

# Meeting Notes: Wednesday, Dec. 13, 2023

## Badger Mill Creek Stakeholder Group

Agenda, notes, and meeting materials at [www.madsewer.org/bmc-plus/](http://www.madsewer.org/bmc-plus/)

### Desired outcomes:

- Close out the year with an initial shared understanding of:
  - Desired outcomes for Badger Mill Creek
  - Current and potential projects that can impact those outcomes
  - Information gaps and topics of interest
- Share additional information on current/potential projects
- Gather information to help shape topics for January/February

### Participants:

- Melissa Michaud, CARPC
- Nick Bower, CARPC
- Jeremy Balousek, Dane County Land & Water Resources Dept.
- Joleen Stinson, Dane County Parks Division
- Ben Schulte, City of Fitchburg
- Pat Bergen, Friends of Badger Mill Creek Environmental Corridor
- Brian Christian, Friends of Badger Mill Creek Environmental Corridor
- Greg Fries, City of Madison
- Kathy Lake, Madison Metropolitan Sewerage District
- Martye Griffin, Madison Metropolitan Sewerage District
- Topf Wells, Trout Unlimited Southern Wisconsin Chapter
- Robert Bohanan, Upper Sugar River Watershed Association
- David Rowe, WDNR
- Alison Lebwohl, Alison S. Lebwohl Consulting (facilitator)
- Mike Rupiper, EOR (facilitator)

### Other Attendees:

- Laura Hicklin, Dane County Land & Water Resources Dept.
- Amanda Wegner, Madison Metropolitan Sewerage District
- Michael Mucha, Madison Metropolitan Sewerage District

Topic	<i>Decisions, information gathered, actions</i>
Welcome and check-in	<i>Table check-in and review of Operating Agreements.</i>
Survey results	<p><i>Mike Rupiper shared the survey results (see attached) and provided some additional context for the purpose and use of the survey.</i></p> <ul style="list-style-type: none"> <li>• You will see these questions again. They are designed to provide participants (and facilitators) with information about where our priorities and information base overlap and where they differ.</li> <li>• Definition of healthy and resilient (Q8) -- participants have overlapping (but not identical) definitions of healthy &amp; resilient and that's ok – we'll continue to discuss and clarify this in the new year – our expectation is not that we create one uniform definition but that we are transparent about commonalities and differences</li> <li>• Potential uses (Q3) – we have different priorities and that's ok -- again, this helps provide transparency</li> <li>• Info about the creek (Q5) – in the new year, we'll focus in on the information and gaps that are most relevant to ensure we have a shared understanding of cause and effect (and gaps in information) for BMC</li> </ul> <p><i>Participants worked on their own to review the survey results and respond to the question: What's one thing about the survey results that stands out to you? Responses follow.</i></p> <ul style="list-style-type: none"> <li>• Top responses to Q3 (potential uses) don't rely on maintaining current flow (i.e., keeping effluent discharge) or fisheries, while there was rather strong agreement on Q5 (info about the creek) about maintaining baseflow and habitat fisheries being important.</li> <li>• Projects must address to greatest degree the definition</li> <li>• Definition is not measurable and vague</li> <li>• The first three items (A place for nature-based recreation, Stormwater/ flood conveyance, Wildlife habitat) seem solid and don't relate to effluent</li> <li>• Concern with other pollutants (treated effluent also contributes undesirable other pollutants to BMC) was the question that had the most blue (agree), less grey (undecided) and no red (disagree)</li> <li>• There was more agreement than disagreement with the rating questions (Info about the creek)</li> <li>• The primacy of the value of BMC as a place and as a resource for wildlife habitat</li> <li>• Failing to achieve a common definition of healthy and resilient might not be ok. That definition sets the goal for projects.</li> </ul> <p><i>Participants also provided helpful feedback on the phrasing and content of questions:</i></p> <ul style="list-style-type: none"> <li>• Adding educational (formal and informal) value as a potential use</li> <li>• The last statement in Q5 (“There are other ways to provide flow augmentation to BMC besides treated effluent”) asks if it is possible not if we support it. Possibly written that way by design but could have different answers, e.g., I agree it is possible but I would likely not support it.</li> <li>• Observer Laura Hicklin noted that it wasn't always clear whether statements (info</li> </ul>

