

Field Trip, Step 5

Upham Beach

Upham Beach has the unfortunate distinction of being located downdrift of a structured inlet. Overdredging of Blind Pass in the 20th century resulted in minimal natural sediment bypassing, which combined with pre-control line development, led to severe erosion problems on Upham Beach. Upham Beach is one of the most rapidly eroding beaches on the west coast of Florida with 83 percent of nourished sand eroding within two years of placement (Elko et. al, 2005).

Upham Beach has been considered a “feeder beach” by the U.S. Army Corps of Engineers. When nourished sand erodes from Upham Beach, it is transported to the south, thereby feeding the beaches along the rest of the island. In an effort to slow the erosion at Upham Beach, the Geotextile T-Head Groin Project was constructed in 2006. The project design included nourishment with over 320,000 cubic yards of sand, five geotextile T-head groins, and the closing of the jetty/breakwater gap on the south side of Blind Pass. The goal of the project was to maintain a 40-foot-wide beach while avoiding downdrift erosion of the pre-construction beach (Elko and Mann, 2005). The groins were intended to maintain the beach, increase the interval between nourishment projects and allow for the use of Blind Pass as the lone sediment source for future nourishment projects.

Upham Beach will be restored as part of the Treasure Island/Long Key segment of the Pinellas County SPP in the fall of 2009.



1960s era postcard of Upham Beach with the former St. Pete Beach Aquatarium in the background and the Don Cesar on the horizon



Ebb delta

Ebb delta reduced

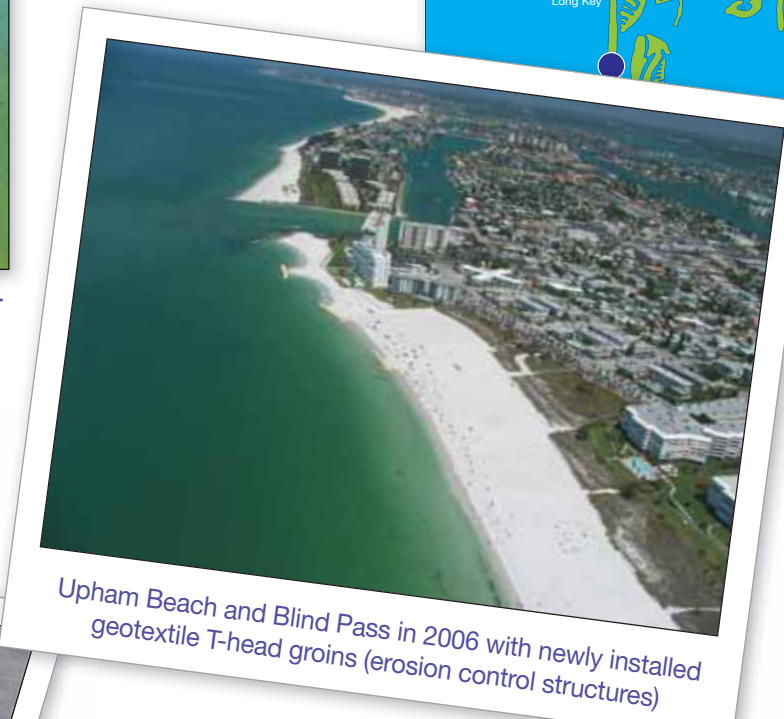
1951

1967

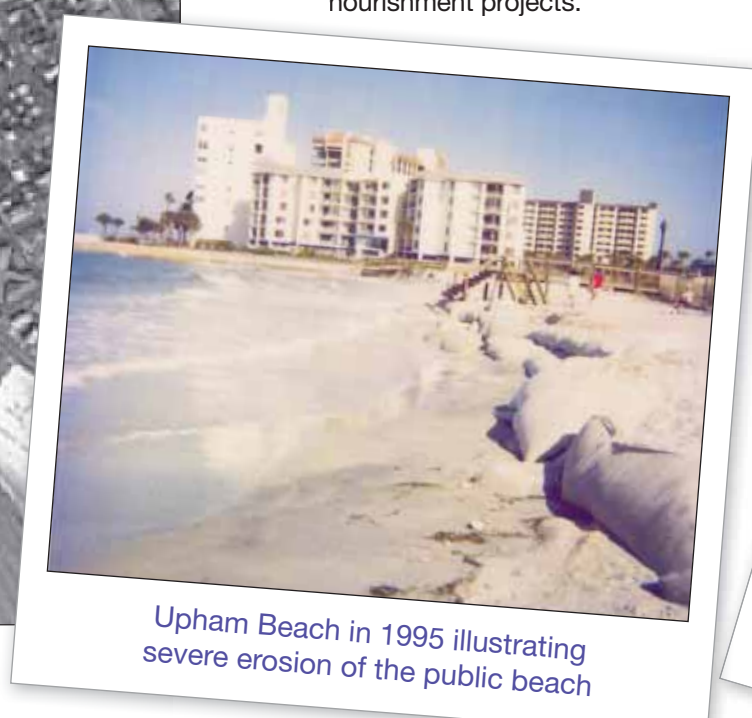
Blind Pass in 1951 and 1967 illustrating the collapse of the ebb shoal and the unregulated coastal development south of the inlet

