

Water Use Advisory Council (WUAC) Meeting
Hosted by the Department of Environment, Great Lakes, and Energy (EGLE)
Tuesday, December 10, 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

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AGENDA

1. Welcome

Pat Staskiewicz opened the meeting at 1:01 pm. Noted quorum could be held.

2. Roll Call

Pat Staskiewicz conducted roll call around the room and read off online roll call.

WUAC Members In-Person

Laura Campbell, Michigan Farm Bureau (MFB)

Bryan Burroughs, Michigan Trout Unlimited

Ben Tirrell, MFB (Laura Campbell alt.)

Katy Lindstrom, Barr Engineering

Sara Pearson, MGS

Adam Wygant, EGLE

Michael Frederick, Michigan Ground Water Association

Pat Staskiewicz, Michigan American Water Works Association

Frank Ettawageshik, United Tribes of Michigan

Megan Napier, AKT Peerless

Rachel Proctor, Consumers Energy

Doug Needham, Michigan Aggregates Association

Tom Frazier, Michigan Township Association (MTA) (Retired)

James Clift, EGLE

Dave Hamilton, TNC

Megan Tinsley, Michigan Environmental Council

Abigail Eaton, MDARD (for Mike Alexander)

WUAC Members Virtual

Elizabeth Morrisseau, Michigan Attorney General (AG)

Steve Kohler, Kalamazoo River Watershed Council

Buddy Sebastian

Jason Walther

WUAC Members Not in Attendance

Rex Vaughn, MLSA; serving as Dave Maturen's alternate

Michael Ellis, Barr Engineering, Inc

John A. Yellich, Michigan Geological Survey (MGS)

Kelly Turner, Michigan Potato Industry Commission (MPIC)

Dave Maturen, Michigan Lakes and Streams Association (MLSA)

Charlie Scott, Michigan Golf Course Owners

Kyle Rorah, Wetlands Conservation

WUAC Non-Members

Ross Helmer, EGLE

Megan Cameron, EGLE

Hannah Arnett, EGLE

Andrew LeBaron, EGLE

Marian Maier, EGLE

Joel Henry, Environmental Consulting & Technology, Inc. (ECT)

Sydney Ruhala, EGLE

Simon Belisle, EGLE

Trisha Hagerman, EGLE

Katie Mika, ELGE

Tariku Negassa, EGLE

Jim Milne, EGLE

Bri Hammontree, JetCo

Lena Pappas, EGLE

Travis Bauer, EGLE

RK Norton

Jeffrey Snyder, DTMB

Todd Feenstra

Jay Wesley, DNR

Sherry Davis

Tom Zimnicki

3. Approval of Minutes-Roll Call Vote Discussion

Pat Staskiewicz moved to approve the October and November minutes. Minutes were approved, with noted modifications to the October and November minutes, detailed below.

Minutes approved for October

Noted revisions provided via email from Katy Lindstrom and Dave Hamilton for the October minutes. Katy Lindstrom noted some clarifications on the Models Committee notes and provided some grammar/spelling modifications for the narrative. Dave Hamilton noted some clarifications on the Models Committee notes and provided some formatting modifications for the Models Committee project names.

Minutes approved for November

Noted revisions provided via email from Dave Hamilton for the November minutes. Dave Hamilton noted some clarifications on the Models Committee notes and provided some formatting modifications for the Models Committee project names. Dave Hamilton noted a comment via email: John Yellich retired; Sara Pearson took his place. Assumption she is now the MGS representative on the Council, to be verified.

4. Approval of Agenda-Roll Call Vote Discussion

Pat Staskiewicz moved to approve the agenda for December. Agenda approved.

5. Public Comment (Three Minute Limit)

No noted public comment in the room or online.

6. Committee Chairs Report

a. Determine consensus on new recommendations for 2024

Laura Campbell began the Committee Chairs report to discuss consensus on new recommendations for the 2024 Legislative Report. Note this included confirming the Models Committee report items, including any questions or comments on the Streamflow Depletion Study.