	<p>about the creek) were to be applied to the current state or to a state without any returned effluent.</p>
<p>Current and potential projects and opportunities</p>	<p><i>Presentations and moderated Q&amp;A</i></p> <p>Jeremy Balousek and Laura Hicklin, Dane County, gave an overview of improvements made to Badger Mill Creek by the county and its partners (<a href="#">link to presentation</a>)</p> <p>Mike Rupiper, EOR, gave an overview of:</p> <ul style="list-style-type: none"> <li>• opportunities identified on pp23-24 of <i>Final Alternatives Assessment for Phosphorus Compliance Report</i> (<a href="#">link to report</a>)</li> <li>• USGS report on groundwater pumping to supplement flow (<a href="#">link to report</a> and <a href="#">presentation</a>)</li> </ul> <p>Written questions were taken. The speakers’ responses were given at the meeting and, due to time constraints, by email after the meeting. See attached Presentation Q &amp; A for the complete list of questions and responses.</p> <p>At least one participant expressed an interest in having additional stakeholder groups share their expertise and perspective. Facilitators shared their plan to incorporate this recommendation into 2024 planning.</p> <p><i>Individual and table work</i></p> <p>Participants worked on their own to respond to three questions.</p> <ul style="list-style-type: none"> <li>• What projects or opportunities from today sound promising to you – and why?</li> <li>• What other projects or opportunities would you recommend the group learn more about – and why?</li> <li>• What additional information would help you identify projects and opportunities going forward?</li> </ul> <p>Participants discussed their responses with their table and identified up to three themes to share with the group in written format. Those themes are shared below. All participants then had the opportunity to read all themes shared and place six dots in total (one or more dots per theme) on themes that they found most helpful, urgent, important or resonant. The number in parentheses beside each statement reflects the number of dots placed beside that theme.</p> <p>About project selection:</p> <ul style="list-style-type: none"> <li>• It is difficult to talk specific projects without having clearly defined the aim (2)</li> <li>• Projects need to connect to/ address the “health and resiliency” of BMC (as we define it) (3)</li> <li>• Ideally, projects should have multiple benefits (5)</li> <li>• Wasting time on instream projects – if we focus solely on in-stream habitat projects, don’t waste the group’s time ; have the DNR or other experts do it (2)</li> </ul> <p>Information needed:</p> <ul style="list-style-type: none"> <li>• What happens if we stop return and do nothing else? (1)</li> </ul>

	<ul style="list-style-type: none"> <li>• What are the negative impacts of pumping to add flow? (3)</li> <li>• Understanding aquitard and shallow vs deep aquifers (5)</li> </ul> <p>Projects to explore:</p> <ul style="list-style-type: none"> <li>• Groundwater augmentation is interesting and worthy of more work (6)</li> <li>• Liked exploring a well to augment flow (2)</li> <li>• Any wetland restoration opportunities? (6)</li> <li>• Can a solution for Goose Lake be matched with flow augmentation? (6)</li> <li>• What source (deep/shallow) and where to use? (6)</li> <li>• Focus on legacy phosphorus in sediment (1)</li> <li>• Information on USGS full-scale, all-time monitor (2)</li> <li>• Water withdrawal from shallow wells and impact on BMC stream flow (5)</li> </ul> <p>One participant shared ideas that were not on a flipchart</p> <ul style="list-style-type: none"> <li>• Ideas from today that sounded promising included: <ul style="list-style-type: none"> <li>○ Existing wells</li> <li>○ Existing flood mitigation</li> <li>○ Monitoring</li> </ul> </li> <li>• Projects or opportunities the group that would be valuable to learn more about: <ul style="list-style-type: none"> <li>○ Dredging</li> <li>○ Flow restriction assessment</li> <li>○ Animal structures being moved or removed</li> <li>○ Upstream pipes</li> </ul> </li> </ul>
Other noteworthy items	<p><i>Friends of Badger Mill Creek shared their draft definition of a healthy and resilient BMC.</i></p> <ul style="list-style-type: none"> <li>• [see attached]</li> </ul>
Action items	<p>Facilitators:</p> <ul style="list-style-type: none"> <li>• Type up and share notes with the group.</li> <li>• Incorporate decisions and discussions into charter and project planning as needed.</li> </ul> <p>Stakeholder group participants:</p> <ul style="list-style-type: none"> <li>• Review these notes and email Alison &amp; Mike with corrections.</li> <li>• <b>In order to maximize the value of our time together, all participants commit to doing advance work, including providing feedback through advance surveys.</b></li> </ul>



