypodinae (Subfamily))	2		
8083 (Chironomini (Tribe))	9	1P	
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	2		
8104 (Cryptotendipes)	1		4
8112 (Dicrotendipes)	8		6
8221 (Pseudochironomus)	1		5
8235 (Paratanytarsus)	3		4
8241 (Tanytarsus)	1		4
9278 (Polypedilum (Tripodura) halterale-simulans grp)	1		
8560 (SCIOMYZIDAE)	1		

Residuals

Identifier	Date	Count	%PSE
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OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0018	20T-017	MHAB	AB42964	200714801	7/14/20	Knox
Stream Name		Location		HUC 12	HUOTO14	
Tributary of Maria Creek		County Road 700 E, Lane Road		051201111801	05120111190010	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4302453.83	471021.92	72	6.761	4.37	44	

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificidae with bifid chetae and no hair chetae)	1		
1204 (GASTROPODA)	2	tiny, ~ 1 mm long	7
1090 (Physa)	9		8
1083 (ACARI)	1		4
8996 (Orconectes)	1	female	4
1251 (ISOTOMIDAE)	2		
1012 (BAETIDAE)	1	no gills, possibly Calibaetis	4
9347 (Proclleon viridoculare)	3		
9361 (Caenis dimunata grp.)	4		
1026 (COENAGRIONIDAE)	2	tiny instars/ eye pigment poorly developed	9
3542 (Ischnura posita)	1		
3546 (Enallagma)	3	gills missing or poorly developed	9
3549 (Enallagma divagans)	28		
3568 (Argia)	1	gills missing	5
9095 (Argia fumipennis)	6		
1060 (LEPTOCERIDAE)	2	possibly Oecetus? tiny instars, ~ 1 mm long each	4
1073 (CHIRONOMIDAE(all other))	1		6
7964 (Labrundinia pilosella)	1		3
7984 (Procladius)	11		7
7926 (Tanytopodinae (Subfamily))	2		
8083 (Chironomini (Tribe))	1		
8227 (Tanytarsini (Tribe))	3		
9246 (Ablabesmyia (Ablabesmyia))	2		
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	6		
8086 (Chironomus)	11		8
8099 (Cryptochironomus)	8		5
8104 (Cryptotendipes)	8		4
8112 (Dicrotendipes)	38		6
9166 (Paracladopelma nereis)	1		
9335 (Paratendipes albimanus grp)	1		
8211 (Stictochironomus)	1		4

Type	Value	Metric Score
Total Taxa:	38	3
Total No. Individuals:	253	3
EPT Taxa:	4	5
% Orthocladiinae + Tanytarsini of Chironomidae:	44.62	3
% Non-insects excluding Astacidae:	5.14	5
Diptera Taxa:	22	5
% Intolerant (0-3):	0.4	1
% Tolerant (8-10):	9.88	5
% Predators FFG 1:	24.11	3
% Shredders + Scrapers FFG 1:	5.14	1
% Collector-Filterers FFG 1:	17.39	3
% Sprawlers:	7.51	5
mIBI Metric Score:		42

Supplemental Metrics

	HBI	Value
Shannon-Weaver Index	HBI	5.28
Shannon Equitability		2.9
% Dominant 3 Taxon		0.8
% Chironomidae		42.29
		73.52



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TAXON	COUNT	NOTES	HBI Tolerance
8228 (Cladotanytarsus)	29		4
8235 (Paratanytarsus)	10		4
8241 (Tanytarsus)	40		4
9260 (Cricotopus (Cricotopus) /Orthocladius (Orthocladius)	1		
9277 (Polypedilum (Tripodura) scalaenum grp)	6		
9278 (Polypedilum (Tripodura) halterale-simulans grp)	4		
9241 (Polypedilum (Polypedilum) illinoense grp.)	1		

Residuals

Identifier	Date	Count	%PSE
SEZ	8/11/2020	15	94.07



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0011	20T-008	MHAB	AB42969	200713804	7/13/20	Knox

Stream Name	Location	HUC 12	HUCTO14
Tributary of Maria Creek	County Road 900 N, E Lower Freelandville Road	051201111802	05120111190020

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4301109.34	468757.52	72	12.542	3.055	34

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificidae with bifid chetae and no hair chetae)	1		
1090 (Physa)	6		8
9036 (Caecidotea)	1		8
8996 (Orconectes)	3		4
1251 (ISOTOMIDAE)	1		
3081 (Callibaetis)	8	one without gills but similar color pattern	6
9361 (Caenis dimunata grp.)	11	including one tiny instar (without conspicuous triad of dots)	
1026 (COENAGRIONIDAE)	7	tiny instars or eye pigment underdeveloped	9
3540 (Ischnura)	1	gills missing	9
7031 (Ischnura verticalis)	8		
3546 (Enallagma)	3	gill pigment poorly developed	9
3549 (Enallagma divagans)	4		
3560 (Enallagma basidens)	1		
3568 (Argia)	2	lateral gills missing	5
9095 (Argia fumipennis)	2		
7105 (Gerris marginatus)	2	1 male + 1 female	
7122 (Microvelia)	3	3 adults with wings	
7128 (Microvelia hinei)	4	4 apterous adults	
3600 (Peltodytes duodecimpunctatus)	1		
7296 (Dubiraphia)	1	male	5
9369 (Bezzia grp.)	1		7
7929 (Clinotanypus pinguis)	1		8
7964 (Labrundinia pilosella)	1		3
7984 (Procladius)	9		7
8086 (Chironomus)	1		8
8104 (Cryptotendipes)	5		4
8112 (Dicrotendipes)	14		6
8179 (Polypedilum)	2		
8235 (Paratanytarsus)	8		4

