



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Water Use Advisory Council

June 11, 2024

WUAC Chair Order

June 11, 2024

- Laura Campbell, Michigan Farm Bureau (1-6)
- Bryan Burroughs, Michigan Trout Unlimited (7-11)

Agenda

Water Use Advisory Council (WUAC) Meeting

Hosted by the Department of Environment, Great Lakes, and Energy (EGLE)

Tuesday, June 11, 2024

1:00 p.m.- 4:00 p.m.

**Lee Walker Conference Room, North Atrium, Constitution Hall
525 West Allegan, Lansing, MI 48933**

Remote Option Available Via Teams

[Click here to join the meeting](#)

Or call in (audio only)

**[+1 248-509-0316, 979460526#](#) United States, Pontiac
Phone Conference ID: 979 460 526#**

AGENDA

1. Welcome
2. Roll Call
3. Approval of Agenda-Roll Call Vote
4. Approval of Minutes-Roll Call Vote Discussion
5. Public Comment (Three Minute Limit)

Agenda (cont.)

6. Committee Chairs Report
 - a. Data Collection Committee
 - b. Models Committee
 - c. New Topics Committee
 - Discussion on Transitioning to an As-Needed Work Group
 - d. Conservation and Efficiency Committee
 - e. Implementation Committee
7. Nominations for Officers and Committee Chairs
8. EGLE Update

Agenda (cont.)

9. Future

a. 2024 Meeting Dates (at Con Hall unless others offer to host)

(*Quorum critical meetings)

- August 13, 2024 – Anticipated Committee Topics List for Final Report Due
- September 10, 2024*
- October 8, 2024*
- November 12, 2024*
- December 10, 2024