Dave Hamilton noted a correction that the SSR timeliness recommendation was approved in previous meeting. Noted the Models Committee will instead discuss the Streamflow Depletion Study and the future of Web-squared stream flow depletion allocation method outside of the 2024 legislative report.

Todd Feenstra wanted to verify the timeline and budget for the Streamflow Depletion Study. Dave Hamilton noted \$1.2 million and a couple years to perform the study.

Doug Needham clarified this is a study. Dave Hamilton clarified the difference between Web-squared and Streamflow study.

Laura Campbell voted to pass the Streamflow Depletion study to be incorporated into the Legislative Report. Pat Staskiewicz moved to approve. Frank Ettawageshik supported.

b. Give final approval of draft legislative report

Laura Campbell began to discuss the final draft of the legislative report to confirm with the council and move into final editing/formatting phases. Noted update to the report including confirmed recommendations from the Models Committee. Noted per the suggestion of Bryan Burroughs, separated ongoing funding from EGLE and funding that goes to the Michigan Geological Survey (MGS; separate line item noted as #4), since MGS has separate appropriation(s) and it's important to make the distinction. Noted grammatical changes.

Todd Feenstra asked a question about the EGLE's budget allocations, whether monitoring wells was dropped from it? Laura Campbell responded that the United States Geological Survey (USGS) joint funding agreement has not yet been finalized. It was noted that the ongoing expenses cannot be updated until the necessary information from USGS is available. A note will be included in the report indicating that the ongoing expenses will be updated once the details from USGS are received. Todd Feenstra asked whether that is for the dedicated monitoring wells? Laura Campbell noted yes. Jim Milne asked if Todd Feenstra is referring to the National Ground Water Monitoring Network (which is discussed further down) or is he asking about additional monitoring wells? Noted the new joint funding agreement with USGS has four (4) components, one of which is

drilling additional monitoring wells. Todd Feenstra clarified he was talking about the drilling of the additional monitoring wells. He asked if there was an ongoing cost for the state that goes with monitoring those once they are installed? Laura Campbell verified yes. Todd Feenstra wanted to verify this was addressed further down. Laura Campbell verified that is in the document, with a detailed explanation. Noted there is a page in the report that specifies we do not know how much money has been spent yet. Todd Feenstra thanked Laura, noting he just wanted to make sure the monitoring well stuff got funded.

Laura Campbell moved onto the introduction of the report. Noted a large change comes from page 5, which includes an insertion from Emily Finnell with narrative pertaining to climate migration. Noted there was a question pertaining to incorporating use of water. Asked question for Adam Wygant if they wanted to include in the introduction to talk more broadly about the Great Lakes issues or if they wanted it to be specific for the recommendation for the stream flow depletion monitoring study? Adam Wygant noted no preference. Noted just wanted to highlight population shifts, potential increases related to agricultural needs, and other societal factors. Noted may not be fair to call out data centers as an example. Laura Campbell noted inserting this new sentence about increased water demand due to societal changes, specifically the rising demand for data centers and associated cooling would be placed at the bottom of the paragraph preceding the discussion on climate migration. There was a debate on whether to include an example. Some felt the statement was clear as is, while others suggested that adding an example might help those outside the industry better understand the point. Ultimately, the inclusion of the sentence was agreed upon, followed by climate migration material. Dave Hamilton noted it seems speculative, but it seems appropriate in terms of thinking about the future and that we should be thinking about it. Noted he thinks it is worth it. Frank Ettawageshik noted Dave's observation was good, given that initially the language was bit more intense and has since mellowed out.

Laura Campbell noted review of the sentence in a bullet point near the bottom, which read, "Observe stream temperature profiles to identify potential areas of groundwater discharge." A proposed edit suggested changing it to "Quantitatively evaluate temperature profiles to identify gaining and losing stream reaches." However, there was some discomfort with this proposed change, and the committee discussed the concern, indicating that the original phrasing might be more suitable.

Dave Hamilton clarified his concern was that it implied that you're quantifying things based on temperature and not identifying areas.

