

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Cass, Flint, & Shiawassee River Watershed Monitoring

Kelly Turek Aquatic Biologist Water Resources Division 517-930-0096 | turekk@michigan.gov



EGLE

Mission: to protect Michigan's environment and public health by managing air, water, land, and energy resources



Who Does What?

Water Resources Division

- Surface Water Assessment Section
 - Lake Michigan Unit
 - Lakes Superior, Huron, Erie Unit
 - Nonpoint Source Unit
 - Water Toxics Unit
 - Great Lakes Management Unit



Why we collect data?

• Monitoring Goals:

- Assess current status and condition of waters of the State
- Measure spatial and temporal water quality trends
- Evaluate the effectiveness of water quality prevention and protection programs
- Identify new and emerging water quality problems





Designated Uses

- At a minimum, all surface waters of the state are designated and protected for all of the following uses:
 - Partial body contact recreation (Total Body)
 - Warm water fishery (Cold water Fishery)
 - Fish consumption
 - Other indigenous aquatic life & wildlife
 - Agriculture
 - Navigation
 - Industrial water supply

Support – Insufficient Info – Not Support





Integrated Report

- Federal Requirement as part of the CWA
- Takes monitoring data and translates it to waterbody health

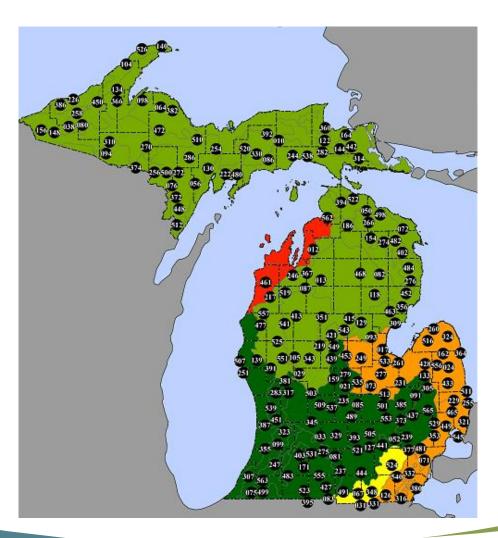
AUID	Designated Use	Use Support	Cause
Cass River Wate	ershed (04080205)		
040802050101-01	Fish Consumption	Not Supporting	Mercury in Fish Tissue
	Fish Consumption	Not Supporting	PCB in Fish Tissue
	Fish Consumption	Not Supporting	PCB in Water Column



