

HOLDEN BEACH, NC – A CASE STUDY IN BEACH MANAGEMENT (2001-2010)

Holden Beach is a 9-mile long barrier island located in Brunswick County, North Carolina where long-term and episodic storm erosion continually threatens the dunes, coastal environmental habitats, recreational beach, tourism, and upland developments. Holden Beach suffered some relatively severe erosion in the 1990's where several houses and a portion of road were lost. Following these losses, the USACE and the Town of Holden Beach increased beach management efforts and have undertaken several beach nourishment projects from 2001 to 2010 to protect and enhance the shoreline. This presentation will focus on the Town's nourishment efforts, which are 100% financed by the Town through a dedicated funding mechanism and designed to supplement USACE activities, which are vulnerable to Federal funding shortfalls and delays.

The Town has performed 4 nourishments since 2001 utilizing upland fill material, with each nourishment effort ranging in size from 140,000 to 201,000 cy. In 2006, a permit violation for some incompatible material was incurred which resulted in permit suspension. Following mitigation and the addition of more protective permit conditions, the permit was reinstated for a 2008 nourishment effort. Tropical Storm Hanna then made landfall in Brunswick County, NC and Holden Beach qualified for FEMA mitigation as an 'engineered' beach. A 2009 beach nourishment utilizing upland material resulted. In addition to beach nourishment activities, the Town has been actively enhancing its dune habitat and the shoreline has exhibited positive trends (stability to accretion) since 2001. Biological monitoring has also shown negligible differences in control vs. project areas. Moving into the future, the Town is investigating additional upland sources as well as offshore sources of material, however offshore of Holden Beach is typically considered 'sand-starved' with only a thin veneer of sand overlaying hardbottom or muds. The Town will also be increasing coordination with the USACE to optimize periodic maintenance dredging material placement on the beach.



This presentation will summarize the Town's successes (and obstacles) over the last 10 years of beach management activities which may provide useful insight and recommendations for communities in similar predicaments (i.e., limited or delayed Federal or State projects and/or funds).

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Biography:

Fran Way is a coastal engineer who has been with Applied Technology and Management in Charleston, SC for 10 years. He holds an M.S. in ocean engineering from Texas A&M University and a B.S. in biology from Boston College. He is registered as a civil engineer in South Carolina. At ATM, Mr. Way has focused on coastal and estuarine processes and permitting in the southeast and the Caribbean. His work experience includes beach nourishment, shoreline armoring, dredging, wetland mitigation, commercial vessel berths, harbor expansion, marinas, resorts, and golf courses.