Type	Value	Metric Score
Total Taxa:	34	3
Total No. Individuals:	128	1
EPT Taxa:	2	3
% Orthocladiinae + Tanytarsini of Chironomidae:	19.64	5
% Non-insects excluding Astacidae:	6.25	5
Diptera Taxa:	13	3
% Intolerant (0-3):	0.78	1
% Tolerant (8-10):	15.63	3
% Predators FFG 1:	32.03	3
% Shredders + Scrapers FFG 1:	6.25	1
% Collector-Filterers FFG 1:	0	5
% Sprawlers:	7.03	5
MIBI Metric Score:		38

Supplemental Metrics

	HBI	Score
Shannon-Weaver Index	6.32	3.17
Shannon Equitability		0.9
% Dominant 3 Taxon		26.56
% Chironomidae		43.75



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TAXON	COUNT	NOTES	HBI Tolerance
9278 (Polypedilum (Tripodura) halterale-simulans grp)	8		
9241 (Polypedilum (Polypedilum) illinoense grp.)	4		
9344 (Cricotopus (Cricotopus) bicinctus)	1		
9346 (Cricotopus (Cricotopus) tremulus grp)	2		
9376 (Brachycera (Cyclorrhapha))	1	pupa in larval skin	

Residuals

Identifier	Date	Count	%PSE
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OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0016	20T-013	MHAB	AB42974	200715801	7/15/20	Sullivan
Stream Name		Location		HUC 12	HUCTO14	
Marsh Creek		S County Road 50 E		051201111803	05120111190030	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4308292.57	464999.74	72	5.502	8.376	37	

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificidae with bifid chetae and no hair chetae)	1		
1555 (Tubificidae with bifid chetae and hair)	1		
1090 (Physa)	1		8
2156 (Corbicula fluminea)	4		6
8996 (Orconectes)	1	small female	4
1251 (ISOTOMIDAE)	1		
1012 (BAETIDAE)	1	no gills	4
3066 (Baetis intercalaris)	3		3
3081 (Callibaetis)	1		6
9361 (Caenis diminuta grp.)	21		
3397 (Macromia)	1		2
7027 (Hetaerina americana)	5		
1026 (COENAGRIONIDAE)	6	tiny instars	9
3542 (Ischnura posita)	5		
3546 (Enallagma)	7	gills missing or pigment poorly developed	9
3549 (Enallagma divagans)	17		
3560 (Enallagma basidens)	1		
9095 (Argia fumipennis)	4		
7105 (Gerris marginatus)	1	female	
3809 (Gyrinus)	2	larvae	4
3851 (Berosus peregrinus)	1	adult female	6
1096 (SCIRTIDAE)	3	larvae	5
9266 (Stenelmis grossa)	3	2 females + 1 male slide G20-066.2	
7296 (Dubiraphia)	1	larva	5
7300 (Dubiraphia vittata)	3	2 females + 1 male, penis ~ 275 um Slide G20-066.1	
3799 (Corydalus cornutus)	1	tiny instar	2
1057 (HYDROPSYCHIDAE)	3	tiny instars	4
3432 (Cheumatopsyche)	5		3
3473 (Hydropsyche alvata)	1		
8980 (Hydropsyche betteni grp)	3		
3000 (Hydroptila)	2		3
8922 (Nectopsyche candida)	2	or maybe N. exquisita	
7984 (Procladius)	3		7

Type	Value	Metric Score
Total Taxa:	55	5
Total No. Individuals:	179	3
EPT Taxa:	10	5
% Orthoclaadiinae + Tanytarsini of Chironomidae:	48.44	1
% Non-insects excluding Astacidae:	3.91	5
Diptera Taxa:	23	5
% Intolerant (0-3):	6.7	1
% Tolerant (8-10):	7.82	5
% Predators FFG 1:	29.05	3
% Shredders + Scrapers FFG 1:	4.47	1
% Collector-Filterers FFG 1:	11.73	3
% Sprawlers:	4.47	3
mIBI Metric Score:		40

Supplemental Metrics

	HBI	
	5.17	
Shannon-Weaver Index		3.56
Shannon Equitability		0.9
% Dominant 3 Taxon		27.93
% Chironomidae		35.75



**OWQ/WAPB Macroinvertebrate Community Assessment
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TAXON	COUNT	NOTES	HBI Tolerance
7926 (Tanypodinae (Subfamily))	1	1 pupa	
8082 (Chironominae (Subfamily))	1	1 pupa	
8083 (Chironomini (Tribe))	1		
9261 (Thienemannimyia grp.)	1		
8006 (Orthoclaadiinae (Subfamily))	1		
8099 (Cryptochironomus)	3		5
8112 (Dicrotendipes)	8		6
8179 (Polypedilum)	1		
9165 (Saetheria tylus)	2		4
8211 (Stictochironomus)	1		4
8228 (Cladotanytarsus)	4		4
8235 (Paratanytarsus)	12		4
8241 (Tanytarsus)	9		4
9260 (Cricotopus (Cricotopus) /Orthocladus (Orthocladus))	1		
9277 (Polypedilum (Tripodura) scalaenum grp)	4		
9278 (Polypedilum (Tripodura) halterale-simulans grp)	4		
9241 (Polypedilum (Polypedilum) illinoense grp.)	1		
9344 (Cricotopus (Cricotopus) bicinctus)	2		
8397 (Hemerodromia)	2		
1082 (MUSCIDA)	1	1 larva	6