No further edits provided. Laura Campbell noted most of the document was grammar cleanup and incorporating format elements into the draft, including grammatical changes to the SSR recommendation. Noted that the apparent duplication of the figures and tables was due to track changes being on in the current draft while changes are being made.

Laura Campbell noted recommendations for continued funding was the next area topic. Noted this included the funding requests being separated as follows: The Michigan Geological Survey has an ongoing annual funding request of \$3,000,000. EGLE's ongoing operations and maintenance for current projects are listed separately, totaling \$706,000 annually. This includes \$36,000 per year for maintenance of the Michigan Hydrologic Framework, \$350,000 for operation and maintenance of existing stream flow gauges, and \$320,000 for long-term planning to install up to 20 new stream flow gauges. There is also long-term planning for the installation of additional monitoring wells and the addition of groundwater data to the USGS National Ground Water Monitoring Network. Additionally, EGLE and USGS are working on a new proposal to review annual operations and maintenance costs that will begin after September 30th, 2026. The WUAC will provide an update on the ongoing operations and maintenance costs when it becomes available. Laura Campbell clarified to Todd that this was likely the part he was asking about, and this was part not included yet as there is no cost yet for annual ongoing operations and maintenance funding subtotal.

Laura Campbell noted an edit that came in this morning from Jim Milne about the status of what was ongoing with wells to discuss the Groundwater Monitoring Network. Noted it was to help individuals understand what it is. Jim Milne provided additional notes to clarify that there is the National Ground Water Monitoring Network administered by USGS, but EGLE is in the process of developing a statewide network that would include National Ground Water Monitoring Network wells, but also wells across the state that may or may not be impacted.

Laura Campbell then read the language incorporated by Jim Milne. Noted the new addition reads: "The National Ground Water Monitoring Network is a network of unimpacted background monitoring wells. Other monitoring wells, many from regulated facilities, can be added to a Michigan state-specific groundwater monitoring network. Legislative appropriations to implement WUAC recommendations and other funding sources, such as the groundwater proposal for change, can be used." It is suggested that the sentence be revised to: "For wells in a Michigan groundwater monitoring network," and then continue with the rest of the original language.

Dave Hamilton verified that there's a national monitoring network and there's a state monitoring network and we would be participating in both.

Lena Pappas noted essentially the State monitoring well network would then provide a subset of that data that would be available nationally.

James Clift noted it's not going to change much of the language in the parentheses. Noted that no one understands, and the details about the budget process should be removed. Laura Campbell confirmed the parentheses and ground water proposal for change language is gone.

Laura Campbell proposed updating the language to say something like Michigan's state specific groundwater monitoring network will be added to the National Ground Water Monitoring Network and that legislative appropriations and other funding sources can be used for wells. Jim Milne noted this is reversed, as the Michigan Statewide Network is broader, and the National Ground Water Monitoring Network wells are only going to be a subset of the broader statewide network.

It was noted that it is unclear whether there is a Michigan-specific monitoring well network. Adam Wygant clarified that the concept is to provide a subset of Michigan wells to the USGS National Ground Water Monitoring Network, as appropriate. However, the vision is for Michigan to oversee building its own monitoring network, especially with the new database project. This would be considered a Michigan-specific monitoring network, with a subset of data reported to the federal network. It was also noted that the network is not yet fully developed, though some parts have been worked on, and there is various funding sources aimed at expanding the monitoring network. Noted this would allow for the program to not come and go, as Federal funding changes.

