Review of "Carbon and Nitrogen Dynamics and Greenhouse Gases Emissions in Constructed Wetlands Treating Wastewaters: A Review"

Overall, I think the review has been much improved after the previous reviewer comments. However, I think there and two key problems with this review, particularly in relation to the nitrogen cycle.

First, it does not really synthesise our understanding much beyond the classic texts of Kadlec and Wallace (Treatment Wetlands) and Reddy and DeLaune (Biogeochemistry of Wetlands), which are not even cited! I think the article should be more upfront about the existence of these works and specifically address how this review synthesizes the state of play beyond these texts. For example the discussion of HLR and HRT on nitrogen removal from lines 200 – 207 is well covered in Kadlec and Wallace.

Second, the article seems to have missed many recent relevant articles in the field, and many statements are vague, incorrect and not referenced. A few examples of this are given below.

A key open question is the relative amount of nitrogen denitrified compared to that assimilated by plants. A recent study has shown that the amount of nitrogen that is lost through denitrification relative to assimilation depends strongly on nitrogen loading

Payne, E. G. I. and others 2014. Biotic assimilation or denitrification? The division of nitrogen between temporary storage and permanent removal in stormwater biofiltration systems. Plos One **9:** e90890.

Payne et al have covered much of the discussion on nitrogen cycling processes in a review in biofilters (effectively ephemeral vertical flow wetlands).

Payne, E. G. I., T. D. Fletcher, P. L. M. Cook, B. E. Hatt, and A. Deletic. 2014. Processes and drivers of nitrogen removal in water biofiltration. Critical Reviews in Environmental Science and Technology **44:** 796-846.

In my view this previously published review addresses some of the key questions on nitrogen cycling posed in this manuscript, particularly on the subject of the effect of plant species on nutrient removal which the authors claim is not well covered in the literature (line 170 -).

Some of the synthesis on nitrogen cycling is vague and is not resolved for example the discussion on the effect of C:N ratio on denitrification and DNRA lines 188 - 191

Lines 284. The idea of anoxic microsites is one that is used a lot with little evidence. The work of Minett et al offers some insights based on actual measurements within the rhizosphere.

Minett, D., P. L. M. Cook, A. Kessler, and T. R. Cavagnaro. 2013. Macrophyte roots alter the spatiotemporal dynamics of sediment oxygen consumption. Ecol. Eng. **58:** 414-422.

Line 291 An important statement with no reference

Line 301 No reference is provided, I think the general paradigm is that DNRA is favoured at high organic matter loading or highly reducing conditions.