Residuals

Identifier	Date	Count	%PSE
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OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0015	20T-012	MHAB	AB42975	200715703	7/15/20	Knox
Stream Name		Location		HUC 12	HUOTO14	
Marsh Creek		E Moody Road		051201111803	05120111190030	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4305162.56	463398.79	72	2.932	12.234	25	

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificidae with bifid chetae and no hair chetae)	6		
1556 (NAIDIDAE w/bifid chetae + hair chetae)	1		
1233 (ERPOBDELLIDAE)	1		
1091 (Lymnaea)	1		6
1090 (Physa)	5		8
1210 (BIVALVIA)	13		
2156 (Corbicula fluminea)	3	1 lost while placing in vial	6
1110 (EPHEMEROPTERA)	1	damaged - only head (Caenis?)	
1012 (BAETIDAE)	5	damaged	4
9361 (Caenis dimunata grp.)	37		
7031 (Ischnura verticalis)	1		
3542 (Ischnura posita)	2		
3546 (Enallagma)	3	no gills, likely E. divagans	9
3549 (Enallagma divagans)	3		
1041 (CORIXIDAE)	43	nymphs	5
7201 (Trichocorixa calva)	62	adults (24 males, 38 females)	4
7202 (Trichocorixa kanza)	6	adults (3 males, 3 females)	4
7111 (Rheumatobates)	6	1 winged female, 5 nymphs	
3600 (Peltodytes duodecimpunctatus)	4	adults (2F, 1M, 1?); males with genitalia in small vial	
3604 (Peltodytes sexmaculatus)	1	adult	
3606 (Peltodytes litoralis)	2	adults	
3851 (Berosus peregrinus)	1	adult	6
7300 (Dubiraphia vittata)	3	S20-018 (PL = 255 um); adults (2M and 1F)	
9370 (Ceratopogon grp.)	1		8
7974 (Pentaneura inconspicua)	1		5
7984 (Procladius)	21		7
8083 (Chironomini (Tribe))	2		
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	1		
9261 (Thienemannimyia grp.)	1		

Type	Value	Metric Score
Total Taxa:	41	5
Total No. Individuals:	298	5
EPT Taxa:	3	1
% Orthocladiinae + Tanytarsini of Chironomidae:	25.29	3
% Non-insects excluding Astacidae:	10.07	5
Diptera Taxa:	18	5
% Intolerant (0-3):	0	1
% Tolerant (8-10):	3.36	5
% Predators FFG 1:	51.68	5
% Shredders + Scrapers FFG 1:	2.35	1
% Collector-Filterers FFG 1:	5.03	5
% Sprawlers:	8.39	5
mIBI Metric Score:		46

Supplemental Metrics

	HBI	Value
Shannon-Weaver Index	HBI	5.02
Shannon Equitability		2.84
% Dominant 3 Taxon		0.76
% Chironomidae		47.65
		29.19



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TAXON	COUNT	NOTES	HBI Tolerance
8086 (Chironomus)	1		8
8099 (Cryptochironomus)	4		5
8104 (Cryptotendipes)	4		4
8112 (Dicrotendipes)	22		6
8221 (Pseudochironomus)	1		5
8228 (Cladotanytarsus)	8		4
8235 (Paratanytarsus)	1		4
9221 (Stempellina)	1		
8241 (Tanytarsus)	12		4
9235 (Polypedilum (Tripodura))	1		
9278 (Polypedilum (Tripodura) halterale-simulans grp)	3		
9241 (Polypedilum (Polypedilum) illinoense grp.)	3		

Residuals

Identifier	Date	Count	%PSE
SEZ	9/1/2020	7	97.65



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0014	20T-015	MHAB	AB42981	200714805	7/14/20	Knox

Stream Name	Location	HUC 12	HUOTO14
Tributary of Maria Creek	Freelandville Road	051201111801	05120111190010

Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score
4303633.71	469396.62	72	7.362	2.96	23

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificidae with bifid chetae and no hair chetae)	2		
1234 (GLOSSIPHONIIDAE)	1		
1233 (ERPOBDELLIDAE)	4		
1090 (Physa)	26		8
9031 (Lirceus)	1		8
1012 (BAETIDAE)	2	gills missing	4
3081 (Callibaetis)	1		6
9347 (Proclaeon viridoculare)	1		
9361 (Caenis diminuta grp.)	30		
1026 (COENAGRIONIDAE)	2	eye pigmentation poorly developed	9
3540 (Ischnura)	4	gills missing or poorly developed	9
3542 (Ischnura posita)	8		
1041 (CORIXIDAE)	1	nymph	5
7201 (Trichocorixa calva)	3	females	4
3851 (Berosus peregrinus)	1	adult	6
3863 (Paracymus)	1		
3872 (Tropisternus)	1	larva	
9217 (Enochrus pygmaeus)	2	1 male + 1 female	
7984 (Procladius)	1		7
9248 (Ablabesmyia (Ablabesmyia) mallochii grp.)	2		
9261 (Thienemannimyia grp.)	2		
8112 (Dicrotendipes)	9		6
8179 (Polypedilum)	1		
8228 (Cladotanytarsus)	4		4
8235 (Paratanytarsus)	3		4
8241 (Tanytarsus)	1		4
9278 (Polypedilum (Tripodura) halterale-simulans grp)	2		
9241 (Polypedilum (Polypedilum) illinoense grp.)	4		

