

Interactive comment on “Factors controlling *Carex brevicuspis* leaf litter decomposition and its contribution to surface soil organic carbon pool at different water levels” by Lianlian Zhu et al.

Anonymous Referee #1

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General comments: Zhu et al. not only identified the major factor controlling leaf litter decomposition as water level, but also revealed its working approach in natural fresh-water wetlands. The systematic and scientifically sound design delivered new insights into wetland leaf litter decomposition processes and consequences. I recommend to be accepted after revision.

Specific comments: Abstract: L25-27: The key rate values should be added. L33: Change “strengthen” to “increase”. L35: Change “influences” to “influenced”. L36: Change “affects” to “and affected”.

Introduction: L40: Change “25” to “25%”. L66-69: Move to M & M. L71: Species is not

C1

a vegetation. L82: Unclear. “decomposition controls differs”?

Materials and methods: L100: Move “which is ...” to L91. L101: What’s the source of the belowground water? L105: How to arrange the 15 litterbags (10 cm × 15 cm) within each soil cores (40 cm diameter)? L170: Multiple regression method should be added.

Results L198-201, Table 1: Why not choose the same variables in every regression model? Please explain or give the methodology basis. Figure 1: The full words of S, L and D should be added in the caption.

Discussion L227: K-value should be kept consistent with k occurred in M & M. L230: Please specify which results. L232-233, 244-245: Not always the truth. Water will inhibit most decomposition as well for lack of oxygen. L251-259: It’s more interesting to discuss why the same litter subject to various water levels were mainly controlled by different factor? L279-280? Any references?

Conclusion L285-286: Repeated from Abstract. L291-293: Beyond the support of this study.

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C2