Technical correction of *Egusphere-2026-959*

Replies to reviewer:

Hellemann & Sun et al. have revised the manuscript to my satisfaction. Any new comments are minor and should be easily implemented, and I support publishing the manuscript after completing a few additional, minor revisions. Specific Comments:

Figure 1b --- "Corpus Christi Bay" is misspelled in panel B.

Line 174 --- "For this" what?

Line 182 --- Suggest editing to "…allows investigation of how…"

Lines 234-235 --- Suggest editing to "Note that the hypoxic…".

Line 240 --- Suggest deleting "already".

Line 257 --- Suggest deleting "already".

Line 271 --- "This…" what "…is interesting…"?

Line 282 --- Suggest deleting "also".

Line 285 --- "rather promptly" doesn't really match the vibe I'm getting from the text. Needs some additional context.

Line 373 --- Change "worth" to "worthwhile".

Response: We revised all text parts above following the reviewer's suggestions.

Replies to editor:

The authors have responded constructively to my and the reviewers comments. I now find the manuscript acceptable for publication after minor corrections suggested by the reviewer. I also found figure 6 to be quite cramped with very small text. Can this be either have the content reduced, or be broken in-sub figures?

Response: We agree that Figure 6 (and Figure B2) was quite busy. We broke the figures into two panels and increased the font-size, which should make the figures easier to read and less busy.

Further, we did the following few technical corrections to the manuscript:

L. 4: "Ecosystems and Environment Research Program" was changed to "Department of Environmental Sciences" as this is the new name of the department

L. 13: we deleted "now at: Marine- and Freshwater Solutions, Finnish Environment Institute" which was given as current affiliation for D. Hellemann, but she is not at that institute anymore

L. 30: the sentence "While this NH4+ efflux magnitude can increase under increasing OM loading and O2-deficiency, the legacy effect is generally mild and NH4+ effluxes react well to external OM load reductions" was slightly revised to "*While this magnitude can increase under increasing OM loading and oxygen deficiency, the overall legacy effect on the NH4+ effluxes from coastal sediments is mild and the NH4+ effluxes react well to external OM load reductions*" to increase readability (it was a bit bumpy).

L. 35: in the following paragraph we added the words marked in italic, to again increase readability: "Without external OM load reductions, *sediment-water* NH_4^+ effluxes stay indefinitely elevated and fuel continuous internal NH_4^+ loading *to the coastal system*. Our findings highlight the complexity of eutrophication legacy effects in

regard to *the sediment pool and sediment-water efflux of* NH_4^+, and their varying impact on the *coastal Baltic Sea* ecosystem".

L. 95: "water column biogeochemistry" was revised to "pelagic processes"

L. 125: we added the words in italic, as they were missing "...most of the resulting NO_3^- is subsequently reduced to non-bioavailable di-nitrogen gas (N_2; denitrification) *in the anoxic sediment layer."*

L. 165: "based on" was changed to "using"

L. 436: "porosity variation with depth" was revised to "downcore porosity"

Reference list: we added Jensen et al. 1990, which was cited in the text but missing from the list; we deleted Ehrnsten et al. 2025, which was in the list but not cited in the text.

Fig 4, 5, 6, B2: we removed the comma as 1000-separator, to have all numbers given in the manuscript of the same format