Type	Value	Metric Score
Total Taxa:	28	3
Total No. Individuals:	120	1
EPT Taxa:	4	5
% Orthocladiinae + Tanytarsini of Chironomidae:	27.59	3
% Non-insects excluding Astacidae:	28.33	3
Diptera Taxa:	10	3
% Intolerant (0-3):	0	1
% Tolerant (8-10):	27.5	1
% Predators FFG 1:	18.33	3
% Shredders + Scrapers FFG 1:	23.33	5
% Collector-Filterers FFG 1:	0.83	5
% Sprawlers:	0.83	1
mIBI Metric Score:		34

Supplemental Metrics

	HBI
Shannon-Weaver Index	6.78
Shannon Equitability	2.61
% Dominant 3 Taxon	0.78
% Chironomidae	54.17
	24.17

Residuals

Identifier	Date	Count	%PSE
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OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0020	20T-019	MHAB	AB42963	200715803	7/15/20	Sullivan
Stream Name		Location		HUC 12	HUOTO14	
Maria Creek		E County Road 975 S		051201111801	05120111190010	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4309677.15	471987.13	72	7.687	7.331	64	

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificidae with bifid chetae and no hair chetae)	1		
2156 (Corbicula fluminea)	3		6
1083 (ACARI)	1		4
8996 (Orconectes)	4	females + form II males	4
1012 (BAETIDAE)	3	damaged instars	4
7011 (Acerpenna pygmaea)	16		2
3066 (Baetis intercalaris)	5		3
9361 (Caenis diminuta grp.)	23		
1120 (ANISOPTERA)	1	tiny instar ~ 1.5 mm long	
3397 (Macromia)	2		2
1026 (COENAGRIONIDAE)	6	tiny instars with poorly developed eye pigment	9
3542 (Ischnura posita)	1		
3546 (Enallagma)	1	gills missing	9
3549 (Enallagma divagans)	9		
3571 (Argia sedula)	6	or A. fumipennis?	
7111 (Rheumatobates)	1	nymph	
7117 (Trepobates)	2	female	
7120 (Trepobates pictus)	1	1 male + 1 female	
7307 (Stenelmis)	7	larvae	5
9266 (Stenelmis grossa)	20	adults, 9 females + 11 males, slides G20-061.2 +.3	
7296 (Dubiraphia)	13	adults 7 females + 6 males, G20-061.1 penis ~270 um	5
7321 (Macronychus glabratus)	1	adult	3
3432 (Cheumatopsyche)	18		3
8980 (Hydropsyche betteni grp)	1		
1054 (HYDROPTILIDAE)	1	dorsoventrally compressed with cylindrical case	4
8945 (Triaenodes nox)	2		
7943 (Ablabesmyia)	1		5
7984 (Procladius)	1		7
7926 (Tanypodinae (Subfamily))	1	1 pupa	

Type	Value	Metric Score
Total Taxa:	47	5
Total No. Individuals:	195	3
EPT Taxa:	8	5
% Orthocladiinae + Tanytarsini of Chironomidae:	42.22	3
% Non-insects excluding Astacidae:	2.56	5
Diptera Taxa:	21	5
% Intolerant (0-3):	21.54	3
% Tolerant (8-10):	3.59	5
% Predators FFG 1:	15.38	1
% Shredders + Scrapers FFG 1:	4.62	1
% Collector-Filterers FFG 1:	15.9	3
% Sprawlers:	3.08	3
mIBI Metric Score:		42

Supplemental Metrics

	HBI	
	4.22	
Shannon-Weaver Index		3.27
Shannon Equitability		0.85
% Dominant 3 Taxon		31.28
% Chironomidae		23.08



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TAXON	COUNT	NOTES	HBI Tolerance
8082 (Chironominae (Subfamily))	1	1 pupa	
8083 (Chironomini (Tribe))	1		
8227 (Tanytarsini (Tribe))	1		
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	1		
8023 (Cricotopus bicinctus)	1		7
9284 (Tribelos jucundus)	1		
8099 (Cryptochironomus)	4		5
8104 (Cryptotendipes)	3		4
8112 (Dicrotendipes)	5		6
8206 (Stenochironomus)	1		4
8221 (Pseudochironomus)	1		5
8228 (Cladotanytarsus)	4		4
8235 (Paratanytarsus)	4		4
8241 (Tanytarsus)	9		4
9278 (Polypedilum (Tripodura) halterale-simulans grp)	2		
9238 (Polypedilum (Uresipedilum) flavum)	1		
9241 (Polypedilum (Polypedilum) illinoense grp.)	2		
1078 (TABANIDAE)	1		6

Residuals

Identifier	Date	Count	%PSE
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OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0019	20T-018	MHAB	AB42972	200715802	7/15/20	Sullivan
Stream Name		Location		HUC 12		HUCTO14
Maria Creek		E County Road 1050 S		051201111801		05120111190010
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4308436.12	471123.9	72	8.775	10.192	45	