b. Formats

c. Quorum

10. Open Comments (Three Minute Limit)

11. Motion to Adjourn

1. Welcome



2. Roll Call



3. Approval of Agenda –Roll Call Vote



4. Approval of Minutes—Roll Call Vote

5. Public Comment

3 Minute Limit

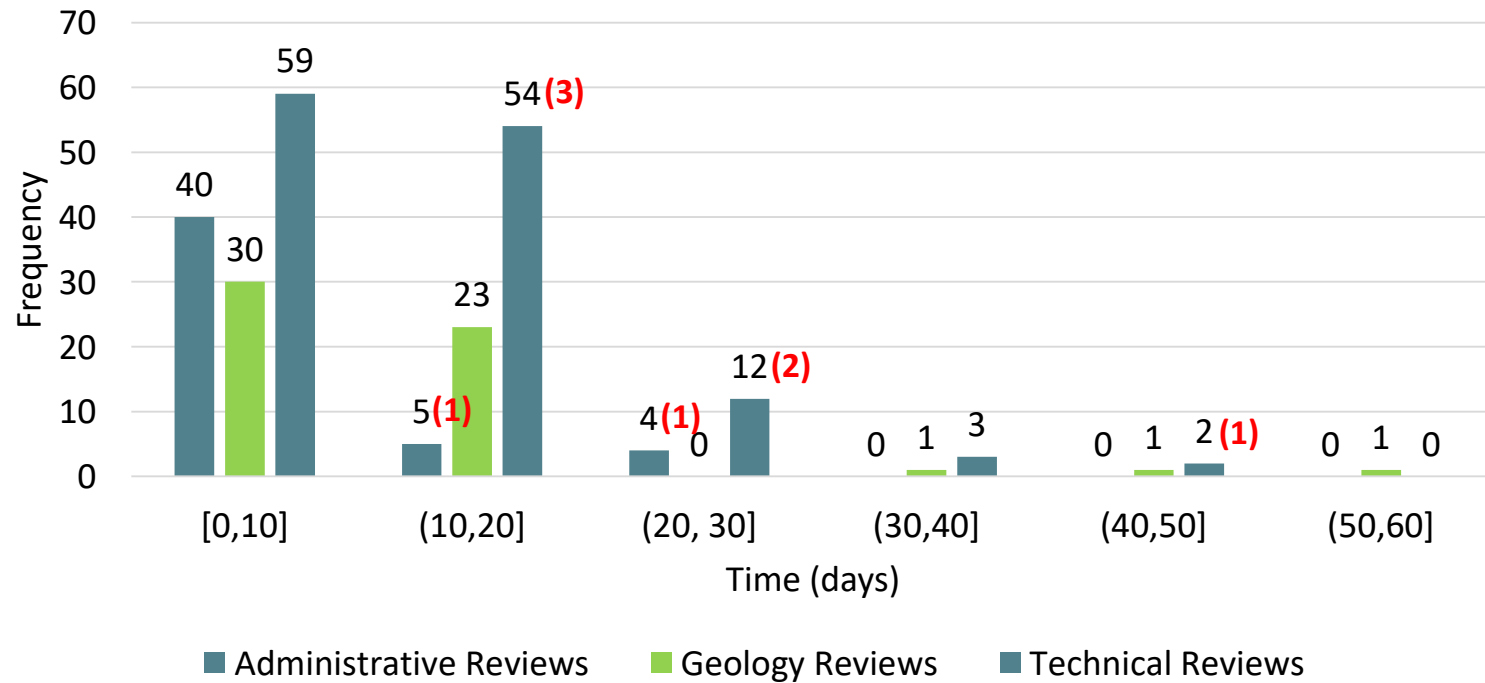
6. Committee Chairs Reports

- A. Data Collection Committee
- B. Models Committee
- C. New Topics Committee
 - Discussion on Transitioning to an As-Needed Work Group(s)
- D. Conservation and Efficiency Committee
- E. Implementation Committee

Models Committee

Update

SSR Workdays by Category (Jan 2023 – April 2024)



- 235 completed SSRs used in this review
- Administrative Reviews: 49
- Geology Reviews: 56
- Technical Reviews: 130
- **(8) were delayed due to additional information being needed**

Water Conservation and Efficiency Committee

Update

WCEC Update

- Continue monthly meetings
- Implementing WCEC 2020 recommendations
 - 2020 Recommendation 1. Advance Michigan's Water Conservation and Efficiency Efforts through State Climate, Energy, and Water Infrastructure Initiatives
 - Alliance for Water Efficiency project has started
 - Stakeholder meetings have started
- 2020 Recommendation 2. Increasing Water Conservation and Efficiency Practices in Agriculture.
 - MSU-Extension hired both educators, One recently started and one will start later this summer.
 - MSU-Extension has identified advisory committee and will focus on convening advisory committee for project in summer

WCEC Update

- 2024 Recommendation Concept
 - Revised 2022 agricultural irrigation pilot project
 - Reviewing new research
 - Refining language based on 2022 feedback
 - Pilot grant program to support and incentivize innovative water conservation projects and implement bmp projects in areas of potential water stress or high-water demand
 - Create a water conservation coordinator position to managing overarching conservation goals, provide technical assistance, promote available funding and resources

WCEC Update

- Future committee work
 - Water-energy nexus, water conservation and energy conservation projects
 - Partner with EPA Water Sense Program to promote resources
 - Continue working with MMD to identify opportunities to incorporate water conservation into energy programs
 - Explore potential for leak reduction projects that also show reduced energy use as a result
 - Reach out to agencies, researchers, and practitioners to understand current priorities, research needs, gaps, and most current information on freshwater-related topics
 - Up-to-date information on challenges and what's being done to address – climate change
 - Research projects to determine trends in water use and water management and how it is changing over time and geography
 - Inviting researchers from MSU-Institute for Water Research and USGS to gather information on impacts of climate migration on land and water use

7. Nominations for Officers & Committee Chairs

- Data Collection Committee
- Models Committee
- New Topics Committee
- Conservation & Efficiency Committee
- Implementation Committee



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8. Program Update

Water Use Advisory Council

June 11, 2024

MiEnviro Update

- Permitting database used by EGLE AQD & WRD
- Part 327 permit applications went live 6/10/2024
- Part 327 complaints went live 6/10/2024

