

Interactive comment on “Drainage of soft cohesive sediment with and without *Phragmites australis* as an ecological engineer” by Rémon M. Saaltink et al.

Rémon M. Saaltink et al.

r.saaltink@has.nl

Received and published: 7 September 2019

We would like to thank the two anonymous reviewers for their constructive and helpful comments on the manuscript. In the attachment, we present our point-to-point response (in red) to all comments raised (in black). We have numbered the comments made by Reviewer 1 (R 1-1 – R1-15) and Reviewer 2 (R2-1 – R2-45) for cross-referencing purposes.

References used in this response

De Lucas Pardo, M.: Effect of biota on fine sediment transport processes. A study of

C1

lake Markermeer. PhD dissertation, Delft University, 2014.

De Lucas Pardo, M.: Tubifex worms improve densification Rates and the strengthening of soft Sediments and mine tailings. Deltares Fact-sheet EP4033.

Granéli, W.: Biomass response after nutrient addition to natural stands of reed, *Phragmites australis*, Internationale Vereinigung für Theoretische und Angewandte Limnologie: Verhandlungen, 22, 2956-2961, 1985.

Howard, R. J.: Intraspecific Variation in Growth of Marsh Macrophytes in Response to Salinity and Soil Type: Implications for Wetland Restoration, *Estuaries and Coasts*, 33, 127-138, 2009.

Jones, C. G., Lawton, J. H., Shachak, M.: Organisms as Ecosystem Engineers, *Oikos*, 69, 373-386, 1994.

Moore, G. E., Burdick, D. M., Peter, C. R., Keirstead, D. R.: Belowground biomass of *Phragmites australis* in coastal marshes, *Northeastern naturalist*, 19, 611-626, 2012.

Odum, E. P.: The Strategy of Ecosystem Development, *Science*, 164, 262-270, 1969.

Retnamony, G. R., Allam, M. M.: Effect of clay mineralogy on coefficient of consolidation, *Clays and Clay minerals*, 46, 596-600, 1998.

Rietkerk, M., Dekker, S.C., Wassen, M.J., Verkroost, A.W.M., Bierkens, M.F.P., 2004. A putative mechanism for bog patterning. *Am. Nat.* 163. doi:10.1086/383065.

Saaltink, R. M., Dekker, S. C., Griffioen, J., and Wassen, M. J.: Wetland eco-engineering: measuring and modeling feedbacks of oxidation processes between plants and clay-rich material, *Biogeosciences*, 13, 4945-4957, 2016.

Saaltink, R. M., Dekker, S. C., Eppinga, M. B., Griffioen, J., Wassen, M. J.: Plant-specific effects of iron toxicity in wetlands, *Plant and Soil*, 416, 83-96, 2017.

Saaltink, R. M., Dekker, S. C., Griffioen, J., and Wassen, M. J.: Vegetation growth

C2

and sediment dynamics in a created freshwater wetland, *Ecological Engineering*, 111, 11-21, 2018.

Saaltink, R. M., Honingh, E., Dekker, S. C., Griffioen, J., Riel, M. C. van, Verdonschot, P. F. M., Vink, J. P. M., Winterwerp, J. C.; Wassen, M. J.: Respiration and aeration by bioturbating Tubificidae alter biogeochemical processes in aquatic sediment, *Aquatic Sciences*, 81, 2019.

Valiela, I., Teal, J. M., Persson, N. Y.: Production and dynamics of experimentally enriched salt marsh vegetation: Belowground biomass, *Limnology and Oceanography*, 21, 245-252, 1976.

Van Riel MC, PFM Verdonschot, DD Dekkers (2018). De bodemfauna van het Markermeer. Markermeer bodemfaunakaractering 2016 en MWTL-analyse. DOI: <https://doi.org/10.18174/442521>

Vergani, C. and Graf, F.: Soil permeability, aggregate stability and root growth: a pot experiment from a soil bioengineering perspective, *Ecohydrology*, 9, 830-842, 2016.

Please also note the supplement to this comment:

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2019-194/hess-2019-194-AC1-supplement.pdf>

Interactive comment on *Hydrol. Earth Syst. Sci. Discuss.*, <https://doi.org/10.5194/hess-2019-194>, 2019.