Reply on RC2
Laurie Boithias et al.

Author comment on "Escherichia coli concentration, multiscale monitoring over the decade 2011–2021 in the Mekong River basin, Lao PDR" by Laurie Boithias et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2021-440-AC2, 2022

Please note that line numbers refer to the track-change version of the manuscript, available upon request.

[R2C1] This unique and detailed dataset on water quality measurements in the Mekong River is a valuable contribution to the field of health-related water microbiology and hydrology and the authors make it freely available for future use by others. It regroups data collected over a decade at various spatial and temporal scales, and part of the data presented here have been focused on in recent publications of the group.

We thank the referee for her/his kind comment.

[R2C2] Line 98: please add "to" before "achieve".

We corrected it on L98.

[R2C3] Line 111: Please specify whether you performed blanks for E. coli enumeration to ensure absence of contamination. Considering the LOD determined here, it could be useful to indicate in the text the percentage of samples below LOD.

We used sterile Ringers’ Lactate solution for the dilutions with the microplate E. coli enumeration method. We performed blanks on Ringers’ Lactate solution several times over the decade, although we did not test it routinely. We added the following sentence on L118:

“We tested the sterility of Ringers’ Lactate solution and found no E. coli.”

As for the percentage of samples below LOD, we added the following sentence on L121-122:

“Among the three datasets, the number of water samples with [E. coli] below the limit of detection was 5.9 %.”

[R2C4] Line 117: what volumes were typically filtered for TSS measurements?
Considering the very small porosity of the filters (0.2 um), I would expect (very) small volumes to be filtered, which could in turn introduce a source of uncertainty. Usually, TSS
is determined using glass-fiber filters of 1.2 - 1.5 um nominal porosity. Please explain how you proceeded here, especially with turbidities exceeding 200 NTU. Please cite an appropriate SOP reference.

The volume of water filtered for [TSS] measurement was 100 mL. We used 0.2 µm filters to ensure that filtration traps the clay fraction (<2 µm) of the water samples, knowing that clay fraction is up to 72.9 % in adjacent soils (Chaplot and Poesen, 2012). We rephrased the sentence as such on L123-125:

“We measured [TSS] in the laboratory after the filtration of 100 mL of sample water on 0.2 µm porosity cellulose acetate filters (Sartorius) and evaporation at 105 °C for 48 h. We used 0.2 µm filters to ensure that filtration trapped the clay fraction of the water samples, knowing that clay fraction is up to 72.9 % in adjacent soils (Chaplot and Poesen, 2012).”

We updated the references’ list accordingly.