TAXON	COUNT	NOTES	HBI Tolerance
1552 (Tubificidae with bifid chetae and no hair chetae)	1		
1087 (Ferrissia)	1		6
1090 (Physa)	8		8
1210 (BIVALVIA)	2	tiny	
2156 (Corbicula fluminea)	24		6
1083 (ACARI)	3		4
8996 (Orconectes)	13	Females + Form II males	4
7011 (Acerpenna pygmaea)	5		2
3065 (Baetis)	3		3
9366 (Baetis intercalaris complex)	6	G20-020.1	3
9347 (Procloeon viridoculare)	2		
9361 (Caenis diminuta grp.)	33		
3116 (Progomphus obscurus)	2		
3397 (Macromia)	6		2
3448 (Somatochlora)	1		1
7025 (ZYGOPTERA)	3		
7026 (Calopteryx maculata)	2		
1026 (COENAGRIONIDAE)	67	tiny instars or eye pigment underdeveloped	9
7031 (Ischnura verticalis)	1		
3546 (Enallagma)	11	lateral gills missing or underdeveloped	9
3549 (Enallagma divagans)	22		
3568 (Argia)	2	gills missing or underdeveloped	5
3569 (Argia apicalis)	1		
3571 (Argia sedula)	14		
7111 (Rheumatobates)	1	nymph, tiny instar	
7122 (Microvelia)	2	nymphs	
3600 (Peltodytes duodecimpunctatus)	2		
7307 (Stenelmis)	4	larvae	5
9266 (Stenelmis grossa)	21	adults; 10 males + 11 females; see slides G20-020.3+.4	
7296 (Dubiraphia)	3	larvae	5
7300 (Dubiraphia vittata)	4	adults, 2 females	

Type	Value	Metric Score
Total Taxa:	56	5
Total No. Individuals:	432	5
EPT Taxa:	8	5
% Orthocladiinae + Tanytarsini of Chironomidae:	67.52	1
% Non-insects excluding Astacidae:	9.03	5
Diptera Taxa:	21	5
% Intolerant (0-3):	5.79	1
% Tolerant (8-10):	19.91	3
% Predators FFG 1:	18.75	3
% Shredders + Scrapers FFG 1:	3.01	1
% Collector-Filterers FFG 1:	18.98	3
% Sprawlers:	3.7	3
mIBI Metric Score:		40

Supplemental Metrics

	HBI	Value
Shannon-Weaver Index	HBI	5.73
Shannon Equitability		3.2
% Dominant 3 Taxon		0.79
% Chironomidae		35.19
		36.34



**OWQ/WAPB Macroinvertebrate Community Assessment
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TAXON	COUNT	NOTES	HBI Tolerance
		+ 2 males; G20-020.2 ~260 um	
7321 (Macronychus glabratus)	1	adult	3
1160 (TRICHOPTERA)	1	probably very small Hydropsychid instar without gills	
8937 (Triaenodes)	1	tiny instar	
8926 (Oecetis)	1	tiny instar	3
9369 (Bezzia grp.)	1		7
1073 (CHIRONOMIDAE(all other))	1		6
7984 (Procladius)	13		7
9153 (Tribelos)	1		5
8082 (Chironominae (Subfamily))	1		
8083 (Chironomini (Tribe))	3		
8227 (Tanytarsini (Tribe))	3		
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	2		
9284 (Tribelos jucundus)	2		
8074 (Thienemanniella)	1		4
8099 (Cryptochironomus)	1		5
8104 (Cryptotendipes)	3		4
8112 (Dicrotendipes)	17		6
8167 (Paratendipes)	1		6
9165 (Saetheria tylus)	3		4
8228 (Cladotanytarsus)	27		4
8235 (Paratanytarsus)	21		4
8238 (Rheotanytarsus)	2		3
8241 (Tanytarsus)	52		4
9278 (Polypedilum (Tripodura) halterale-simulans grp)	1		
9241 (Polypedilum (Polypedilum) illinoense grp.)	2		

Residuals

Identifier	Date	Count	%PSE
SEZ	8/11/2020	6	98.61



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0010	20T-007	MHAB	AB42970	200713802	7/13/20	Knox
Stream Name		Location		HUC 12	HUOTO14	
Tributary of Maria Creek		County Road 700 E, Lane Road		051201111802	05120111190020	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4300729.19	470997.09	72	9.923	2.623	29	

TAXON	COUNT	NOTES	HBI Tolerance
1233 (ERPOBDELLIDAE)	5		
1204 (GASTROPODA)	2	tiny, with crushed shells	7
1090 (Physsa)	9		8
1083 (ACARI)	4	some with strange abdominal constriction, Arreneus?	4
9001 (Orconectes immunis)	2	form II male	
1251 (ISOTOMIDAE)	1		
3245 (Boyeria vinosa)	1		4
3305 (Erythemis simplicicollis)	8	tiny instars	
1026 (COENAGRIONIDAE)	2	small instars with underdeveloped eye pigment	9
3540 (Ischnura)	4	gills missing or poorly developed	9
7031 (Ischnura verticalis)	6		
3542 (Ischnura posita)	2		
3568 (Argia)	1	gills missing	5
9095 (Argia fumipennis)	3		
7201 (Trichocorixa calva)	2	2 females	4
7230 (Neoplea striola)	1		
7207 (Belostoma)	1	nymph	
7208 (Belostoma flumineum)	1	male with eggs	4
3600 (Peltodytes duodecimpunctatus)	2		
3846 (Berosus)	1	larva	7
3872 (Tropisternus)	1	larva	
9216 (Tropisternus lateralis)	1	adult	
3879 (Enochrus)	1	larva	
9217 (Enochrus pygmaeus)	2	adults, 1 male + 1 female	
7300 (Dubiraphia vittata)	1	male, G20-049, penis ~255 um	
7321 (Macronychus glabratus)	1	adult	3
3899 (Helophorus)	1	adult	5
1077 (CERATOPOGONIDAE)	1		6
9369 (Bezzia grp.)	10		7
9370 (Ceratopogon grp.)	5		8
1073 (CHIRONOMIDAE(all other))	2		6

