

Dear Dr. Erika Buscardo:

Thank you for your handling of our manuscript including these further edits needed. We appreciate your catching these issues and have addressed them all, and provided the details on how they were addressed below after each listed in your original correspondence.

Sincerely,

Sue Ziegler on behalf of co-authors.

Dear Dr. Susan Ziegler,

Thank you for sending the revised version of your manuscript. I am satisfied with the way you addressed the reviewers' comments / suggestions both in the rebuttal letter and in the revised manuscript. There remain just few minor points that should be addressed.

Double-check all acronyms throughout the text. Sometimes they appear in full (e.g., carbon, forest, harvested) after being already defined, other times the acronym mentioned for the first time is not spelled out fully (e.g. SUVA, HMD, LMW, ON).

Thank you for catching these issues. We have combed through the manuscript and made sure that these were all defined in their first use and then consistently used throughout. Exceptions to this include the abstract and figure captions standing alone from the main text.

At the end of the Introduction substitute 'we frequently sampled' with a clear description of what was done, e.g., mobilised soil DOM was sampled on a weekly to monthly basis during a year... .

We have added that needed detail so the sentence now reads "Mobilized soil DOM was sampled on a weekly to monthly basis over a year using a passive pan lysimeters in open harvested plots compared to adjacent mature black spruce forest plots as part of a case study"

In the Material & Methods you list common plant species at the study site. In one case you partly identify the authority (i.e., *Alnus alnobetula* (Ehrh.)) while for all the other species you opted for giving only the scientific name. Be consistent and either provide or not the authority for all species.

Removed the one reference to authority to simplify and be consistent.

Fig. and Figure / figure are used interchangeably throughout the text. Standardise.

Have converted all "Figure" to "Fig." throughout.

Avoid referring in the Material and Methods to tables and figures belonging to the Results.

We removed the reference to Figs. 1, 2, 4a and 4b as well as Tables 3, 4, S1 and S2. from the Materials and Methods section. However, we retained the reference made to Fig. S1 and Fig. S2 as they provide site information that should help the reader understand the conditions as well as the experimental design, and do not contain any results.

Figure legend / Table captions. They have to be self-standing, i.e. the reader needs to understand their content without reading the main text (e.g., the study site location is missing; the treatment is not defined in the table caption). Figure 2: space missing between 'harvest' and '(H)' and between 'forested' and '(F)'; Figure 3: no need for acronyms F and H.

Figures 1 and 2 – boxplots: describe correctly what the line, box and whiskers stand for.

Done across all figures and tables including the errors noted. Thank you for catching all of those!

Subtitle section 4.2: remove the full stop / period

Done.

Section 4.3, L632-35 - Revise sentence.

This has been edited and now reads: "Interestingly, the winter and snowmelt samples exhibited high $SUVA_{254nm}$ coupled with elevated S_R values, suggesting the mobilization of relatively more aromatic-rich DOM but with a lower molecular weight in comparison to soil DOM from summer and autumn"

Thank you.

Sincerely,

Erika Buscardo