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.

Overall, this manuscript provides much needed data to inform future marsh restoration strategies using dredged sediments beneficially. The manuscript is well written, and provides sufficient data to support the stated objectives and subsequent conclusions. Comments are provided below to improve the overall quality of the manuscript.

Page 2. Introduction – paragraph 2 – “Beneficial Use of dredged material (BU)…” revise to Beneficial Use (BU)…

Page 2. It might be helpful to provide context to the USACE goal of expanding BU to 70% by 2030 and the WRDA 2020 amendments to expand the usage of BU to “…the disposal method are reasonable in relation to the environmental benefits or the hurricane and storm or flood risk reduction benefits.”

https://budm.el.erdc.dren.mil/

Page 2. “Examples of recent BU projects for salt marsh restoration in the northern GoM include 30 ha at Deer Island, 220 ha at Round Island, MS (Roth et al. 2012; Lang 2012; Ramseur 2020), and the creation of over 800 ha of new marsh in West Bay, LA (Suedel et al. 2021)….”. Not specific to wetland creation, but might be worth referencing the creation of northern GoM islands within Baptiste Collette Bayou for the purpose of promoting bird habitat (see Whitfield et al., 2022). Refence below:

Whitfield, Paula E., Burton C. Suedel, Kelly A. Egan, Jeffrey M. Corbino, Jenny L. Davis, David C. Carson, Amanda S. Tritinger et al. "Engineering With Nature® Principles in Action: Islands." (2022): 54.

Page 4. “, as opposed to the more commonly researched S. alterniflorus, dominated marshes.” Italicize S. alterniflorus.

Page 4. “”Measure sediment characteristics to better understand differences…..” – change to “to discern potential differences…..

Page 5. “pollutants” – change to contaminants

Page 5. Space between 1m2; also check in Figure 2 title for space issue.

Figure 3. – suggest including color and error bars for data

P. 14, “There were no significant site or season differences for dead AGM (Table S4), however, …” – add a semicolon before however – “S4); however,…”

Page numbering drops after 18.

Check space in 0.25m2 – page 25/40

Conclusion – excellent job of unpacking the salt marsh comparisons among these three sites. I think it would be beneficial to also note that within the context of restoring these sites, that although the restored sites have lower below-ground biomass and sediment organic content (SOC) compared to the natural reference site, that these restored areas 1) provide meaningful ecological functions and values that were targeted in the restoration goals, and 2) when compared to a “no action” alternative (e.g., no restoration and therefore open water alternative), that these restored ecosystems are critically important to regain functions and habitat values. The context for this is critical, because the perception of restoration “success” can be misinterpreted if the timeline and expectations of these systems are not appropriately understood.