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Title: Sonoma Creek Enhancement Project

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Though located within San Francisco Bay, this project has incorporated precedent setting climate-smart adaptation elements that are critical to both estuarine and coastal habitats in preparation for expected climate change (CC) and sea level rise (SLR). These elements include; 1) opening up a Centennial Marsh to tidal action which will allow sediment deposition into an approximately 100 acre depressed basin, allowing that basin to build up and keep pace with Sea Level Rise, 2) the construction of marsh mounds on top of the mid-marsh plane which will allow for wildlife high tide refugia as storm events become more frequent and intense (as predicted with climate change) and 3) especially the creation of an approximately 7 acre 40:1 gently sloping transition ramp and high marsh lift ON the marsh plain which will allow for critical escape habitat for marsh dwelling wildlife in the face of SLR and CC. Along with providing high tide and storm refuge for wildlife, the transition ramp will act similar to a horizontal levee. Once re-vegetated with high tide marsh plants, the ramp is expected to assist in absorbing wave and water impact prior to contact with the 100 year old levee that separates the marsh from adjacent farmland. The transition ramp is a precedent setting element, as this is the first time that fill on a marsh wetland for climate-smart adaptation purposes has been permitted in the Bay. This element is likely to be incorporated into Bay restoration projects in the future if the Sonoma Creek Enhancement Project "pilot" experiment is shown to be successful.