**Badger Mill Creek Stakeholder Group December 2023 Meeting Advance Survey:**

Q3. Please rank the relative importance of the following potential uses of BMC to you and the organization you represent:



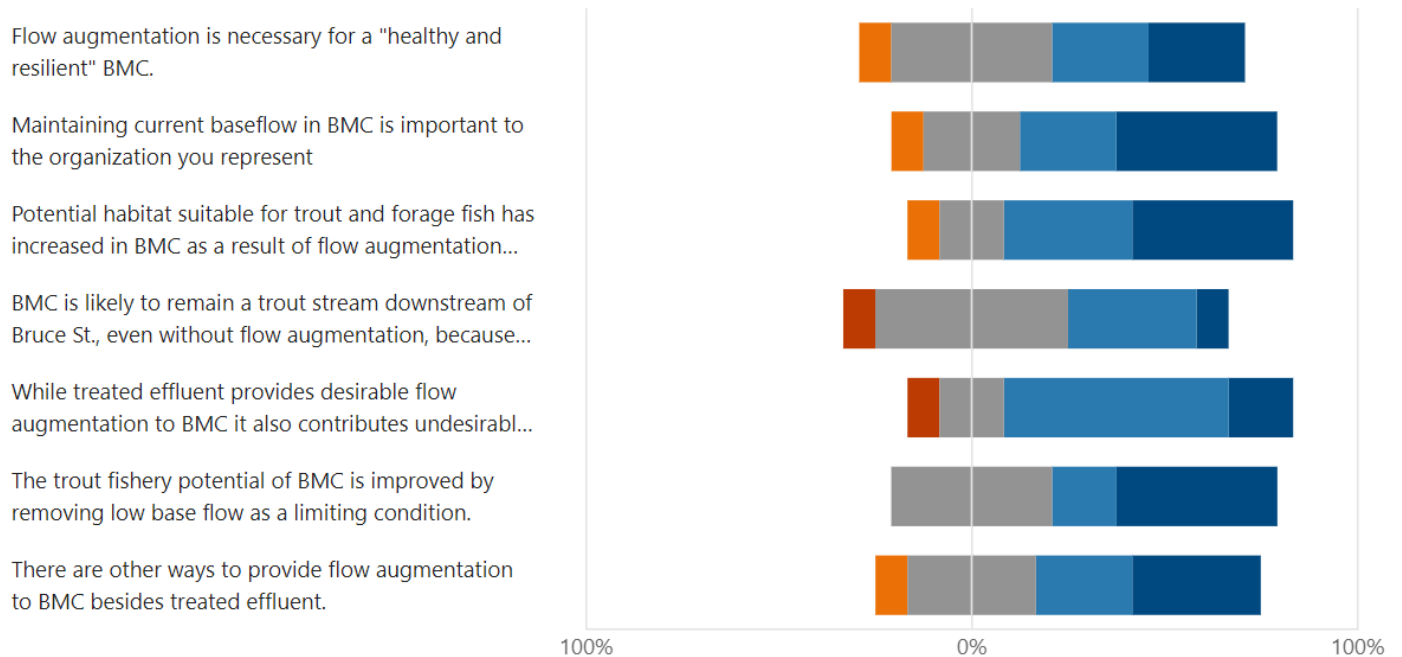
Q4. What additional information would be helpful to have as we begin identifying potential projects?

