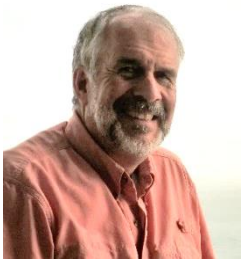
LOCH HAVEN BEACH RESTORATION

By William Vosburgh

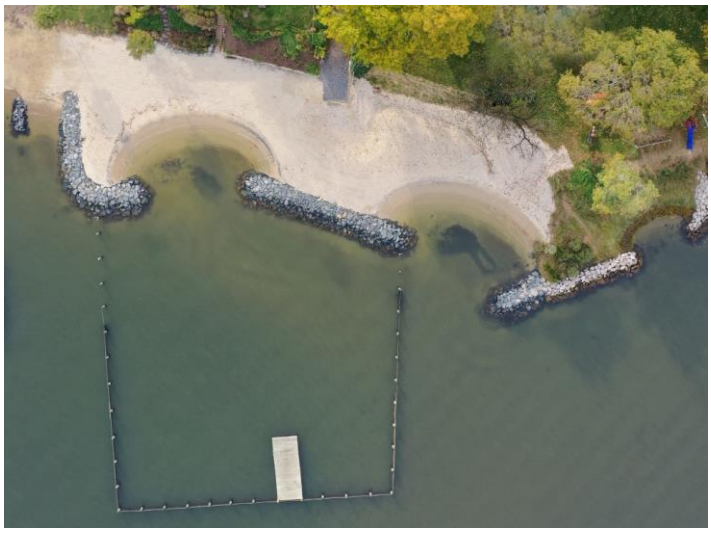


The Beach restoration project at the Loch Haven community in Edgewater Maryland was completed one year ago with an unusual partnership of a committed local civic association, Chesapeake Bay Trust funding and Anne Arundel County Bureau of Watershed Protection and Restoration leadership. The design of this project dated from 2018 but the cost estimates came in too high for the residents to afford it. Seeking grant funding required compromises that were fortuitous and forward thinking. The approach was to request only half of the project cost from the grant for living shoreline and the beach portion for community swimming access would be funded by the association.

The half dedicated to living shoreline was not located in one stretch alone but instead committed 50% of the square footage of the project to native grasses integrated around the swim and kayak area beaches. This approach showed how both missions could be completed in harmony. The result is an inviting setting along the water with the beauty of a waterfront with native grass enhancement. Also, the grasses provide one more way to hold sand in place adding stability to the design.

Stone breakwaters (625 tons) were established first and then sand (2,000 tons), all brought in by trucks from shore. Only heavy stone breakwaters can hold shorelines in place despite wind driven waves, rain erosion, tides and boat wakes. After final grading to precise specifications, the native plants were added according to design and protected with goose fencing for the next year.

Before and after drone images:



Recently, in September 2021, a re-assessment occurred with the design engineer monitoring the shifts in sand as the physics of this construction adjusted and settled. A 7:1 slope was monitored at three points along each beach arc and was within normal parameters. A minor loss of vegetation occurred at the west side of the kayak area for the native seagrass Spartina alterniflora (smooth cordgrass) in the tidal area. Overall, the grasses were thriving, the beach had adjusted itself but best of all was the welcome restoration of a long lost beach front for the community. The environmental credits for reduction in nitrogen (21.0 lbs/yr), phosphorus (8.7 lbs/yr), and suspended solids (40,390 lbs/yr) were signed over to the County for EPA reporting on Chesapeake Bay water quality improvement.

It's not your father's beach! Instead, it is a sustainable design for the Chesapeake with preservation of shoreline dimensions and improvements in water quality. This can serve as an educational tool for future generations on how to preserve, sustain and enjoy our waterfront in harmony with nature.