

Biogeosciences Discuss., community comment CC2  
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## Comment on bg-2021-65

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Community comment on "Effects of peatland management on aquatic carbon concentrations and fluxes" by Amy E. Pickard et al., Biogeosciences Discuss., <https://doi.org/10.5194/bg-2021-65-CC2>, 2021

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Some more comments:

- 0) Table 1 could do with some information on slope within each sub-catchment (as this will influence runoff and erosion and residence time). Maybe some information on this can be added?
  - 1) The Figure 1 could be improved by choosing a different colour for the catchment outline of Drained, Restoration, Non-drained. Currently it is easy to overlook this (font could also be bigger and bold for the conditions (e.g. Drained).
  - 2) To my knowledge the Ball (1964) LOI conversion has never been tested for POC from peatlands. Our comparison did not provide good results and C/N analysis provides a better alternative. Could this have impacted the results?
  - 3) Table 4 correct NS to ns in last column.
  - 4) Fig. 4 This is a nice graph but more informative would be to have the discharge expressed per unit of sub-catchment area (to allow a weighted comparison).
- It is good to see the BACI approach discussed - we need more of it - and also the various C export aspects (although I have been wondering about how CO<sub>2</sub> evasion from streams might actually be from aquatic organisms unrelated to the actual peat body and its C balance - they fix and respire C as well !).
- 5) Finally, I wonder about a mention in the discussion around the fate of the exported C. We really do not know yet how much of the DOC & POC will be 'lost' via stream and river transport. The results vary a lot and the measurements were often artificial (cuvettes), possibly not accurately mimicking temperature and light conditions (in stream/river conditions). Further research is needed ...