

Humboldt Bay Harbor District Commissioners,

12/06/2020

Please accept these comments regarding December 10, 2020 agenda item D (new business) associated with the Districts permit to remove *Spartina Densiflora* from the tidelands within Humboldt Bay.

As we all know the Harbor District is developing a dredged materials management plan to reuse dredged materials which should include the option of using spartina salt marshes to receive these dredged sediment deposits. *Spartina Densiflora* was recently (2004) speculated as being brought to Humboldt Bay in the 1870's from South America. Until then it was considered a native plant species in federal BLM documents. It is a different subspecies than the *Spartina Arniflora* brought to the SF bay for shoreline protections in the 1900's. Both of these *Spartina* plants are well known for successfully accreting sediments and raising shoreline elevations while providing living shoreline protections. Both also provide protective habitat for numerous native and migrating shore bird species.

The main takeaway from the attached 2019 sediment dynamics and salt marsh sustainability white paper is that we simply do not have enough information on sediment deposits and their effects on Humboldt Bay salt marshes. As far as I am aware this is the most recently published paper on the topic. It is important to be able review fully up to date science that includes the multiple benefits that the long established and naturalized *Spartina* may have on our salt marshes and shorelines as we prepare for relative sea level rise. This white paper makes a clear note that such an assessment has not been done.

The conversations and site visits with Mr. Wagschal and the response to my request for the monitoring reports for past spartina removal projects has confirmed the assessment made by this white paper. In other words, much of the required monitoring has not been done.

The act of granting an executive director carte blanche to issue permits prior to attaining a much needed understanding of the short and long term impacts of past projects would be an irresponsible and negligent act by you as Commissioners. Keep in mind the permit that was issued originally did not include this most recent white paper. It is your duty as sworn public servants to make fully informed decisions with updated information and to include a transparent process with an opportunity for the public to comment and participate in this controversial project.

Below are some quotes from the 2018 white paper on sediment assessment in Humboldt Bay. Attached is the full 32 page report with highlights.

Fine sediment supply for Humboldt Bay may be in deficit: A comparison of model sediment discharge and annual rates of historic maintenance dredging indicate a potential deficit of fine sediment in Humboldt Bay that may be filled by external or internal sediment sources. Definitive results require a comprehensive sediment budget, which remains a *critical data gap*.

Consider sediment supply implications of current wetland management: If a deficit of fine sediment exists in Humboldt Bay, *restoring and enhancing specific marshes may impact the overall sediment supply in ways that could degrade other marshes.* The potential for sediment supply impacts should not prevent marsh restoration and enhancement, but they should be considered in the design phase.

Humboldt Bay's tidal wetlands are a key part of an important estuarine ecosystem, providing rearing habitat for threatened salmonids and nurseries for a diversity of fish and wildlife that feed the Bay with their high productivity. These wetlands also provide important ecosystem services for the Humboldt Bay community, *including protection for infrastructure from storms, water quality improvement, and carbon sequestration. Management planning for existing tidal marshes and marsh restoration prioritization and design in Humboldt Bay are hampered because key information about sediment dynamics in the estuary is lacking. Sediment dynamics are critical to understanding the resiliency of existing wetlands and potential restored wetlands to sea level rise (SLR). Because certain sites in the Bay are accreting while others are eroding, information on sediment dynamics is important to determine where sediment can be beneficially reused to enhance or restore wetlands.*

2. Subsidence of lands: Diked former tidelands constitute the majority of the lands adjacent to existing Humboldt Bay salt marshes. Most of these lands have subsided due to compaction and oxidative decomposition of soil organic matter and are currently ~1 m below sea level. If tidal influence is reintroduced to these lands, especially with added sea level rise, they will convert to mudflats rather than vegetated salt marshes. In addition, they would become sediment sinks and may further reduce accretion rates on other wetlands. *Restoring wetlands on diked historic tidelands would require large sediment inputs.*

Consider Sediment Supply Implications of Current Wetland Management

*If a deficit of fine sediment exists in Humboldt Bay, restoring and enhancing tidal marshes may impact the overall sediment supply in ways that could degrade existing marshes.* For example, opening diked historic subsided tidelands to tidal influence restores tidal marsh on those tidelands, with multiple benefits, but also creates a sediment sink and increases sediment demand which may reduce the supply of sediment available for accretion or lead to erosion elsewhere. *Invasive Spartina removal could have a similar but more minor effect by temporarily lowering marsh elevation in areas that undergo primary mechanical treatment.*

Considering the significant lack of monitoring during and following prior spartina treatment efforts it is imperative that a full and complete understanding of related impacts are evaluated before proceeding with a carte blanche approach to removing potentially valuable salt marsh plants. These plants have shown to be valuable in the protection of shoreline habitats and provide benefits that are identified as critical as we make decisions to maximize sediment reuse and prepare for anticipated sea level changes.

I will be happy to further engage this decision making body following their review of this white paper.

Sincerely ,

Uri Driscoll