Programs



Water Chemistry Monitoring Program





Sediment Chemistry Monitoring Program





Fish Contaminant Monitoring Program



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E. coli Monitoring Program







Aquatic Invasive Species





Inland lake Monitoring Program

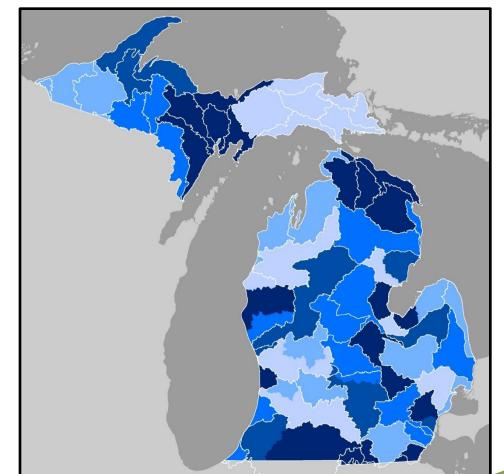






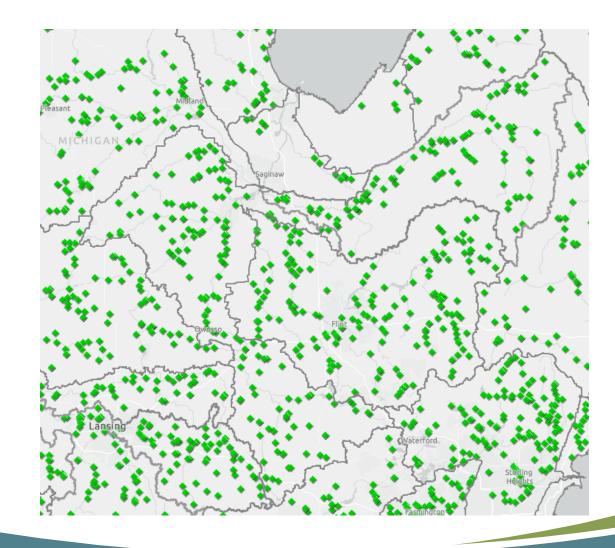
Routine SWAS Biological Monitoring

- 5 Year Rotation
- Random Status
 Sites and Fixed
 Trend Sites
- Shiawassee 2020
- Cass 2021
- Flint 2023





Historical Biosurveys

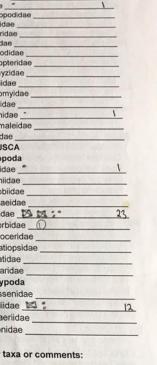




P51 Sampling Methods



Station: Horten Getur Dra	40	MACROINVERTEBRATES Area Sampled:		me Sampled:	_
PORIFERA	-	Hemiptera	L	Diptera Athericidae	
PLATYHELMINTHES	,2	Belostomatidae	M.	/Ceratopogonidae	2
	*	Gelastocoridae	12423	Chaoboridae	
BRYOZOA	and the second	Gerridae	1.25.1	Chironomidae 28 54 54 54 54 54	59
ANNELIDA	2	Mesovellidae Naucoridae		Culicidae	1
Hirudinea	4	Nepidae	1911	Dolichopodidae	-
ARTHROPODA	1222-0	Notonectidae	11	Empididae	
Crustacea		Pleidae		Ephydridae	
Amphipoda pa pa T= 26				Muscidae	
Decapoda	100 00	_ Veliidae() Megaloptera		Ptychopteridae	-
Isopoda Arachnoidea	1	Corvdalidae		Sciomyzidae	100
Hydracarina 13		Sialidae		Simuliidae	na ka
Insecta	5.88 3	Neuroptera	The second	Stratiomyidae	
Ephemeroptera		Sisyridae	1	Syrphidae	
Ametropodidae		Trichoptera		VTabanidae	1
Baetiscidae	1.4	Brachycentridae	<u></u>	Thaumaleidae	
✓ Baetidae _ 🖾 🕻 :	15	Glossosomatidae	12 10 1	Tipulidae	
Caenidae 11	7	Helicopsychidae _= *	3	MOLLUSCA	
Ephemerellidae		VHydropsychidae		Gastropoda	
Ephemeridae	-	vHydroptilidae	4	Ancylidae	1
Heptageniidae	1000	Lepidostomatidae		Bithyniidae	
Isonychiidae	-	- Leptoceridae		Hydrobiidae	
Leptophlebiidae Metretopodidae	-	Limnephilidae		Lymnaeidae	00
	the state	Molannidae		Physidae D M :*	23
Polymitarcyidae		Odontoceridae		Planorbidae	-
Potamanthidae		Philopotamidae	1	Pleuroceridae	
Siphlonuridae Tricorythidae		VPhryganeidae	<u>_</u>	Pomatiopsidae	1
Odonata		Polycentropodidae		Valvatidae	
Anisoptera		Psychomylidae		Viviparidae	and the second s
		Rhyacophilidae		Pelecypoda	
		Sericostomatidae	-	Dreissenidae	
Cordulegastridae		Uenoidae (Neophylax)		VPisidiidae 🔛 :	ľ
Corduliidae		Lepidoptera		Sphaeriidae	
/Gomphidae ()		Noctuidae		Unionidae	
Libellulidae		Pyralidae		· · · · · · · · · · · · · · · · · · ·	
Macomiidae	COLDON 4	Coleoptera*		Other taxa or comments:	
Zygoptera		Dryopidae	1 104 2	A CARLES AND A CAR	
V Calopterygidae		Dytiscidae (1)	1	Statione? !!	
Coenagrionidae 2 12 12 2	6 1	Elmidae XXXXX	53	and the standing of the house same	
Lestidae		Gyrinidae (a)(l)	1999	The best with the second	
Plecoptera		Haliplidae (a) 2 (I)	2016		
Capniidae		Heteroceridae		and the second second second	
Chloroperlidae	-		11.200		
	-	Hydraenidae	03233		
Leuctridae	- v	Hydrophilidae	Stiper		
Nemouridae		Lampyridae (a)(I)		A start and the start of the start of the	
Peltoperlidae		Noteridae (a) (I)	NR W	and the second second second	
Perlidae				-	
Perlodidae		Psephenidae(a)(I)	-		
teronarcyidae		Ptilodactylidae (a) (I)	1120010	Concernance and the second	
Teronarcuidae	a /c	Scirtidae (a) (I)			





