

From: Martin Griffin
Sent: 04/26/2023 18:29 +00:00
To: Rowe, David C - DNR
Cc: Kathy Lake; Oele, Daniel L - DNR; Brechlin, Ashley J - DNR; Bauman, Thomas S - DNR; Sorge, Michael J - DNR; Bruhn, Camille M - DNR; Simonson, Timothy D - DNR; Allness, Michele M - DNR (Shelly)
Subject: Re: Concerns with BMC Project PLUS FAQs

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Thank you Dave for alerting us to your concerns. We will review what you have sent and get back to you as soon as we can on how we can resolve the concerns.

Thanks,
~M

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On Apr 26, 2023, at 9:52 AM, Rowe, David C - DNR
<David.Rowe@wisconsin.gov> wrote:

Kathy and Martye,

Reaching out to you guys cause there have been some concerns that have come to the attention of the Department regarding your Badger Mill Creek Project PLUS FAQs. These concerns have arisen from both DNR staff and stakeholders.

Specifically the concerns are in regards to our role with the project and the characterization that reduced flow may be beneficial to trout.

Who is involved with Project Plus.

The answer lists Department staff as actively working on Project PLUS. I would clarify that as resource managers DNR Fisheries staff have consulted with MMSD (at their request) and their consultant on the short term effluent suspension evaluation. Not sure how other DNR staff and programs would characterize their involvement.

Would turning off flow harm trout?

Department Fisheries staff have told MMSD staff that permanently eliminating the effluent stream to Badger Mill creek will likely have deleterious impacts to the Brown Trout population and Brown Trout natural reproduction and recruitment. Since the addition of the MMSD Effluent stream Badger Mill Creek has changed from a warm water forage fish community with stocked catchable sized "put and take" trout, into a cool-coldwater fish community and a designated Class 2 trout stream with observed natural reproduction and recruitment. Historical data shows the increase in flow and stabilization of temperature has been beneficial to the trout population and it's abundance in Badger Mill Creek.

Trout thrive in streams that are dominated by groundwater inputs as the stream flow and temperature are more stable. The effluent stream mimics a groundwater spring that contributes warmer stable water in the winter and colder water in the summer. More flow also means a greater volume of water so it is more resistant to thermal changes in both winter and summer. Mimicking air temperature is not a good thing (especially as the climate continues to warm and become more variable).

The statement that being colder in winter is good for trout is incorrect. When streams become too cold, several environmental stressors become risk factors for trout. Stream temps can drop below thermal preferences for adult trout meaning they are spending all their energy maintaining body condition instead of growing this happens around 40° F. Smaller juvenile trout are more susceptible to cold stress and mortality, we observed region wide impacts to trout populations from the prolonged cold winters in 2013 and 2014. Anchor ice and frazzle ice can form in streams. Anchor ice is the freezing of the stream bottom which can kill trout eggs that were laid in fall and are developing in gravel nests. Frazzle ice is the formation of ice crystals on suspended particles in supercooled moving water and can be very dangerous for trout. The effluent acts as pseudo spring flow stabilizing temperatures and prevents ice formation in the stream.

Removing sediment may create depth but it does not increase flow.

How has the District worked with WDNR on the project? What advice has WDNR offered regarding the assessment period?

DNR did not approve of the effluent suspension study design. There is no requirement for a study, so no formal approval. Fisheries Staff did consult with MMSD and their consultant on study design elements. MMSD contacted DNR Fisheries Management in October of 2022 to discuss options for evaluation of flow suspension. During consultation we voiced our concerns that permanently eliminating the effluent discharge would negatively impact the trout population and a short term study would not be able to evaluate those impacts. The time period was necessitated because the District needed to have their compliance decision by end of May 2023. In consulting with MMSD, Fisheries staff made it clear that any short term winter study would only be able to assess changes to flow, temperature, and stream physical characteristics and would not be able to make valid assessments about biota.

Thanks for your recognition of our concerns and any possible corrections or clarifications you may choose to make regarding the FAQs on the website.

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