- Section 5's questions are key to identifying projects. I think identifying potential projects is a waste of time until we decide what we have to address in and around the creek.
- My listing SW conveyance as #1 above, I am not necessarily making a statement of value so much a statement of fact. I am trying to convey that the stream will convey storm and floodwaters whether we want it to or not. So my view, is we move forward to consider projects that can be compatible with that condition.
- Per our charter, potential projects must be applicable to the health and resilience of Badger Mill Creek. Loss of stream flow due to elimination of effluent return is most likely to result in loss and degradation of aquatic and riparian habitat. This per DNR, and stream biologists in our group. Also attributes of the stream prior to the shutoff are the most applicable reference for project uses. Given these premises, stormwater/flood conveyance should not be included as a use, unless it provides significant benefits to BMC H&R . Even with effluent flow, BMC is not large enough for canoeing/kayaking and the creek has not been used for this in a significant way, particularly given the proximity of the Sugar River. It is critical that we choose projects germane to the health and resilience of BMC and not see this effort as a source of funding for ancillary ideas. BTW ,I proposed in Sept our charter include this item....ie....projects must to the greatest extent address the health and resilience of BMC.
- What is the impact to Badger Mill Creek and the Sugar River from the existing ground water withdrawals that occur including municipal wells and private wells. Are the impacts of deep municipal wells different than the impacts of shallow wells? How much of the wastewater delivered to MMSD from Verona service area is from deep municipal wells versus shallow wells? Would conversion of shallow wells to deep wells positively impact base flow in Badger Mill Creek?

- We need to define our objectives before potential projects. Meeting 3 was initial consideration of criteria for selection. Meeting 4 and 5 were scheduled as Technical discussion for water resources focus and fisheries focus. Since we are ahead of schedule, let's continue to define our criteria.

Q5. Please rate your agreement with the following statements regarding Badger Mill Creek (BMC) based on your understanding of the presentations and other information that have been shared with the group.

■ Strongly Disagree  
 ■ Disagree  
 ■ Undecided  
 ■ Agree  
 ■ Strongly Agree



Q6. Any feedback on process to date?

- What planet am I living on w/ regard to this process? I don't recall anyone suggesting that BMC could support a warm water game fishery. Mike Sorge noted that the upper reaches of the stream might well be degraded to warm water FORAGE fishery. I doubt that folks will flock to BMC to fish for shiners and darters. A persistent and huge problem is constant references of the need or desire to protect or maintain BMC as a trout stream. That ignores the huge difference between Class 1 and 2 trout streams and Class 3 streams. If all we want to do is preserve BMC as a trout stream, we can disband this group and tell MMSD to keep its \$1,000,000. Even with all the MMSD water gone, BMC can still function as a Class 3 trout stream. The DNR can show up every spring and dump hatchery trout in the creek. Folks can fish for and catch them. Almost all will be caught or gone by late summer. BUT THE STREAM WILL HAVE BEEN SIGNIFICANTLY DEGRADED AND A WRETCHED SHADOW OF ITSELF. If we're not committed to maintaining BMC as a robust, Class 2 trout steam we are implicit in the stream's degradation. SWTU will not participate if this process and group take that turn.
- For me, the questions above are too digital (ie on or off) the first one for example - My personal opinion is that - I believe flow augmentation MAY be needed at SPECIFIC times but those times are pretty limited

- the phrasing of the question forces me to answer that i disagree - but that is likely not how that response will be taken. Similarly the 2nd question is biased toward getting a yes response much in the same way you ask a question "do you value public education" how do you vote no to that - but the devil is in the detail how we value it in comparison to other things is when this becomes meaningful.

- I was part of the 4-member group that proposed the definition of H&R of BMC. This was extremely rushed. Unfortunately this critical step takes time. It is critical cause this definition should drive the nature of the proposed projects.
- I am not able to answer question 3. The Wisconsin DNR represents equally all of the interests represented in the question.
- The timing of the minutes and new agenda distribution does not allow enough time for us to discuss with our members. We would appreciate distributing the minutes and agenda for the next meeting one week after the meeting to give us three weeks to understand and discuss.
- I have really learned quite a bit about the biological components of the streams and the significant work done to monitor the streams health.
- Would appreciate more time for discussion and brainstorming.

Q8. Here is the draft definition of a healthy and resilient Badger Mill Creek that you created together at our last meeting:

*Maintain a nature like system that accounts for water quality, ecological community, and ecosystem services (riparian, in-stream, and in the watershed) that provides stability to withstand short term disturbances and long-term changes.*

How well does this definition work for you and your organization? (Note: this is a non-binding straw poll)

#### [More Details](#)

● Love it!	2
● I can live with it.	5
● I need more information.	3
● I'd prefer not.	0
● Deal-breaker.	2



If you need more information, what information do you need?