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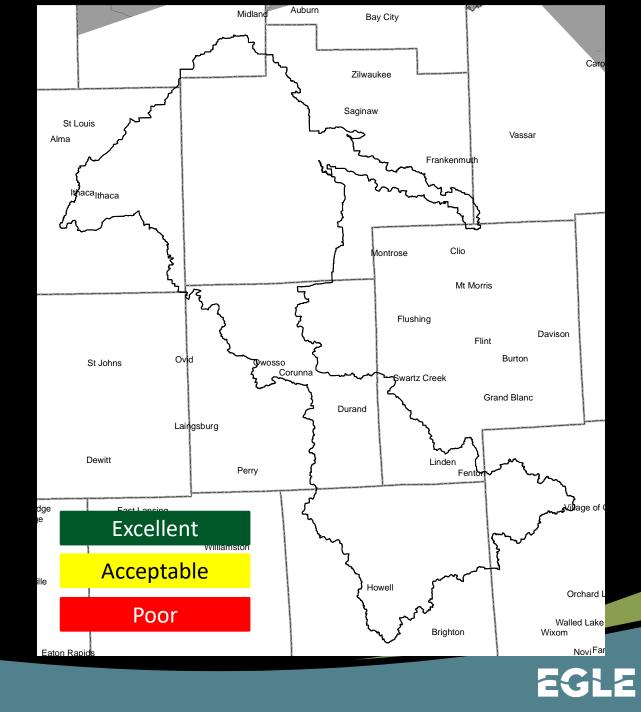
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P51 Score

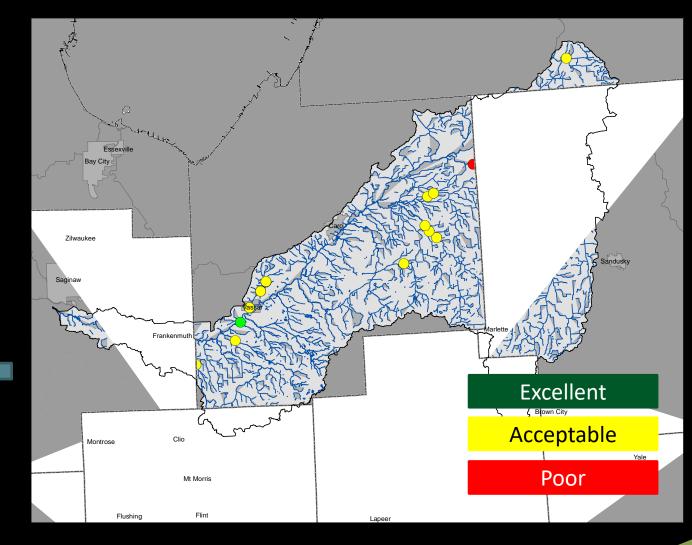
- Number of Taxa
- Number of Mayfly Taxa
- Number of Caddisfly Taxa
- Number of Stonefly Taxa
- % Mayfly Composition
- % Caddisfly Composition
- % Contribution of dominant taxa
- % Isopods, Snails, Leeches
- % Surface Dependent



