Review of: "Comparison of Vegetation Community Diversity, Biomass, and Sediment Properties among Constructed and Reference Salt Marshes at Deer Island, Mississippi, U.S.A."

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Potential competing interests: No potential competing interests to declare.

Introduction

This study examined potential differences in elevation, above- and belowground biomass, sediment bulk density, organic carbon and grain size between 2 constructed marshes (10+ and 2+ years old) and a natural marsh on Deer Island MS. This study focused on an understudied created marsh system dominated by *Juncus roemarianus.* Overall, this research adds to collective information on the trajectory and success of marsh restoration in general.

The introduction is well-written and provides important background information. I would encourage the authors to reframe the research objectives as hypotheses. Were there any a- priori expectations based upon known restoration techniques (e.g., high initial elevations, planting strategy vs natural colonization) and previous literature findings (e.g., biomass and sediment characteristics).

Please revise this sentence for grammar (delete "to"), "These factors combined to influence the speed at which vegetation diversity and standing stock biomass change post-construction"

Methods

Elevation: The authors mention a map that was created but they do not show the map and it would be helpful to see the different elevations. When reporting the elevation, the authors just report the average and the range. A boxplot or histogram that shows the frequency distribution of elevations in greater detail would be beneficial.

The locations sampled for vegetation needs to be more clear. Did they take 1 quadrat per marsh zone during each season or were the replicates on the same transect. The authors mentioned that quadrats were taken from each marsh zone, but they don't clarify how they distinguished between the different zones. It seems like high marsh zone would be the containment berm for the created marshes. I think that this means quadrats on containment berms were ⅓ of the sites within the created marshes were on the berm, which I think over represents the importance of the berm compared to the interior.

Results:

Please reference how high elevations that reduce flooding could increase decomposition and might be an explanation why

the 10 year old site isn't more than the 2 year, which would be expected.

Discussion:

The first two paragraphs of the Discussion are very general and seem to be more appropriate for an Introduction. I suggest that the Discussion focus on the important differences between marshes and discuss why and how the findings relate to other studies of constructed marshes.

The Discussion is also sectioned into measured variables (e.g., elevation community composition). I also suggest trying to integrate these variables in the discussion – for example, elevation (along with planting and marsh age) likely influences species composition, and should be discussed together.

This section and Fig 7 should be included in the Results section, "The SOC was comparable between the two constructed sites but was significantly higher at the reference site. SOC may be related to and influence vegetation characteristics, especially BGM development (Gibson et al. 1994, Zedler and Callaway 2002). Linear regression of BGM against SOC (R^2 = 0.78) indicates a strong relationship between these two variables, influenced predominantly by sediment conditions at the natural reference marsh (Fig. 7). "