This beach was privately owned by William W. Upham but was donated to local government in a possible act of foresight in 1954 and is now called Upham Beach. During the 1950s, Upham Beach was wide and stable due to onshore sediment transport as the ebb delta collapsed and migrated onshore. No coastal construction control line building regulations existed at the time and condos were built on the beach. Due to this poorly located construction, erosion problems were imminent. Once the sediment source from the collapsing ebb shoal disappeared, erosion began to plague this region.

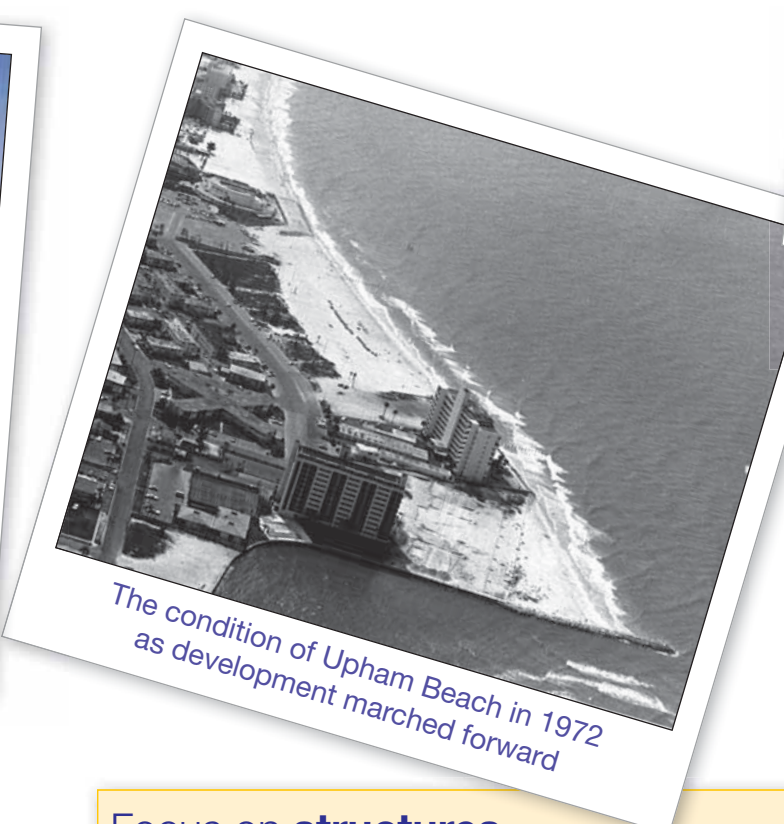
The University of South Florida Geology Department has monitored the performance of the T-head groins since the 2006 renourishment project. From 2006 to 2008, Upham Beach lost nearly 40 percent less sand than during the same period of time following nourishment from 2000 to 2002 (Wang and Roberts, 2009). Based on 31 months of monthly monitoring, no negative impact from the T-head groin field to the downdrift beach has been identified. Thanks to the T-head groins, only 200,000 cubic yards of sand will be required for renourishment in 2009 thereby saving significant public funds.



Upham Beach and Blind Pass in 2006 with newly installed geotextile T-head groins (erosion control structures)



Upham Beach in 1995 illustrating severe erosion of the public beach



The condition of Upham Beach in 1972 as development marched forward

Focus on structures
UPHAM BEACH GEOTEXTILE T-HEAD GROINS
 Date of original construction: 2006
 Initial cost: \$1.5 million
 Constructed by: Pinellas County
 Present length: five structures ranging from 100 to 310 feet long with 100- to 170-foot-long T-head groins

History of the Upham Beach (north Long Key) segment of the Pinellas County Shore Protection Project				
Date	Volume (cubic yards)	Sand Source	Location	Length
1980	254,000	Blind Pass	R144-146	0.4 mi
1986	98,000	Pass-a-Grille Channel	R144-146	0.4 mi
1991	230,000	Blind Pass	R144-146	0.4 mi
1996	253,000	Egmont Channel Shoal	R144-146	0.4 mi
2000	281,000	Blind Pass	R144-146	0.4 mi
2004	408,000	Pass-a-Grille Channel	R144-148	0.7 mi
2006	90,000	Egmont Channel Shoal	R144-146	0.4 mi
2009	200,000	Blind Pass	R144-148	0.7 mi