Dave Hamilton noted this language may just confuse people. Noted it may be beneficial to keep it high level. Laura Campbell noted could say something like: The National Ground Water Monitoring Network (NGWMN) is a network of unimpacted background monitoring wells. Michigan will add data from monitoring wells in a state specific groundwater monitoring network, to the NGWMN. Dave Hamilton noted making that even more generic. Noted there still seems to be confusion on the network regarding what it impacted. Jim Milne noted that the wells are typically used for groundwater elevation data, but they can also be used for groundwater quality data. For the current grant, only groundwater elevation data is anticipated to be collected. The National Ground Water Monitoring Network is designed to represent background conditions, meaning it should be chemically unimpacted and not influenced by nearby activities. It was suggested to refer to it as "background monitoring" instead of focusing on specific conditions like "unimpacted chemically." Laura Campbell noted revising as: "National Ground Water Monitoring Network (NGWMN) is a network of background monitoring wells. Michigan will add data from other monitoring wells in a state specific groundwater monitoring network to the NGWMN."

Bryan Burroughs noted the context of this narrative is confusing. Noted this section is supposed to cover existing, ongoing funding/projects. Noted previously there was a modest past appropriation to enter the National Ground Water Monitoring Network. Confirmed this is an ongoing project. Noted a lot of the wording is a goal of 160 or 170 wells, making the language seem like a new project. Noted that's a great idea but seems like a new recommendation. Laura Campbell suggested that we could simplify the section by leaving it at the paragraph in subsection D, which reads: "Long-term planning for installing additional monitoring wells and adding groundwater data to the USGS National Ground Water Monitoring Network. EGLE and USGS are working on a new review proposal for annual operations and maintenance costs that will be

incurred after September 30th, 2026. The WUAC will provide an update on ongoing operations and maintenance costs when it becomes available." This would eliminate the need for the sub-bullet that was just discussed and revised. Jim Milne noted he incorporated his edits because there is potential for confusion due to the 2020 Council recommendation to become a new data provider to the National Ground Water Monitoring Network, which was implemented. However, the grant amount allocated for this is much smaller compared to the appropriation from 2020. This could raise questions for someone reading the document, particularly regarding the remaining funds—where they went and how they were used. This ties into the earlier point about distinguishing between progress made so far and the ongoing future work that still needs to be completed.

Bryan Burroughs noted the importance of setting clear goals, particularly around the timeline for leaving certain areas vacant for about two years. There was concern that introducing new proposals might cause confusion, especially when distinguishing between the WUAC recommendations and EGLE's initiatives, as they are separate appropriation proposals. This distinction becomes more complicated when considering new data collection efforts like stream flow gauges or groundwater monitoring. The team agreed that the long-term data planning should include flexible goals, as the number of monitoring stations might end up being different than initially projected. The challenge lies in balancing past initiatives that have had consensus with expanding into new areas without making them feel like entirely separate projects.

Laura Campbell asked if there were any objections to removing the entire paragraph that starts with "the state's ability to monitor groundwater levels." The team agreed to simplify the statement, leaving it as: "We will update you when we have the updated ongoing budget numbers from EGLE and USGS."

Todd Feenstra noted he would leave open the door. Noted that the goal is to have around 170 monitoring wells statewide, and the Midwest Water Stewards Group is already overseeing nearly 200 wells in Michigan. The current wording mentions EGLE and USGS, but there is also a program for voluntary participation in the monitoring, like what is being done in Indiana. This bullet point addresses two main issues: one related to climate, specifically whether background conditions are changing due to climate change for climate modeling purposes, and the other related to active situations where updates on aquifer properties are being gathered. These updates contribute to better modeling, which supports MI-WWAT, and the overall process being worked on. Noted this leaves room for others to participate potentially in the future.

Jim Milne noted there is potential for other parties to apply for grants, with examples such as Ottawa and Allegan Counties. Noted that external parties will be able to submit data into EQUIS.

Laura Campbell noted it may be worth expanding the statement because there is a lot of non-governmental data collection work going on.

Briana Hammontree noted a question in the meeting chat section asking if the report will be published and when will it be available. Laura Campbell noted depends on how quickly formatting is done but would love to get it out before the holiday week, but if it can't go out, it's required to go out by December 28th. Jim Milne also noted the final report will be uploaded on the WUAC website. Laura Campbell noted how it is traditionally done for submission.