Type	Value	Metric Score
Total Taxa:	40	3
Total No. Individuals:	108	1
EPT Taxa:	0	1
% Orthocladiinae + Tanytarsini of Chironomidae:	15.38	5
% Non-insects excluding Astacidae:	18.52	3
Diptera Taxa:	13	3
% Intolerant (0-3):	0.93	1
% Tolerant (8-10):	18.52	3
% Predators FFG 1:	50.93	5
% Shredders + Scrapers FFG 1:	11.11	3
% Collector-Filterers FFG 1:	2.78	5
% Sprawlers:	4.63	3
mIBI Metric Score:		36

Supplemental Metrics

	HBI	Value
	HBI	6.25
	Shannon-Weaver Index	3.3
	Shannon Equitability	0.89
	% Dominant 3 Taxon	29.63
	% Chironomidae	24.07



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TAXON	COUNT	NOTES	HBI Tolerance
7965 (Larsia)	2		4
7984 (Procladius)	2		7
8227 (Tanytarsini (Tribe))	1		
8112 (Dicrotendipes)	1		6
8221 (Pseudochironomus)	13		5
8228 (Cladotanytarsus)	2		4
8235 (Paratanytarsus)	1		4
9277 (Polypedilum (Tripodura) scalaenum grp)	1		
9278 (Polypedilum (Tripodura) halterale-simulans grp)	1		

Residuals

Identifier	Date	Count	%PSE
SEZ	8/11/2020	0	100



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0006	20T-003	MHAB	AB42978	200714702	7/14/20	Knox
Stream Name		Location		HUC 12	HUOTO14	
Cotton Branch		E Springtown Road		051201111804	05120111190040	
Northing	Easting	Ecoregion	Gradient	Drainage Area	QHEI Score	
4295210.91	462069.86	72	9.645	3.133	63	

TAXON	COUNT	NOTES	HBI Tolerance
1091 (Lymnaea)	2	2 different species? is one a hydroboid w/out operculum?	6
1090 (Physa)	1		8
9031 (Lirceus)	9		8
8996 (Orconectes)	1	f	4
1017 (HEPTAGENIIDAE)	1	Stenacron or Stenonema?	4
7011 (Acerpenna pygmaea)	1		2
7025 (ZYGOPTERA)	1	Coenagrionidae?	
3551 (Enallagma exsulans)	1		
9095 (Argia fumipennis)	1		
1041 (CORIXIDAE)	1	nymph, big swimming hairs on back legs	5
3809 (Gyrinus)	1	1L	4
1096 (SCIRTIDAE)	4	4L	5
7321 (Macronychus glabratus)	1	1A	3
7732 (Anopheles)	3		
7984 (Procladius)	3		7
9153 (Tribelos)	2	fuscicorne?	5
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	1		
8006 (Orthocladiinae (Subfamily))	1	3 median teeth, imm. smittia?	
8011 (Brillia flavifrons)	1		
8086 (Chironomus)	6		8
8112 (Dicrotendipes)	1		6
9335 (Paratendipes albimanus grp)	1		
9353 (Phaenopsectra punctipes grp)	1	Ph. flavipes?	
8228 (Cladotanytarsus)	1		4
8241 (Tanytarsus)	1		4
9277 (Polypedilum (Tripodura) scalaenum grp)	1		
9241 (Polypedilum (Polypedilum) illinoense grp.)	8		

Type	Value	Metric Score
Total Taxa:	27	3
Total No. Individuals:	56	1
EPT Taxa:	2	3
% Orthocladiinae + Tanytarsini of Chironomidae:	14.29	5
% Non-insects excluding Astacidae:	21.43	3
Diptera Taxa:	14	5
% Intolerant (0-3):	3.57	1
% Tolerant (8-10):	28.57	1
% Predators FFG 1:	12.5	1
% Shredders + Scrapers FFG 1:	14.29	3
% Collector-Filterers FFG 1:	7.14	5
% Sprawlers:	5.36	3
mIBI Metric Score:		34

Supplemental Metrics

	HBI	Value
Shannon-Weaver Index		6.31
Shannon Equitability		2.92
% Dominant 3 Taxon		0.89
% Chironomidae		41.07
		50

Residuals

Identifier	Date	Count	%PSE
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OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

SEZ	9/1/2020	0	100
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OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU190-0002	20T-016	MHAB	AB42982	200714803	7/14/20	Knox
Stream Name		Location		HUC 12		HUCTO14
Maria Creek		CR 1050 N/Freelandville Road		051201111801		05120111190010
Northing	Eastng	Ecoregion	Gradient	Drainage Area	QHEI Score	
4303709.05	469930.39	72	5.282	17.468	38	

