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The Effect of Shoot Density on Flow and Sediment Stabilization within Seagrass Meadows

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The capacity of seagrasses to alter flow and stabilize sediments is widely accepted. Many seagrass communities around the world are exposed to tidal, uni-directional flows; seagrasses along the south-western Australian coast, however, are subjected to swell and wind driven waves with minimal tidal influence. Sediment movement in this environment is highly dynamic and seagrass species are known to survive temporary burial by sediment. Yet, survival rates of newly colonized or re-planted areas are not well known. An *in situ* study using high frequency sediment loggers concomitant with flow meters in density manipulated seagrass plots will elucidate the effect of shoot density and the presence of rhizome mats on the flow and sediment stabilization capability of several species of seagrasses under the prevalent conditions. With the aim of finding the ideal shoot density for seagrass rehabilitation purposes a second field study, using artificial seagrasses, will be conducted to determine the effect of presence or absence of a rhizome mat on sediment stability.