Laura Campbell noted not many large additional changes within the document. Noted she updated Pat's Michigan Section American Water Works details and that will update the EGLE representative, as this chart lists those appointed by the Speaker of the House, the Senate Majority Leader, the Governor, and the EGLE Director. Asked if Lena Pappas is the official representative of EGLE? James Clift noted to omit from report until an official appointment letter is provided. Laura Campbell noted this was all the changes. Asked if there were any remaining questions or concerns?

To summarize, Laura Campbell noted the report will be structured as outlined in the table of contents: the **Executive Summary** will come first, followed by the **Introduction**. The **2024 Recommendations** will be presented next in the body of the report, followed by **Recommendations for Continued Funding**. Lastly, the report will cover **Accomplishments from the 2020 and 2022 Recommendations**, detailing which budget appropriations were approved and the corresponding amounts.

Laura Campbell noted she will work with Briana Hammontree to finalize. Laura Campbell noted thanks to the council for participating in the report. Pat Staskiewicz thanked Laura for putting the draft together.

Laura Campbell noted discussion of web-squared and handed it over to Dave Hamilton.

Dave Hamilton provided additional notes on Web-squared. Dave Hamilton noted previous discussion was providing the Water Depletion and allocation tool and how there are three parts to it. Noted one key aspect was replacing the half-max rule with web-squared process. Additionally, noted ongoing work that has already been approved, including the changes to the transmissivity and storage coefficients used by the Water Withdrawal Assessment Tool (tool) and will hopefully be completed next year. Noted to address the three areas within the tool, need to get past the debate between half-max and web-squared process. Dave Hamilton noted that he recalled Laura Campbell wanted to talk with additional individuals.

Laura Campbell noted the previous approval to update transmissivity and storage coefficient numbers based on a large body of data from site-specific reviews and other collected information. However, concerns were raised by farmers regarding the proposed switch from the half-max method to the Web-squared process. They expressed discomfort with moving forward without evidence that Web-squared, which was based on studies from Kansas, is more

representative of Michigan's geology compared to the half-max method. Farmers emphasized the need for comparisons using Michigan-specific numeric models and scenarios before agreeing to the change. Despite explanations that the change would only affect future withdrawals, farmers were concerned about further eroding trust in a system they already find difficult to understand. The group discussed the possibility of analyzing existing numeric models in Michigan watersheds to compare both methods, or potentially including this analysis in the stream flow depletion study approved by the Council. Members expressed significant discomfort with switching to Web-squared without more localized evidence to support the change.

Jason Walther noted he would agree with the comments made by her and the conversations he has heard and participated in. Noted he believes field data would help ease concerns.

Dave Hamilton asked if there were any additional questions or comments? None noted.

Dave Hamilton said we need to do better job explaining what we're doing with the various models that we use. Noted the limitations and scope of the analytical models used in groundwater studies. These models are simplified solutions that do not account for the specific challenges of regions like California, Kansas, or Michigan; rather, they represent a generalized approach with uniform assumptions and basic terms. They are designed to provide simplified representations of groundwater behavior, such as transmissivity, storage coefficients, and leakage terms, which are used to model complex processes in a more manageable way. The models rely on assumptions and simplifications, which means they cannot fully replicate the complexity of real-world conditions. The idea that these models can be adapted to represent the geological differences between states like Michigan and Kansas may be misleading. The focus should be on understanding the capabilities and limitations of these analytical models, and their primary function is to provide basic representations of groundwater depletion. Comparisons can be made between different models, such as the one used in Kalamazoo, but it's important to clarify that these models are tools for simplification, not detailed, site-specific simulations. Noted the comparison between the analytical solution and numeric models by considering the impact of adding several wells in a specific area and comparing the resulting depletion rates. Noted analysis showed that the outcomes aligned well and made sense with an analytical model such as Zipper's. As a result, the team felt confident in the findings and decided to publish the results. However, no further actions were taken beyond this analysis; it was conducted to satisfy professional curiosity and ensure all necessary aspects were addressed. Noted the intent was to have this be statewide. Noted how the current model attempts to represent conditions across the state by applying generalized parameters like transmissivity, storage coefficient, and leakage, which work efficiently in most cases. The goal is to provide a reasonable yet conservative solution, and the model has generally performed well. However, issues exist with the current system of half-max. The existing method involves looking at a well and

considering nearby streams or watersheds for depletions. However, stream flow depletions that are less than half of the maximum depletion are discarded, and the system does not account for water that is lost in this process. It fails to update the calculations based on the remaining streams, leaving gaps in the depletion model.

