

Response from Editor:

Dear Authors,

Following a thorough evaluation by the reviewers, your revised version of the manuscript has been found to show improvements over the original paper. However, the reviewers have also suggested additional changes before the manuscript can be accepted for the final publication in HESS. I concur with the reviewers' assessments and hereby release their comments for your consideration. Kindly submit a revised manuscript and a point-by-point response to these comments. Should you disagree with a particular comment, please provide a detailed explanation. Please note that a possible quick review by the reviewers might be necessary.

Author response: *We thank the editor for the opportunity to address the reviewers' minor comments. We have now addressed all the comments (in blue italics).*

Comments from referee #1

I have reviewed the author's responses to my earlier comments and I find them satisfactory. Especially, the newly written discussion is markedly better than the previous one. Good job on that! I only have some minor/technical comments left, which I hope the authors take into account.

In addition to typos and confusing sentences noted below, I recommend that the authors proofread the discussion section to fix simple grammatical errors (punctuation, articles). Now the text there seems a bit unpolished.

Author's response: *We thank Referee #1 for this positive comment as well as previously providing constructive criticism and suggestions that improved considerably this version of the manuscript. Our responses to all the comments are listed below in the order they appear.*

Specific comments:

Abstract is quite long but if it is within the journal guidelines, I'm fine with it.

Author's response: *We checked and it is within the journal guidelines.*

L152-153: "... not the upland..." What do you mean by this? Were there ditches also in the surrounding upland forests? Why would that be?

Author's response: *There are ditches in the mire catchment that were not blocked, only the ones in the mire itself were blocked, as shown in the map (Figure 1). We explained it differently, and now it reads: "the peatland was rewetted by filling and blocking all the ditches in the peatland, whereas ditches in the surrounding none-peat areas were left unmanaged".*

L180: Add comma after "Solinst". Isn't the company's name "Solinst Eureka"?

Author's response: *As we understand, Solinst eureka is the brand for water quality probes, we believe the name for the loggers is only Solinst. We added the coma.*

L190: The instrument model should probably be TruTrack WT-HR. The name of the manufacturer is also missing (Intech Instruments?).

Author's response: *Correct, it is a TruTrack WT-HR and it is Intech instruments, we added the information.*

L239: What is "Q"? Flow rate? It is not defined.

Author's response: *We are referring to discharge, we changed it.*

Figure 1: This figure is much better than the previous one! One small note though. In Fig 1b, the black "R1" and "R2" are difficult to distinguish from the background. It would be a good idea to change the color to something lighter or even white.

Author's response: *Agree, we changed it to white and looks better.*

L381: "...towards pristine conditions storing more water ..." Something (a word and/or a comma) is missing in this part of the sentence.

Author's response: *Good suggestion, we re-wrote the sentence and now it reads: "Rewetting has begun to influence GWL, runoff responses during rainstorms, and flood mitigation (though the latter was observed in only one of the two study catchments) while also shifting these hydrological characteristics closer to pristine conditions by increasing water storage in the peatland."*

L409: The beginning of this sentence is confusing. Please rewrite.

Author's response: *We re-wrote the sentence to make it clearer: "After rewetting, our results show a significant increase in GWL at all distances from the ditch, however with spatial variation"*

L428: "...revealed that, discharge...". Remove the comma.

Author's response: *Removed*

L430: "decrease on" --> "decrease in"

Author's response: *Corrected*

L438: "positively effects" --> "positively affects"

Author's response: *Changed*

L447-L452: This summary of the results at the beginning of the paragraph could be shorter. Here are two suggestions: "L447: remove "however as mentioned above, the decrease in the peak flow was not significant at R2" and on L450: "that did not have a significant change" --> "where the decrease in peak flow was not significant".

Author's response: *Thank you for the suggestion. We changed it as suggested.*

L450: "that" --> "which"

Author's response: *Changed with the comment above.*

L452: "in" --> "by"

Author's response: *Changed.*

L454: Remove "of the"

Author's response: *Removed.*

L467: "suggests" --> "suggest"

Author's response: *Removed.*

L478: I think you could finish the sentence here: "at R2." The rest of the sentence is unnecessary repetition.

Author's response: *We believe this repetition emphasized and important part of our results. Hence, we will keep it.*

L480: Move this sentence: "Specifically, a reduction..." to L476 before "Our results showed that..."

Author's response: *Moved.*

L493: "It's" --> "it is"

Author's response: *Changed*

L493-494: If the decrease in lag time was not statistically significant, the lag time did not really decrease, at least based on your data. Therefore, I don't think it makes much sense to explain the (insignificant) decrease in lag time in such a length as is done in this paragraph. Based on that, consider removing the following four sentences on L494-L502 or heavily modifying them and discuss from the point of view that why you did not observe a significant change in the lag time at your site.

Author's response: *We did a combination of removing sentences and modifying the ones left. However, we did wanted to leave the sentence that explicitly says that the decrease was observable but not significant.*

L519: Remove "in" in "...and in other investigations..."

Author's response: *Removed.*

Comments from referee #2

This version of the manuscript is an improvement over the first version, the differences between catchment R1 and R2 are easier to understand, and the discussion explains results from this study in more detail than previously.

Author's response:

We thank Referee #2 for this positive comment as well as previously providing constructive criticism and suggestions that improved considerably this version of the manuscript. Our responses to all the comments are listed below in the order they appear.

Suggested technical corrections in the new text:

L39 serves should be serve

Author's response: *Removed.*

L138 between 0.05 AND 0.13

Author's response: *Changed*

L157 moveable log mats

Author's response: *Added.*

L169 between 0.02 AND 0.06

Author's response: *Added.*

L239 Puttock et al (check all newly inserted citations, the format has changed from the original version)

Author's response: *Great catch. We now, did a thorough check of all citation style.*

L273 while in R2 only 16% of the ditches (were blocked?)

Author's response: *Correct, we added "were blocked"*

L382 special attention should be given to the diverse characteristics.

Author's response: *Thanks, we corrected the sentence.*

L388 check in-text citation formatting

Author's response: *We are sorry about this mistake. We now, did a thorough check of all citation style*

L463 therefore (reduce) peak flow?

Author's response: *Added*

L467 results suggest

Author's response: *Couldn't find the mistake there.*

L468 check citation formatting

Author's response: *Again, we are sorry about this mistake. We now, did a thorough check of all citation style*

L478 follow

Author's response: *We edited the sentence based on Referee #1 comment.*

L498 allow not allows

Author's response: *Thanks, we corrected it.*