2020 Recommendations

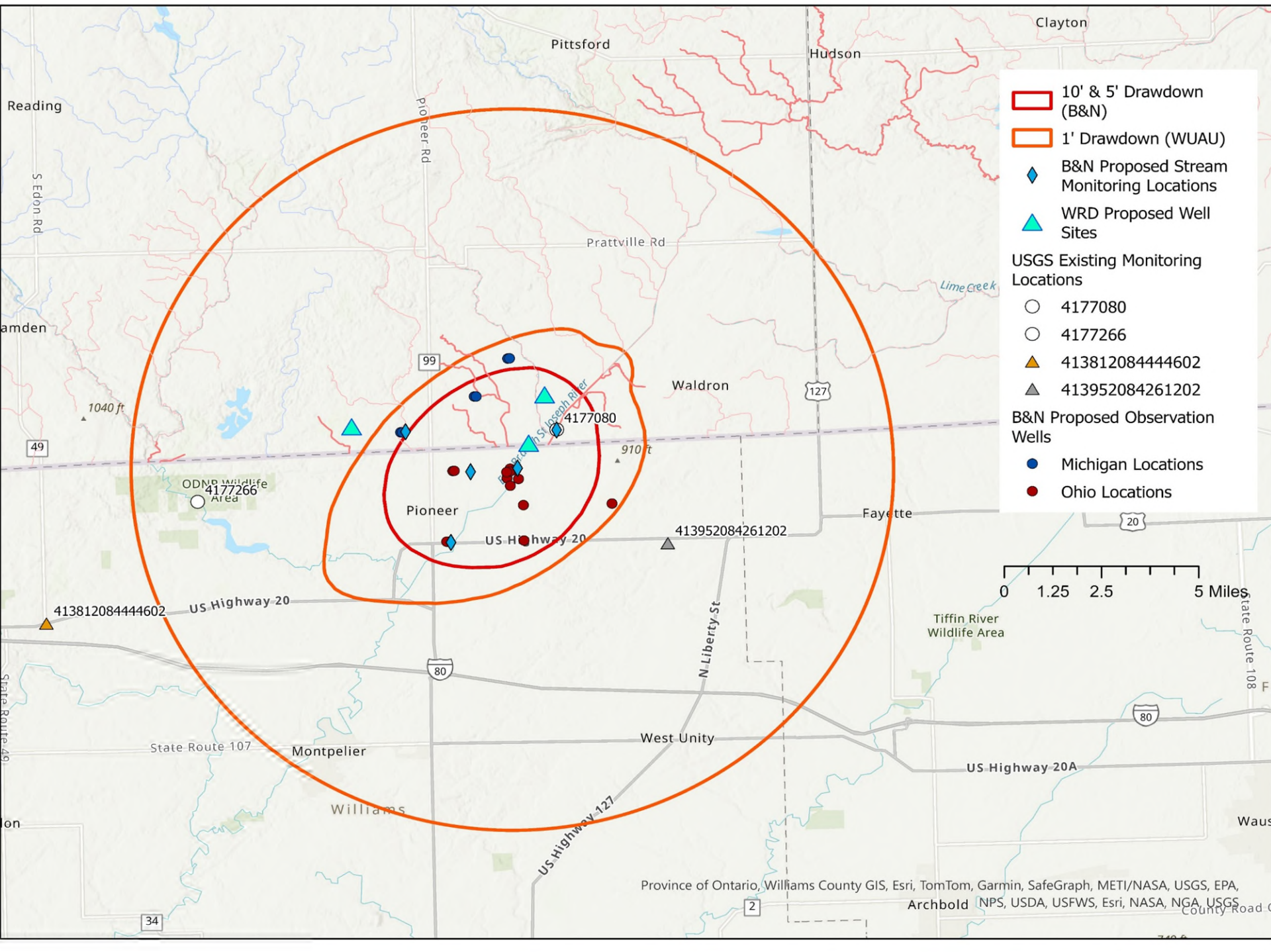
- MI Hydrologic Framework
- MI Integrated Water Management Database
- Transition probability mapping, Cass & Calhoun

EGLE Groundwater Data Management System

- EarthSoft contractor for their EQUIS system
- Contract signed
- Project kickoff meeting not scheduled yet