Laura Campbell wanted to confirm this with EGLE. Dave Hamilton, James Clift, and Jim Milne noted that the stream flow depletion was never as much as the well's pumping rate because the pumped water initially comes from groundwater before any stream flow depletion occurs. Jim Milne noted it is a question of allocating stream flow depletions among affected stream reaches.

Laura Campbell noted she thought it was recalculated.

Dave Hamilton clarified this is not the case. It's what the depletions are at the remaining points.

Doug Needham noted clarification on Laura's question. Dave Hamilton agreed, noting the fact that when water is extracted from groundwater, the depletion is always less than 100%. This is because groundwater moves through the system, including groundwater released from storage in the aquifer materials, which reduces the overall depletion rate. Essentially, not all the water withdrawn from streams or groundwater is immediately lost, as some of it is replenished or redistributed through the system.

Bryan Burroughs noted his concern stemmed from how we need to account for total depletions and noted for the WUAC group we are rounding off depletions and not accounting for the total impact.

Laura asked how we do give some assurance to users who don't know this system; how do we assure them that what we're moving to is a better method?

Sara Pearson noted we need to meet them where they are and assist in their level of understanding. Noted could we do some comparisons to help them.

Dave Hamilton noted that while improvements have been made, there is a need to better explain the models and the solutions they provide. He highlighted the importance of examining different points along a stream and recalculating depletion based on remaining stream points, emphasizing that this will never result in 100% accuracy. An improvement moving forward will involve better identifying nearby streams and understanding where streams intersect the well's cone of depression. This will improve how allocations are considered across sub watersheds, which Dave believes better represents depletions. He stressed the need for careful explanation of these concepts and agreed that these are important questions to address. Dave concluded that addressing these questions will assist SSRs and guide the department in making informed decisions.

Brock Howell noted that Michigan may not be the ideal place to demonstrate how the model works, suggesting that it might be more effective to look at high-quality soil logs for better insights. He emphasized the importance of understanding farmers' and users' concerns and helping them better understand the proposal.

Laura Campbell added that farmers are specifically asking for testing in Michigan due to the differences in geology across states. She noted that farmers want to test the model against local conditions to better understand how these factors occur in Michigan. Brock Howell noted all those soil materials can be found in the state to test the model.

Todd Feenstra noted that Web-squared is just one part of the process, with the Hunt 1999 solution providing insights on how much water is taken. He pointed out that there are two different models, and the bigger question is how significant the change would be if the switch were made and whether it would result in major improvements. Todd also noted that applying the model statewide could introduce issues of accuracy and oversimplification. He raised concerns about how such a change would impact SSRs. While he agreed that the idea has potential, Todd felt that the team is not yet ready to pursue it or answer all the related questions. He suggested that the next step would be determining how to verify the model's effectiveness. Todd also questioned whether using another model to justify a change would truly answer the questions at hand, and he emphasized the need to understand the most sensitive aspects of the screening tool before making any changes.

Frank Ettawageshik noted a fundamental underlying issue is the skepticism for the model. Noted need to figure out a way to get the best way to get information and then sell it to the people.

Pat Staskiewicz noted his question was regarding the implementation of the program.

Dave Hamilton noted that implementation would be set from a specific date, and an informational campaign would be necessary to allow individuals to adjust. He emphasized that the department has the authority to determine the relevant factors and that when conducting the SSR the best model to use will be determined. Dave explained that the tool is designed to be reasonable but conservative. He also clarified that analytical models are not validated, as they are simplified representations rather than direct validations of real-world conditions.