- For me the term "long term changes" requires a definition of what long term means - i would argue we cannot reasonably estimate anything with any level of accuracy beyond 20 years and any real useful degree of confidence beyond 5 years. To say it can withstand long term changes implies to me that despite lots of changes that are well outside of anyones coordinated control we expect the stream to remain unchanged - this is not a realistic expectation (in my opinion). If we want that type of control, then

we want an "engineered" system where we "force" one condition on a system despite changes around it. That is not what this system is. My suggestion would be "that provides stability to withstand short term disturbances and is able to remain an environmental asset in the long-term"

- Does "Maintain ecological community" include natural reproduction and recruitment of trout?

If you would prefer not or this was a deal-breaker, what changes would enable you to be able to live with it or even love it?

- See paragraphs 2 and 3 in item 6. The changes must indicate that BMC is currently a robust Class 2 trout stream and any effort to sustain its health must seek to maintain that condition. "A Class 2 trout stream" can be considered a term of art and might not be understood by many folks who care about BMC. An acceptable alternative could note that BMC currently hold a healthy population of wild brown trout with significant and successful natural reproduction. Any effort to sustain the health and resilience of the creek must maintain that population and reproduction.
- We will be presenting a definition that is measurable and specific with certain metrics. We believe that we need to agree on a definition prior to looking for solutions. We would appreciate time at the beginning of the meeting to discuss what the definition should be, before continuing on to possible solutions.

If you can live with it, what changes would make you love it?

- Not sure what changes but my gut says it's a vision/future that involves many variables, organizations and individuals. How will success be measured or achieved...and is it too much for this undertaking/group?
- We recognize that this is a difficult process and that it will be difficult for all stakeholders to agree on a definition that they love.
- Water quantity and water quality specifically mentioned



## Presentation Q & A

1. Data RE: Effects of habitat improvements?

Jeremy: First growing season, so no formal assessment, but animals and fish are present.

2. If flow decreases due to the loss of effluent, do you expect the root wads and other improvements to lose effectiveness?

Jeremy: Yes, but will still have some value.

3. What design storm is the project for?

Jeremy: 2-yr for habitat, 10-yr for storm flow, > 10-yr for flood protection

4. One critical element missing thus far is that of health & resilience against future scenarios of development & climate change – 50 to 100 yrs.

Mike R.: The Dane County groundwater model has been used to simulate the scenario of groundwater pumping for municipal water supplies 30 years into the future. It could also be used to look at future scenarios of development & climate change – 50 to 100 yrs. Like many models, the uncertainty increases the farther you look into the future.

5. How would groundwater withdrawal to provide flows in BMC affect generally declining groundwater levels and baseflow in other water bodies.

Mike R.: The effect any given well has on groundwater levels depends on its location, depth, pumping rate, and the surrounding hydrogeology among other factors. These effects are the kinds of things that the Dane County groundwater model was developed to evaluate.

Definition of Health and Resiliency

**Preface** – There have been a lot of changes in the Verona area in the last 25 years. Our population has grown by three times. So have the number of houses and businesses. Hwy 12/18 used to run through the middle of town, and now we have a superhighway that encompasses the city. All of this has led to additional urbanized water runoff into the Badger Mill Creek and this will likely continue into the future.

The water sources and quality of the urbanized Badger Mill Creek, absent our return water, is not the same as it once was 25 years ago.

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Definition

**A Class 2 trout stream with robust natural reproduction (as characterized by WDNR) from County Old PB to the Sugar River, as a baseline standard, able to withstand short term disturbances and long-term changes, with water quality and quantity throughout the year able to support and maintain BMC's aquatic, riparian and watershed ecosystem status, animal ecological communities, comparable to current conditions, for the enjoyment of natural and scenic beauty by the people.**

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"...Healthy intact watersheds provide many ecosystem services that are necessary for our social and economic well-being. These services include water filtration and storage, air filtration, carbon storage, nutrient cycling, soil formation, recreation, food and timber. Many of these services have not been monetized and therefore the economic contributions of healthy intact ecosystems are often under-valued when making land use decisions. Ecosystem services provided by healthy watersheds are difficult to replace and most often very expensive to engineer. An engineered ecosystem service replacement may only provide a fraction of the services provided by highly functioning natural systems. Preventing impairments in healthy watersheds protects valuable ecosystem services that provide economic benefits to society and prevent expensive replacement and restoration costs. Maintaining riparian connectivity and natural processes in the landscape provide a supporting network for ecological integrity, ensuring the sustainable and cost-effective provision of clean water over time..."

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