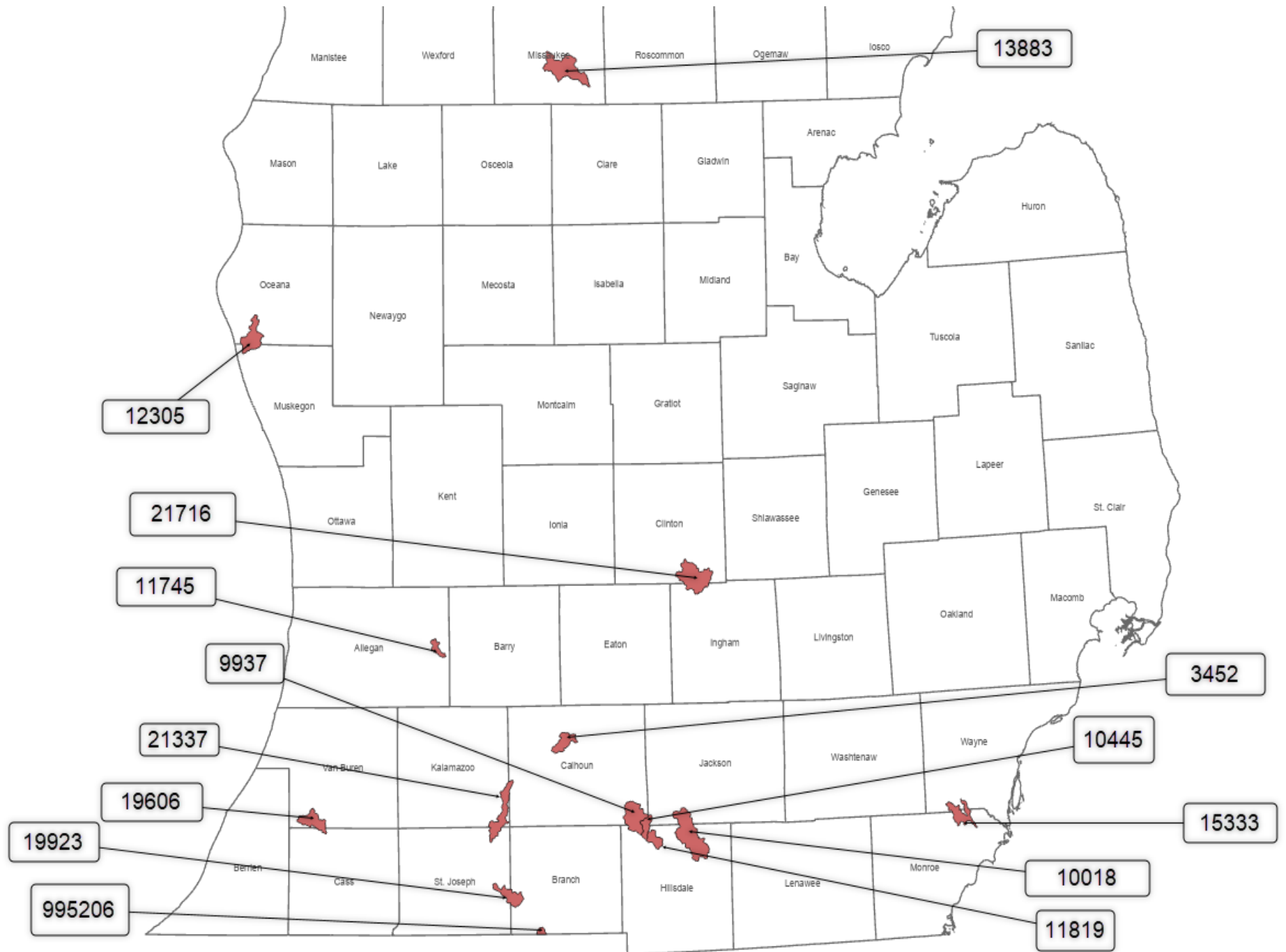
AquaBounty

- USGS & EGLE obtained property access for monitoring wells in MI
- Drilling scheduled June 10 - 28th



Depleted WMAs as of June 2024

WMA Number	Stream type	Index Flow (GPM)	Current Status (GPM)	Stream Gage (installed or planned)	Miscellaneous Flow Measurements (EGLE or USGS)	Reason WMA is in the Negative
10018	Cool stream	1,930	-357	Planned	EGLE	Bedrock Auto Pass Corrections
11819	Cool stream	1,121	-357	Planned	USGS/EGLE	Bedrock Auto Pass Corrections
21337	Warm stream	1,825	-353		EGLE (planned)	Revised Index Flow
9937	Cool stream	988	-141			Bedrock Auto Pass Corrections
12305	Cool stream	4,443	-97		EGLE	Recalculated Depletions
19923	Warm stream	8,011	-93		EGLE (planned)	Oct-July Correction
15333	Warm stream	808	-76		EGLE (previously)	Low Index Flow
10445	Cool stream	1,212	-66		EGLE (planned)	Bedrock Auto Pass Corrections
21716	Warm stream	356	-56		EGLE (planned)	Low Index Flow
995206	Warm stream	404	-54		EGLE (planned)	Low Index Flow
11745	Cool stream	853	-51		EGLE (previously)	WMA split, reran depletions
13883	Cold transitional stream	6,732	-42	Planned	EGLE	Oct-July Correction, Recalculated Depletions
3452	Cold transitional stream	898	-46	Installed		Bedrock Auto Pass Corrections
19606	Cold transitional stream	1,571	-36	Installed	new	Recalculated Depletions



Regulatory Impact of Zone D WMA

- No new WWAT registrations
- No new or increased SSR registrations that further deplete WMA
- Existing baseline &/or registered capacity can be given up to register new LQW capacity

Initial Response Actions

- Stream gages
- Miscellaneous stream flow measurements

Possible Future Response Actions

- Groundwater data collection
 - Monitoring wells
 - Aquifer pumping tests
 - Slug tests
 - Streambed conductance
- Groundwater/surface water modeling
- Statistical analysis of stream flow
- Joint public/private/university funded projects?

