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Balancing Growth of the Natural Dune Seawall with Maintenance of Tourist Beaches

Texas beachfront communities are facing difficult choices in the maintenance of their popular tourist beaches. In the communities where the beach is a public road and driving on the beach is allowed, tourists expect the beach to be drivable at all times. Tourists want the beach to be kept clean of trash, sargassum seaweed and other manmade and natural materials that wash ashore. Many tourists expect a manicured beach with no evidence of natural processes other than shells to collect.

Many coastal communities use front end loaders, maintainers, and dump trucks to remove trash, seaweed and to grade the beach to a hard drivable surface. This material must be dumped somewhere, but State and Federal laws regulating beach and dune protection, private property rights, the public beach access easement, and dumping material in navigable waterways complicate the process. Removal of seaweed from the system may eventually damage the dune vegetation since the dried sargassum which blows inland is the primary fertilizer for critical dune vegetation. Removing sand from the beach, also known as sand mining, is not legal for an upland private property owner, but is frequently practiced by municipalities. In Port Aransas, thousands of truck loads of sand have been removed from the upper beach in front of the foredune ridge to maintain a hard drivable surface for cars. This sand was destined to build the foredune ridge higher and wider and would have significantly increased the protection provided by the natural dune seawall against hurricane overwash.

Sand removal results in increased beach erosion and shoreline retreat and may also retard the ability of the natural dune seawall to fully rebuild itself between destructive hurricanes. The natural dune seawall protects very valuable real estate from frontal hurricane overwash over much of the Texas coast. Protection and growth of the foredune ridges should be mandated. This is even more important, since the entire Texas Gulf shoreline is retreating, with the exception of beaches within a few miles of long jetties such as at Galveston and Port Aransas, river deltas, and the convergence area on central Padre Island.

In some areas, sand and seaweed are piled up in front of the foredune ridge in an high, steep debris pile. This probably ultimately strengthens the foredune ridge, but it is ugly and is material removed from an already eroding and retreating beach. This process narrows the beach by advancing the dune line artificially. In some locations, the combination of beach erosion along with piling debris against the dune line is rapidly narrowing the beach to the extent that vehicle traffic may not be possible on the beach in the near future.

We must find a balance between providing the perfect, manicured and fully drivable beach desired by tourists and management of the beach and foredunes to provide maximum hurricane overwash protection and minimum shoreline retreat due to beach erosion. Future Texans will expect nothing less.