

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.

In the manuscript entitled "Comparison of Vegetation Community Diversity, Biomass, and Sediment Properties among Constructed and Reference Salt Marshes at Deer Island, Mississippi, U.S.A.", the characteristics of plant growth in two salt marshes restored using sediments were compared with natural marshes. The content of the study appears to be quite novel and well thought out. The manuscript is likely to be of interest to a broad readership, but authors need to consider the following points to ensure the clarity and scientific reliability of the content of the article:

1 Abstract and Introduction

Firstly, the words "Beneficial Use (BU)" in the first sentence of the abstract and the words "Beneficial Use of dredged material (BU)" in the first sentence of the second paragraph in the introduction make it unclear to the reader what BU specifically refers to. content.

Secondly, sentence "These factors combined to influence the speed at which vegetation diversity and standing stock biomass change post-construction. " It seems unclear whether "these factors" refers to the "factors" in the beginning of the paragraph or the "texture, porosity, and bulk density" in the previous sentence.

2 Result

According to the result of author's article, I have used different colors to represent species that are unique to DIMR1 (green), DIMR2 (blue), and common to both (red), which is inconsistent with the content in the table. Taking the DIMR1 (green) unique species as an example, the article states: "species unique to the 10+ yr constructed site are *B. halimifolia*, and the two herbaceous species *Hydrocotyle bonariensis* Comm. Ex Lam. (largeleaf pennywort), and *Solidago sempervirens* L. (seaside goldenrod).", but it can be seen from the table that "*B. halimifolia*" is also contained in DIMR2.

Table 3. Species list and percent occurrence of salt marsh vegetation observed at two constructed and a natural reference marsh.

Species	2+ yr	10+ yr	100+ yr
<i>Andropogon virginicus</i> L.		3	
<i>Baccharis halimifolia</i> L.	<1	2	
<i>Cyperus</i> spp.		1	
<i>Distichlis spicata</i> (L.) Greene	9	8	
<i>Eragrostis secundiflora</i> J. Presl		2	
<i>Eupatorium capillifolium</i> (Lam.) Small		1	
<i>Fimbristylis castanea</i> (Michx.) Vahl		5	
<i>Heterotheca subaxillaris</i> (Lam.) Britton & Rusby			
<i>Hydrocotyle bonariensis</i> Comm. Ex Lam.		1	
<i>Imperata cylindrica</i> (L.) P. Beauv.			
<i>Ipomoea imperati</i> (Vahl) Griseb.		<1	
<i>Iva frutescens</i> L.		2	
<i>Iva imbricata</i> Walter			
<i>Juncus roemerianus</i> Scheele	1	2	36
<i>Limonium carolinianum</i> (Walter) Britton			
<i>Phyla nodiflora</i> (L.) Greene			
<i>Panicum amarum</i> Elliott	5		
<i>Panicum repens</i> L.	<1		
<i>Paspalum distichum</i> L.	6	3	
<i>Physalis angustifolia</i> Nutt.			
<i>Polypremum procumbens</i> L.		<1	
<i>Proserpinaca intermedia</i> Mack.			
<i>Ruppia maritima</i> L.			
<i>Sarcocornia perennis</i> (Mill.) A.J. Scott			
<i>Schizachyrium maritimum</i> (Chapm.) Nash			
<i>Schoenoplectus americanus</i> (Pers.) Volkart ex Schinz & R. Keller	1	1	
<i>Schoenoplectus robustus</i> (Pursh) M.T. Strong			
<i>Sesbania herbacea</i> (Mill.) McVaugh		<1	
<i>Sesuvium portulacastrum</i> (L.) L.	<1	<1	
<i>Solidago sempervirens</i> L.		4	
<i>Spartina patens</i> (Aiton) Muhl.	13	29	1
<i>Sporobolus alterniflorus</i> (Loisel.) Peterson & Saarela	63	34	62
<i>Symphotrichum tenuifolium</i> (L.) G.L. Nesom		1	
<i>Uniola paniculata</i> L.	1		
<i>Vigna luteola</i> (Jacq.) Benth	<1	2	
Total Cover	100	100	100

In addition, in the "MATERIALS AND METHODS" part of the main text, the marsh of three different years have been named "DIMR1" and "DIMR2", but this definition is not used in the research "RESULT" part, but continues to use, for example, "2+ yr constructed site" expression, which makes such a definition meaningless.

3 Discussion

There are too many simple descriptions of the research results in the discussion part, and there is a lack of in-depth discussion on some phenomena, especially which of the research results specifically discussed in the discussion part is not clearly explained.

The details of the characteristics of marshes in the sentence "Marsh characteristics such as vegetation coverage, plant species richness, and standing stock biomass can vary with geomorphic position, tidal range, salinity, and soil classification" appear in the Discussion section and I think it is inappropriate. Because this has been explained in the research "RESULT" part.

4 Conclusion

I don't understand the logic behind the sentence "This study provides the first comparative assessment of two BU sites that were planted to create *Juncus*-dominated wetlands indicative of healthy northern GoM salt marshes", What is the meaning of "indicative of healthy" again in this section?

5 Reference

The publication year of the reference is too early, some newer literature should be added. For example, references whose publication years are earlier than 2003 include:

Adam, P. (1990). Coping with the environment. In *Saltmarsh Ecology* (pp. 207–307). Cambridge University Press.

Avnimelech, Y., Ritvo, G., Meijer, L., & Kochba, M. (2001). Water content, organic carbon and dry bulk density in flooded sediments. *Aquacultural Engineering*, 25, 25–33.

Bockelmann, A., Bakker, J., Neuhaus, R., & Lage, L. (2002). The relation between vegetation zonation, elevation and inundation frequency in a Wadden Sea salt marsh. *Aquatic Botany*, 73, 211–221.

Bradley, P., & Morris, J. (1990). Influence of Oxygen and Sulfide concentration on Nitrogen uptake kinetics in *Spartina alterniflora*. *Ecology*, 71, 282–287.

There are many more not to list one by one.