Shiawassee River Watershed 2015



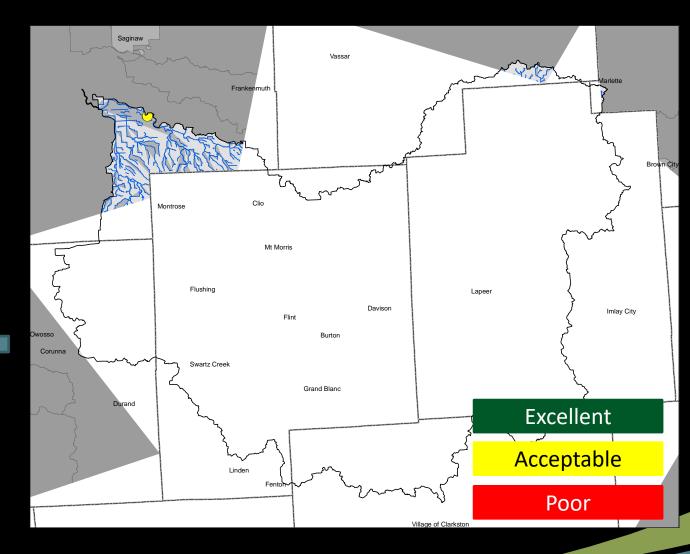
Cass River Watershed 2016





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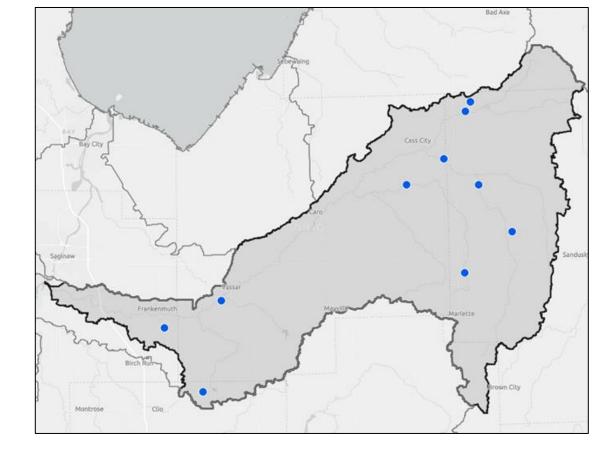
Flint River Watershed 2018





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Cass River Watershed 2021



- 10 Trend Sites
- ~10-12 Status Sites
- TBD Targeted Requests



Monitoring Request Process

Latitude * (e.g., 42.73194)

Longitude * (e.g., -84.55923)

- Opportunity for anyone to submit requests
- October 31, 2020
 deadline for 2021
 Field Season
- Requests Evaluated in Jan-March
 - Responses in June

	MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY				
Water Resources Division - Water Quality Monitoring Request					
	vill be used to select and prioritize monitoring requests, therefore, please ensure the completeness and accuracy of your (Fields marked with an asterisk (*) are required.) n:				
First Name *					
Last Name *					
Organization					
Street Address					
City / Town					
ZIP / Postal Code					
Phone Number (e.g., 5175550123)					
Email Address *					
In order to prioritize r sampling location. Th	n: nonitoring requests received, it is important to provide accurate information on the desired is online form will allow you to request up to 3 different sites. If your request includes more than an additional Water Quality Monitoring Request form.				
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How to get more information

- Biological Reports & Fact Sheets
 - <u>https://www.michigan.gov/egle/0,9429,7-135-3313_3681_3686_3728-452037--,00.html</u>
- Water Chemistry Reports
 - https://www.michigan.gov/egle/0,9429,7-135-3313_3681_3686_3728-32361--,00.html
- E. coli mapper
 - <u>https://egle.maps.arcgis.com/apps/MapSeries/index.html?appid=2a060da30e25451292</u>
 <u>220861632b2c99</u>
- Fish Contaminant
 - https://www.michigan.gov/egle/0,9429,7-135-3313_3681_3686_3728-12600--,00.html
- Submit a Monitoring Request:
 - https://www.michigan.gov/egle/0,9429,7-135-3313 3681 3686 3728-12735--,00.html

- How's My Waterway
 - https://mywaterway.epa.gov/

Report a Problem

- Pollution Emergency Alerting System (PEAS)
 - To report Spills, Releases, or other Environmental Emergencies
 - Hotline: 800-292-4706 (available 24/7)
- Environmental Assistance Center
 - Non-emergency information and questions
 - Phone: 800-662-9278 (8:00-4:30pm, M-F)





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