TAXON	COUNT	NOTES	HBI Tolerance
1090 (Physa)	4	2 imm.	8
1094 (Corbicula)	2		
1083 (ACARI)	1		4
8996 (Orconectes)	1	1F	4
3081 (Callibaetis)	3	Slide R20-007.1 & R20-007.2 labial palp and mandible	6
9347 (Proclleon viridoculare)	1	Slide R20-007.3 labial palp & mandible	
3183 (Caenis)	5	imm.	3
9361 (Caenis dimunata grp.)	13		
9362 (Caenis hilaris grp.)	1		
3397 (Macromia)	3		2
1026 (COENAGRIONIDAE)	1	imm.	9
3540 (Ischnura)	1	no gills	9
3546 (Enallagma)	5		9
3549 (Enallagma divagans)	18		
3551 (Enallagma exsulans)	1		
3560 (Enallagma basidens)	1		
3568 (Argia)	2	imm.	5
3569 (Argia apicalis)	1		
1041 (CORIXIDAE)	1		5
1038 (GERRIDAE)	1	imm.	
7107 (Limnoporus canaliculatus)	2		
7122 (Microvelia)	4		
7145 (Mesovelia mulsanti)	1		
3600 (Peltodytes duodecimpunctatus)	2		
3601 (Peltodytes lengi)	2	2A	
3604 (Peltodytes sexmaculatus)	5	5A	
3846 (Berosus)	1	1L	7
3851 (Berosus peregrinus)	6	6A	6
1096 (SCIRTIDAE)	3	3L	5
7307 (Stenelmis)	3	1AF, 2L	5
7300 (Dubiraphia vittata)	3	1M 2F, R20-007.4 250um	
9369 (Bezzia grp.)	3		7
7964 (Labrundinia pilosella)	1		3
7984 (Procladius)	10		7
8083 (Chironomini (Tribe))	2	1P	
9248 (Ablabesmyia)	5		

Type	Value	Metric Score
Total Taxa:	46	5
Total No. Individuals:	159	3
EPT Taxa:	5	3
% Orthocladiinae + Tanytarsini of Chironomidae:	24.14	3
% Non-insects excluding Astacidae:	4.4	5
Diptera Taxa:	15	5
% Intolerant (0-3):	5.66	1
% Tolerant (8-10):	6.92	5
% Predators FFG 1:	34.59	3
% Shredders + Scrapers FFG 1:	10.69	3
% Collector-Filterers FFG 1:	4.4	5
% Sprawlers:	7.55	5
mIBI Metric Score:		46

Supplemental Metrics

	HBI	
	5.68	
Shannon-Weaver Index		3.35
Shannon Equitability		0.87
% Dominant 3 Taxon		32.7
% Chironomidae		36.48



OWQ/WAPB Macroinvertebrate Community Assessment
MHAB Report

TAXON	COUNT	NOTES	HBI Tolerance
(Ablabesmyia) mallochi grp.)			
8017 (Corynoneura)	1		4
8023 (Cricotopus bicinctus)	1		7
8099 (Cryptochironomus)	1		5
8112 (Dicrotendipes)	21		6
8206 (Stenochironomus)	1		4
8221 (Pseudochironomus)	1		5
8228 (Cladotanytarsus)	2		4
8235 (Paratanytarsus)	5		4
8241 (Tanytarsus)	5		4
9278 (Polypedilum (Tripodura) halterale-simulans grp)	2		

Residuals

Identifier	Date	Count	%PSE
MSG	12/1/2020	5	96.86



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0008	20T-005	MHAB	AB42977	200715701	7/15/20	Knox
Stream Name		Location		HUC 12		HUCTO14
Maria Creek		N Risley Road		051201111802		05120111190020
Northing	Eastng	Ecoregion	Gradient	Drainage Area	QHEI Score	
4297182.92	466001.32	72	1.971	49.206	30	

TAXON	COUNT	NOTES	HBI Tolerance
1090 (Physa)	1		8
1083 (ACARI)	1		4
1012 (BAETIDAE)	1	damaged	4
9361 (Caenis dimunata grp.)	8		
1120 (ANISOPTERA)	1	early instar; Corduliidae or Libellulidae	
3540 (Ischnura)	1	no gills	9
3546 (Enallagma)	7	no gills	9
3549 (Enallagma divagans)	3		
3560 (Enallagma basidens)	2		
1041 (CORIXIDAE)	64	wingless/nymphs	5
7201 (Trichocorixa calva)	27	adults (12M and 15F)	4
7202 (Trichocorixa kanza)	17	adults (8M and 9F)	4
7230 (Neoplea striola)	1		
7122 (Microvelia)	2	nymph	
3600 (Peltodytes duodecimpunctatus)	1	adults (1F)	
3601 (Peltodytes lengi)	2	adults (2F)	
3604 (Peltodytes sexmaculatus)	1	adult (1F)	
3606 (Peltodytes litoralis)	1	adult	
3851 (Berosus peregrinus)	4		6
1096 (SCIRTIDAE)	2	larvae	5
7300 (Dubiraphia vittata)	2	adults (1M and 1F); S20-004.1 (PL = 250 um)	
3000 (Hydroptila)	2	1 not final instar, but with 3 posterior gills	3
7830 (Atrichopogon)	1		5
9370 (Ceratopogon grp.)	4		8
7984 (Procladius)	23		7
8083 (Chironomini (Tribe))	1		
9248 (Ablabesmyia (Ablabesmyia) mallochi grp.)	3		
8086 (Chironomus)	2		8
8099 (Cryptochironomus)	2		5
8112 (Dicrotendipes)	1		6
8228 (Cladotanytarsus)	9		4
8235 (Paratanytarsus)	1		4
8241 (Tanytarsus)	16		4