Groundwater Models

- Dickinson Creek (Calhoun County)
 - EGLE review in process
- Cass County Pilot Study
 - EGLE & USGS model review issues
 - Models Committee work group met once
- Fawn River (St. Joseph County)
 - DEQ received copy of model
 - USGS review identified issues with model

Water Use Program Audit

- Office of Auditor General is an independent agency performing oversight of State programs
- Routine scheduled audit
- Identifies improvements to be made

Audit Findings

- Site-Specific Reviews sometimes exceed 10-days
- Insufficient enforcement of compliance violations including delinquent fees and withdrawal registrations
- Insufficient internal security controls over the WWAT database, the Water Use Reporting database, and the Batch Tools
- Differences between WWAT & Batch Tool results

EGLE Response

Site-Specific Reviews sometimes exceed 10-days

- Difficult* to always meet 10-days due to applicant response delays, or complex review
 - *unless SSR denied by default at 10-days
- Proposal to change 10-working day SSR deadline in SSR Technical Issues Work Group

EGLE Response

Insufficient enforcement of compliance violations including delinquent fees and withdrawal registrations

- EGLE is initiating a Lean Process Improvement exercise to improve documentation, tracking, and completion of compliance efforts
- Updating compliance and enforcement policies and procedures, consistent with EGLE's department-wide Compliance and Enforcement Policy

EGLE Response

Insufficient internal security controls over the WWAT and Water Use Reporting databases, and the Batch Tools

Staff database privileges and passwords strengthened

Started onboarding and offboarding database access control procedure(s)

Archived restricted access copies of Batch Tools

EGLE Response

Differences between WWAT & Batch Tool results

Short-term response

- all Site-Specific Review and other EGLE staff work uses the Batch Tool
- continue investigation and testing to identify cause

Long-term solution

Update & re-write WWAT and Batch Tools

- modernize coding language and structure
- optimize for mobile device use
- *allow for custom aquifer property values input
- *incorporate other model solutions to select for different geological settings

*as administrator functions only

Questions?

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What is the Batch Tool?

“Batch Tool” - desktop version of online WWAT

serves two functions:

- run multiple withdrawal scenarios quickly

WWAT



Batch Tool



What is the Batch Tool?

“Batch Tool” - desktop version of online WWAT

serves two functions:

- run multiple withdrawal scenarios quickly
- allows different aquifer property values than what's fixed in the WWAT

WWAT

Nestlé Toll House



Batch Tool



Taylor Miller / BuzzFeed

Comparing WWAT to Batch Tool

“Batch Tool” - desktop version of online WWAT

- same model (math formula), identical inputs should give identical results... in theory
- 2009 - 2014, original WWAT \neq Batch
 - ▢ +/- 1% rounding of intermediate calculations, unit conversions
- 2014, rewrite WWAT almost = Batch (never equal)
 - ▢ painstaking process got to +/- 0.1% or less, \approx 0.05 gpm
- 2023, some WWAT results found to deviate more
 - ▢ 8% of sampled depletions are > 1 gpm, max difference 8.7 gpm
 - ▢ not normal procedure to compare Batch & WWAT results

Differences Between WWAT & Batch Tool

Comparison investigation

- ❑ initially thought results started diverging August 2021 (audit report), upon further review it has always occurred
- ❑ tends to be lower depletion in WWAT than Batch
 - 33% WWAT lower
 - 10% WWAT higher
 - 57% equal (+/- 0.1 gpm)
- ❑ WWAT : Batch difference ranges between -8.7 to 5.1 gpm
- ❑ Average difference is 0.33 gpm

What Causes the Differences?

Cause is unknown at this time

- ❑ believed that WWAT diverges from Batch Tool results
- ❑ confirmed WWAT and Batch Tool code hasn't changed
- ❑ confirmed GIS model inputs are identical

Thought: internal 3rd party GIS software differences

- ❑ ESRI, Inc. software routine measures distances, possible differences between the desktop and online versions
- ❑ Unknown, can't see WWAT intermediate steps

Questions?

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