Todd Feenstra added that when discussing numerical, analytical, or 3D models, comparing different models involves creating assumptions across them. He noted that none of the models will ever fully replicate the real world. Todd emphasized that the key question is whether the model is reasonable and representative, and that running numerous examples or comparing a model against real-world data will never yield a perfect 100% accuracy.

Dave Hamilton noted that the analytical model is the correct solution, but emphasized that the key consideration is how far the model's output is from the correct information. He clarified that the model is not subject to variance, meaning it consistently provides a specific output based on its assumptions and parameters.

Mike Frederick noted there are people already collecting all this data and that instead we should just have the models use this data as it is available.

Bryan Burroughs noted that data collection is contingent on factors such as price and emphasized that empirical data is essential to accurately represent reality. He pointed out that if the data doesn't align with the model, it can't provide useful insights. Bryan highlighted that combining data and models helps bring us closer to understanding real-world conditions.

Doug Needham noted that if we didn't have the half-max model and were proposing a new model, we should carefully consider which model would be better. He expressed a lack of trust in either model but mentioned that if he had to choose, he would prefer the Web-squared model due to its more analytical nature. Doug concluded that if the SSR is showing that the half-max model isn't effective, it may be necessary to explore alternative models.

Todd Feenstra noted Bryan and Doug made great points. Noted we are starting to understand both sides of it.

Laura Campbell noted hearing some desire to potentially take WWAT registration or SSRs to run comparison against half-max or web-squared to see which better reflects reality.

Doug Needham noted we don't know reality.

Lena Pappas asked a question regarding the evaluation of a groundwater model would be done could get closer to defend the reality.

Laura Campbell noted it would be helpful.

Lena Pappas noted the study documenting the differences of comparing web-squared to the estimates of previous SSRs. Pat Staskiewicz noted at the end of the day there will be successes and losses. Laura Campbell noted farmers are looking for assurances. Sara Pearson echoed this.

Brock Howell asked how well do farmers understand the half-max or do they just accept it is the way? Suggested comparing and determining what is better from a budget point of view. Laura Campbell noted most farmers don't know and don't care about half-max, just want a system that works.

Dave Hamilton noted nobody has determined a way to do this. Noted someone may feel better about it, but he's not sure what will be gained. Sara Pearson said

that is a huge gain due to the lack of trust. Dave Hamilton noted if sticking with half-max, then we need to fix the error in half-max.

Bryan Burroughs noted that the data could change in a way that other things are occurring. Noted it may not make a difference.

Laura Campbell noted is comfortable with both ideas and is willing to move forward in the Models Committee.

c. Additional Committee Activity Updates

Simon Belisle provided update on the Water Conservation and Efficiency Committee (WCEC) meeting. Noted the committee did not meet this month but continued to advance various aspects of its work. Efforts were made to develop the research concept for climate migration and its impacts on water use, with valuable input from committee members and conversations with experts. The committee also submitted language related to climate migration for inclusion in the recommendations of the latest WUAC report to the legislature. Work on existing projects funded by the WUAC, such as the water conservation BMP project with the Alliance for Water Efficiency and MSU-Extension agricultural educators, is progressing. The committee is currently awaiting funding decisions on the 2022 WUAC recommendations to move those projects forward. A meeting is planned for early in the new year to finalize the yearly work plan and to receive an update from the Alliance for Water Efficiency on their ongoing project.

7. EGLE Update

Jim Milne provided an outline regarding the topics to be discussed during the EGLE update.

Jim Milne noted the staff and programs moving to Groundwater Data Unit included groundwater modeler positions (Jill Van Dyke, Megan Cameron, and the vacant position previously held by Lena Pappas). Noted groundwater modeling moving to the Groundwater Data Unit within the same section, noted this includes providing technical modeling support for Part 317 complaints.