Type	Value	Metric Score
Total Taxa:	37	3
Total No. Individuals:	218	3
EPT Taxa:	3	1
% Orthocladiinae + Tanytarsini of Chironomidae:	44.07	3
% Non-insects excluding Astacidae:	0.92	5
Diptera Taxa:	15	5
% Intolerant (0-3):	0.92	1
% Tolerant (8-10):	6.88	5
% Predators FFG 1:	70.18	5
% Shredders + Scrapers FFG 1:	4.13	1
% Collector-Filterers FFG 1:	7.8	5
% Sprawlers:	12.39	5
mIBI Metric Score:		42

Supplemental Metrics

	HBI	Value
	HBI	5.15
Shannon-Weaver Index		2.64
Shannon Equitability		0.73
% Dominant 3 Taxon		52.29
% Chironomidae		27.06



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TAXON	COUNT	NOTES	HBI Tolerance
9278 (Polypedilum (Tripodura) halterale-simulans grp)	1		
9294 (Myxosargus)	1	early instar	
8301 (Odontomyia)	1	cool!	
8274 (Stratiomys)	1		

Residuals

Identifier	Date	Count	%PSE
MSG	8/14/2020	0	100



OWQ/WAPB Macroinvertebrate Community Assessment MHAB Report

Site Name	EPA ID	Macro Sample Type	Sample #	Macro Event #	Sample Date	County
WBU-18-0004	20T-001	MHAB	AB42979	200714701	7/14/20	Knox
Stream Name		Location		HUC 12		HUCTO14
Maria Creek		N Old 41		051201111804		05120111190040
Northing	Eastng	Ecoregion	Gradient	Drainage Area	QHEI Score	
4291744.55	458932.16	72	3.217	90.629	55	

TAXON	COUNT	NOTES	HBI Tolerance
1090 (Physa)	2		8
2156 (Corbicula fluminea)	1		6
1017 (HEPTAGENIIDAE)	1	missing abdomen and all legs	4
3048 (Stenacron)	1		3
9366 (Baetis intercalaris complex)	3	Slide S20-011.3	3
9361 (Caenis diminuta grp.)	1		
3175 (Tricorythodes)	3		3
3397 (Macromia)	1		2
1026 (COENAGRIONIDAE)	1	immature - 5 segment antennae	9
3568 (Argia)	3	missing gills, immature	5
1041 (CORIXIDAE)	6	nymphs	5
7201 (Trichocorixa calva)	27	21 males and 6 females (adults)	4
7202 (Trichocorixa kanza)	6	4 males and 2 females (adults)	4
7116 (Metrobates hesperius)	5		
3874 (Tropisternus mixtus)	1	adult	
1096 (SCIRTIDAE)	1	larva	5
7307 (Stenelmis)	1	larva	5
9266 (Stenelmis grossa)	8	adults (3F and 5M); Slide S20-011.1	
7295 (Ancyronyx variegatus)	2	adults	4
7321 (Macronychus glabratus)	1	adult female	3
3799 (Corydalis cornutus)	1		2
3432 (Cheumatopsyche)	11		3
3473 (Hydropsyche alvata)	12		
3000 (Hydroptila)	1		3
8837 (Neureclipsis crepuscularis)	1	S20-011.2	
7984 (Procladius)	1		7
9250 (Ablabesmyia (Ablabesmyia) rhamphae grp.)	1		
9261 (Thienemannimyia grp.)	2		
8099 (Cryptochironomus)	1		5
8126 (Glyptotendipes)	2		6
8184 (Polypedilum fallax)	1		
9165 (Saetheria tylus)	1		4
8206 (Stenochironomus)	1		4

Type	Value	Metric Score
Total Taxa:	39	3
Total No. Individuals:	162	3
EPT Taxa:	9	3
% Orthocladiinae + Tanytarsini of Chironomidae:	9.84	5
% Non-insects excluding Astacidae:	1.85	5
Diptera Taxa:	14	5
% Intolerant (0-3):	14.2	1
% Tolerant (8-10):	1.85	5
% Predators FFG 1:	31.48	3
% Shredders + Scrapers FFG 1:	4.32	1
% Collector-Filterers FFG 1:	11.73	3
% Sprawlers:	1.23	1
mIBI Metric Score:		38

Supplemental Metrics

	HBI	
	4.11	
Shannon-Weaver Index		2.87
Shannon Equitability		0.78
% Dominant 3 Taxon		47.53
% Chironomidae		37.65



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TAXON	COUNT	NOTES	HBI Tolerance
8235 (Paratanytarsus)	1		4
8238 (Rheotanytarsus)	1		3
8241 (Tanytarsus)	4		4
9278 (Polypedilum (Tripodura) halterale-simulans grp)	2		
9238 (Polypedilum (Uresipedilum) flavum)	5		
9241 (Polypedilum (Polypedilum) illinoense grp.)	38		

Residuals

Identifier	Date	Count	%PSE
MSG	8/31/2020	1	99.38