Dave Hamilton asked what is Part 317? Jim Milne noted it's the aquifer dispute resolution statute. Any groundwater modeling necessary to identify whether a large quantity withdrawal is responsible for impacting a private well would be done by the Groundwater Data Unit. This would involve evaluating the specific location of the private well, the potential influence of nearby large quantity withdrawals, and understanding the hydrogeological conditions to determine if there's a connection. Data collection and modeling would help pinpoint if a particular large withdrawal is contributing to the well's issues.

Laura Campbell noted discussion on outreach events regarding Part 317. No funding available for MDARD to do outreach. Jim Milne noted from EGLE this is part of our outreach/education efforts. Laura Campbell noted may need to find another source of funding.

Jim Milne noted other programs in GDU. Noted administering current grant to become a data provider to USGS National Ground Water Monitoring Network and may have future funding available. Noted is also working on the EQUIS database for EGLE. Noted other unit staff working on GIS support.

Jim Milne noted who is staying in WUAU. Andy LeBaron will continue to provide Water Use Reporting/Part 327 Permits; Hannah Arnett will continue to provide 327 Compliance; Ross Helmer and Marian Maier will continue to work on SSRs, as well as seeking to fill 2 vacant Geologist 9-11 positions. Noted miscellaneous stream flow measurements is performed by multiple WUAU staff and are also done by USGS staff. Noted WWAT Technical support is performed by Andy LeBaron. Hannah Arnett will handle Part 317 complaints and noted pre-screening review for public water supplies is performed by Ross Helmer.

Jim Milne noted there've been several project kickoff meetings since the November WUAC meeting for projects to implement some of the 2020 & 2022 WUAC recommendations. Noted project kickoff meetings for Michigan Hydrologic Framework, Michigan Integrated Water Management Database, Cumulative Downstream Depletion Tracking (including USGS – Howard Reeves), as well as updating WWAT Aquifer Properties and User Interface.

Jim Milne noted Compliance Metrics, which have been updated as of January – November 2024. Noted Hannah Arnett sent these out. Jim Milne provided clarity on the distinctions of these metrics. Noted Hannah sent out a total of 97 compliance communications, including five related to after-the-fact registrations. These communications were for cases where an existing, unregistered, withdrawal. If there is enough stream flow available to support the as-built/as operated withdrawal, then an after-the-fact registration is issued. One compliance communication was also sent requesting missing pump capacity information. In these cases, the property owner is contacted to gather the required details. Another 65 revised registrations were sent, for withdrawals that were operated differently than authorized (by either the WWAT or an SSR), and there is sufficient stream flow to support the as-built/as-operated withdrawal operation. Noted Owner-operators are required to notify EGLE or use the tool if a withdrawal is installed or operated differently than originally authorized. If they do notify EGLE, the registration is amended accordingly. If they don't notify EGLE, it results in an after-the-fact registration. The revised registration process involves sending notices to property owners when their withdrawal was installed or is operating differently from the approved plan. After-the-fact registrations occur when the withdrawal was not properly registered in advance, and the owner must update or correct the installation details. In addition, Hannah sent out 15 first violation notices (FVNs) for violations more serious than those typically addressed through compliance communications. Of these 15 FVNs, six were successfully resolved and closed after the violators came back into compliance.

8. Future

Bryan Burroughs noted to begin sending out future recommendations to the committee for incoming discussions.

Frank Ettawageshik noted to offer having a meeting on Indian country for future meetings. Doug Needham supported idea. Frank Ettawageshik noted to coordinate in February for determining a date.

a. 2025 Meeting Dates (at Con Hall unless others offer to host) (*Quorum critical meetings)

- February 11
- April 8
- June 10
- August 12
- October 14
- December 9

b. Formats

c. Quorum

9. Open Comments (Three Minute Limit)

Bryan Burroughs started open comments.

Jim Milne noted reminder to please provide updated contact information and make sure all the records are updated.

Tom Frazier noted this was his last meeting and notified the tri-chair. Noted they are looking to get a position to replace his chair.

Laura Campbell noted thanks. Bryan Burroughs noted thanks for contributions.

10. Motion to Adjourn

Bryan Burroughs noted meeting to adjourn at 3:05 pm.