

MARINE RESOURCES

The island of Great St. James is located off the eastern end of St. Thomas. The island is surrounded by seagrass beds, coral colonized bed rock, and coral colonized pavement. The northeastern bay is shallow and has very dense seagrass beds the bay terminates in a sandy beach. There are scattered hard bottom areas along the west shoreline and a shallow cobble/seagrass area along the eastern shoreline.

Survey Methods

Surveys were conducted with snorkeling equipment and scuba to evaluate the habitats present. Aerial photographs were utilized to help provide an overview of the habitats and changes over time. The NOS Benthic Habitat map was reviewed and was found to accurately depict the near shore habitat types present around Great St. James. The environmental consultant was very familiar with the bay have done numerous surveys in the bay in the past. The recent damage to the dense seagrass beds was immediately apparent.



Figure 1: LOCATION OF GREAT ST. JAMES DOCK 18° 18.745'N64° 49.589'W

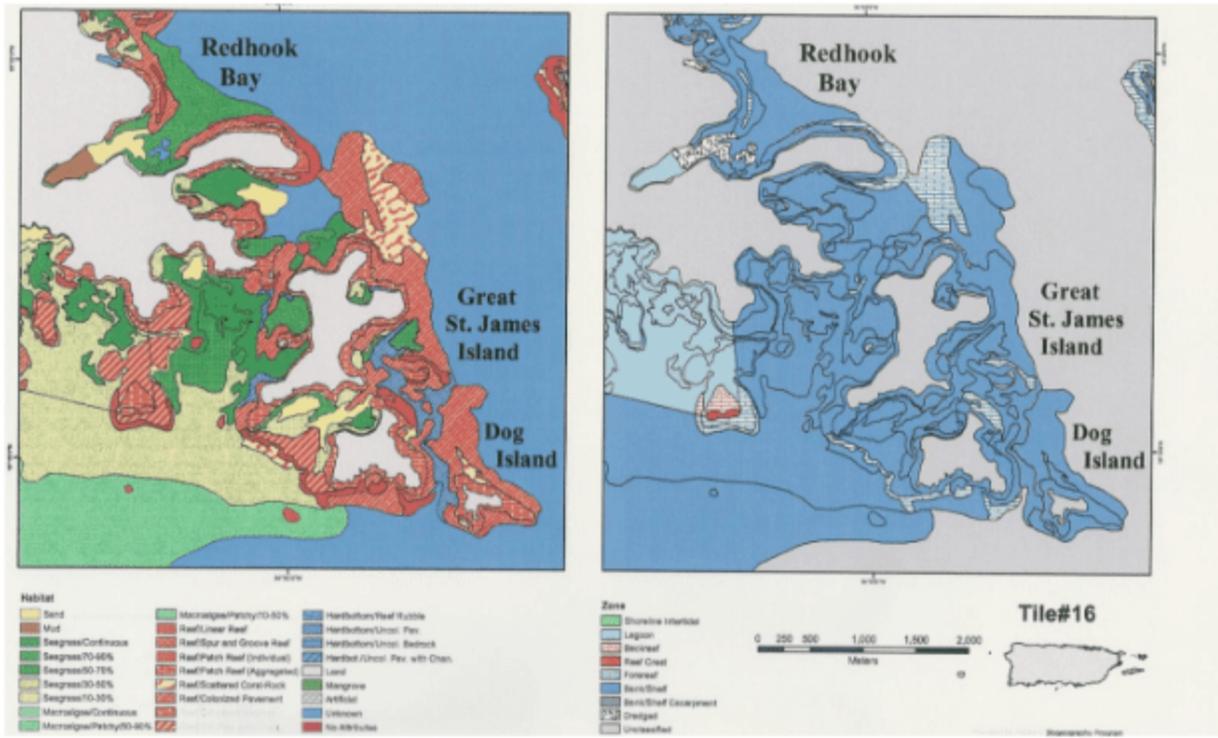


Figure 2 NOAA Benthic Habitat Map

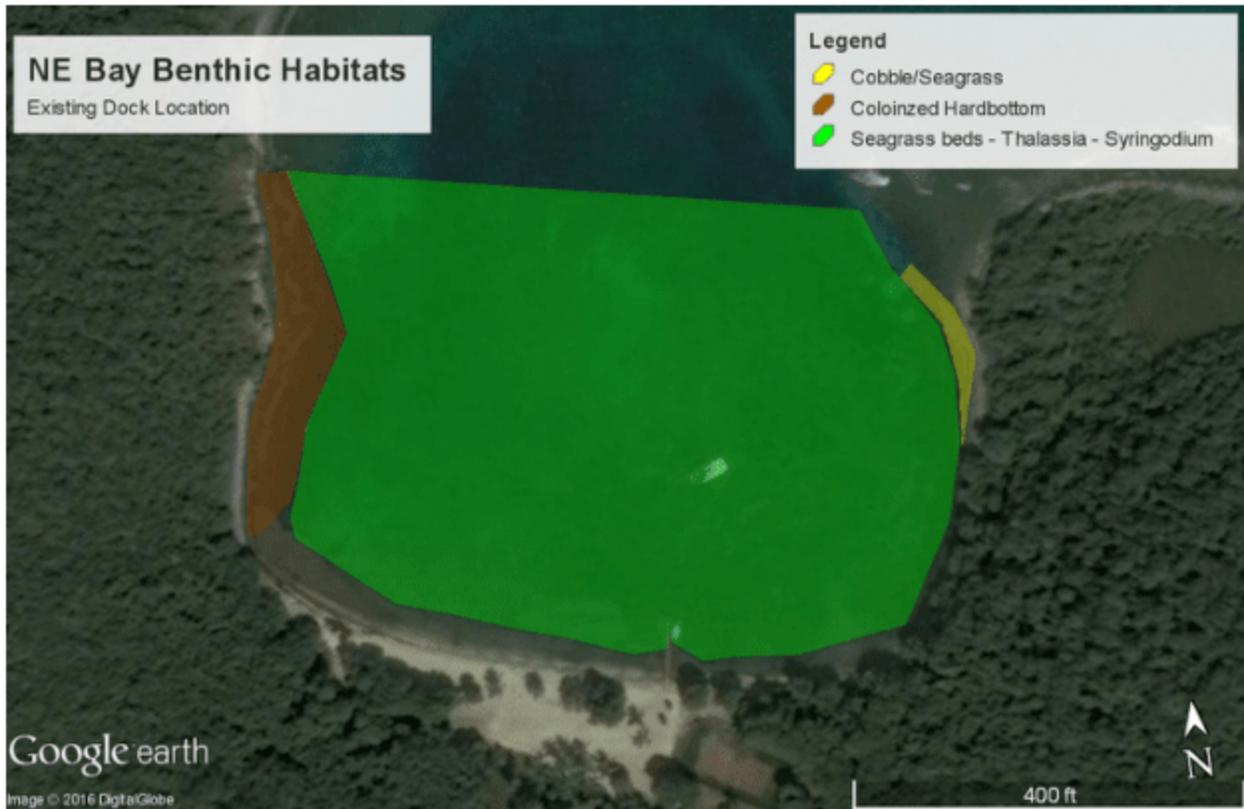


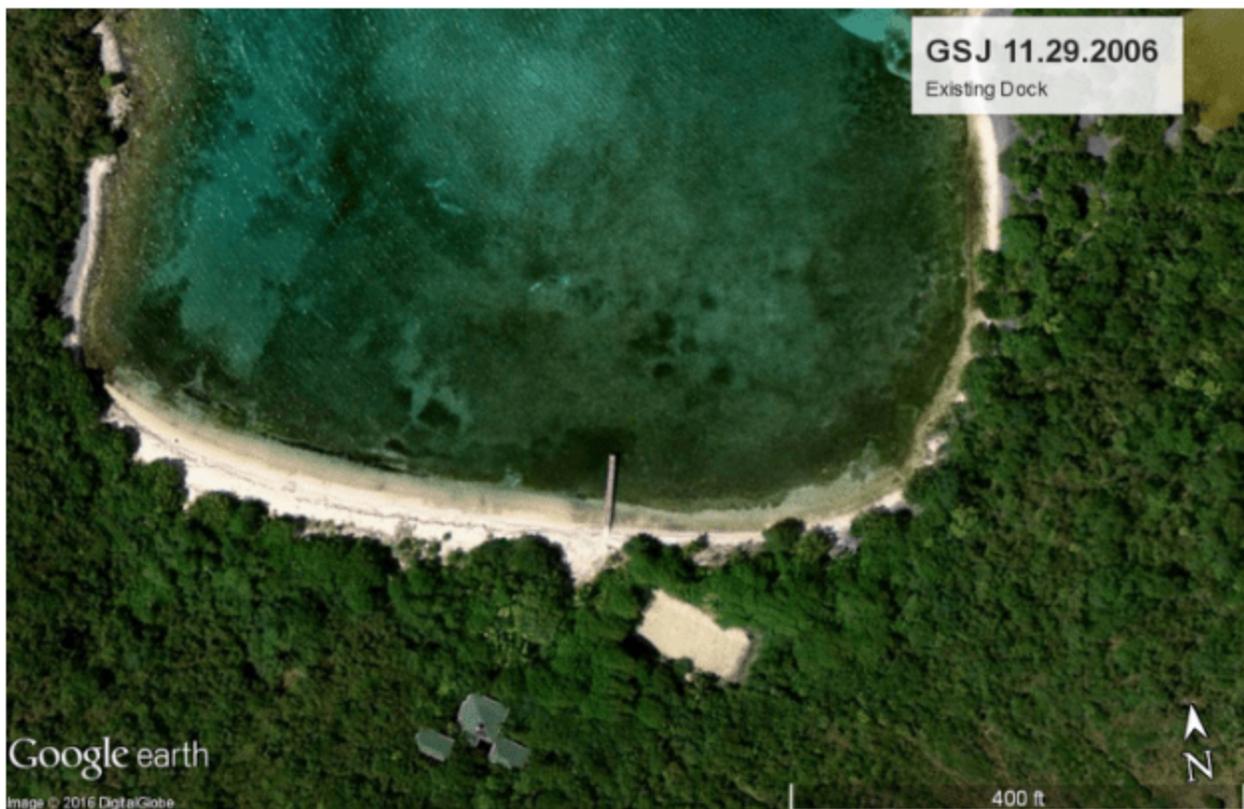
Figure 3. Benthic Habitat Map

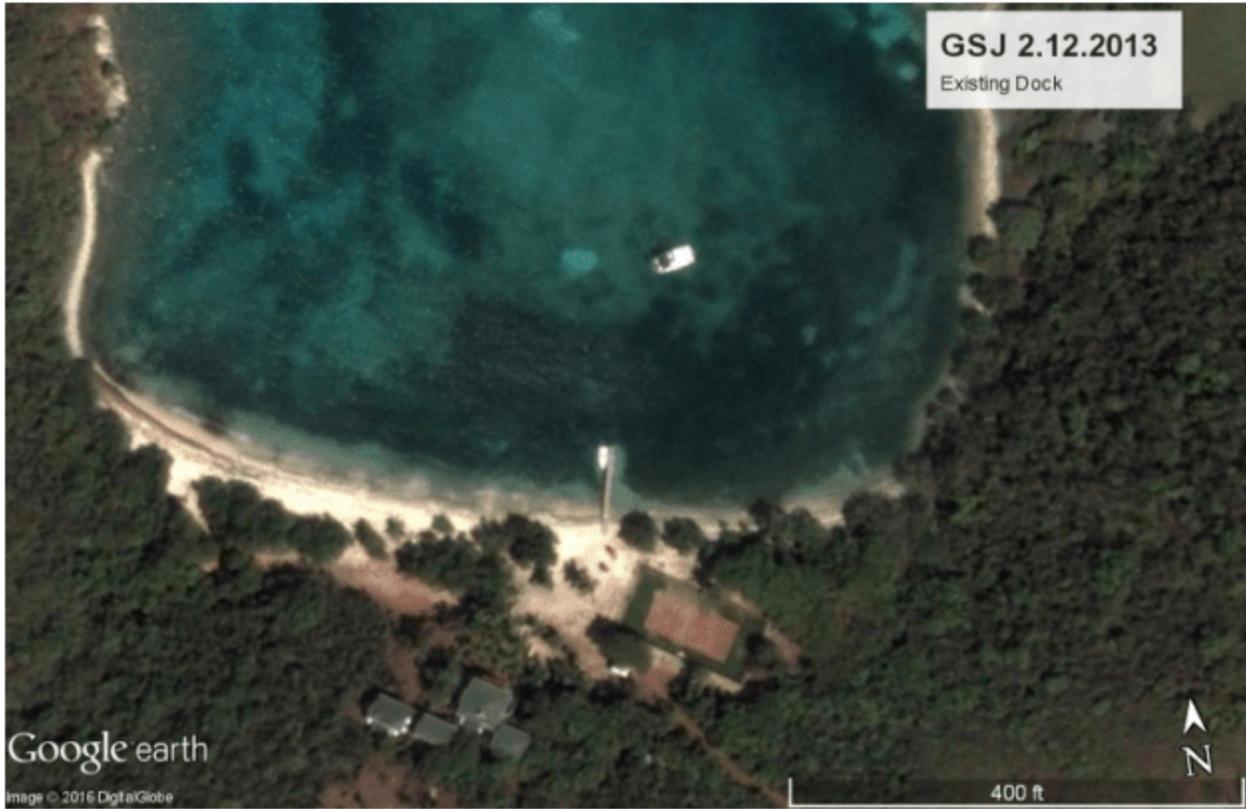
Findings

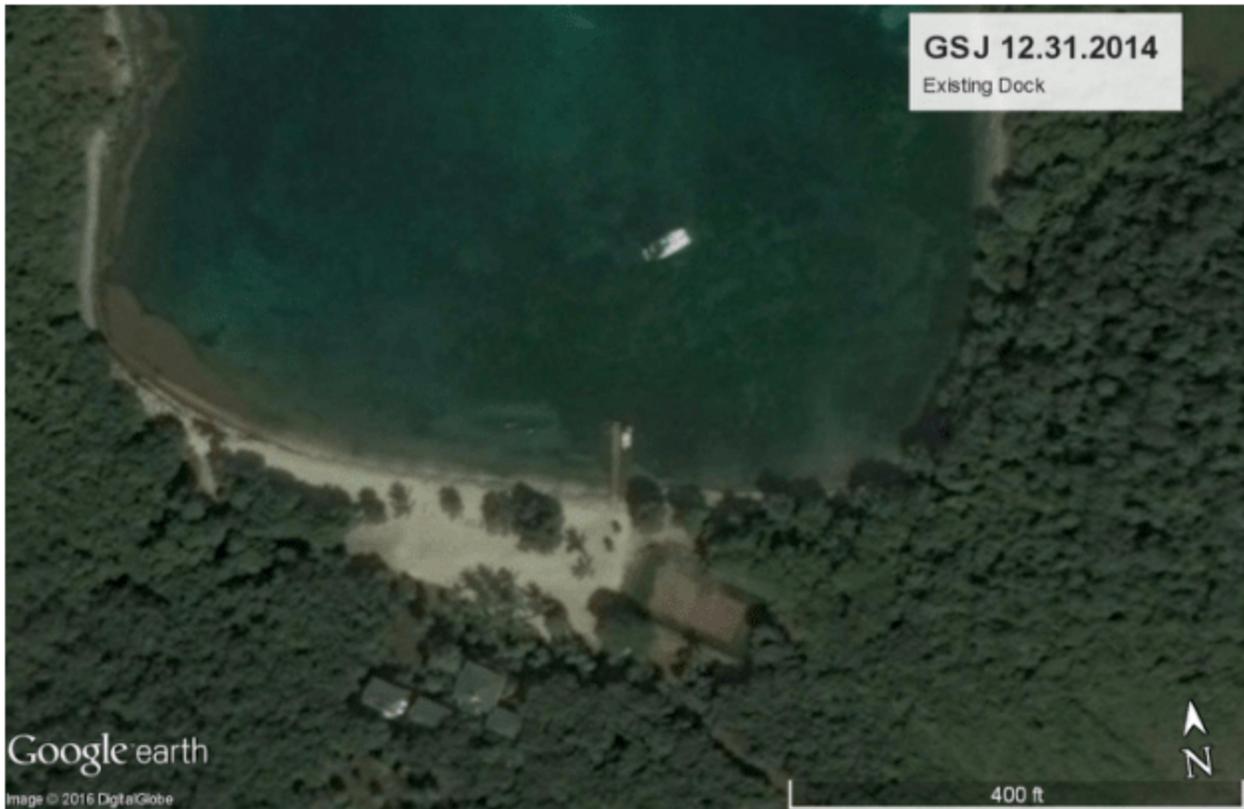
During a due diligence survey in January prior to Great St. Jim, LLC taking possession of the island it was noted that there appeared to be a considerable amount of seagrass disturbance offshore. During survey in February and March of 2016, this damage was documented.

The northeastern bay is a well-protected shallow northern bay where the existing dock is located. This bay is colonized by seagrass, *Thalassia testudinum*, *Syringodium filiforme* and *Halodule wrightii*. The densest beds lay near shore and to the east of the dock. The peninsula to the east of this point is surrounded by rocky headlands and is a very exposed environment. The rocky cliffs extend below the sea surface and due to the intense wave action the shallowest areas are not colonized. By a depth of 8'-10' the rocky substrate becomes colonized by a wide variety of corals and sponges. The slope is steep offshore and the water reaches a depth of 40' to 50' relatively close to shore. The rocky slope gives way to a cobbly then sandy bottom and there are sparse to moderately dense seagrass beds that extend seaward.

When surveys of the bay were done in 2006 the seagrass extended under the dock. In 2016 there are now large depressions around the dock as much as 9' in depth off the end of the dock and there are large blowouts in the beds along the shoreline to the north. This appears to have been happening over time as documented by the Google aerial photographs.







The blowouts are now far worse than what is shown in the latest photograph.



Beds now from end of dock



Existing dock, note poor water quality



Large blow outs



There were dense Thalassia beds under the dock in 2006.



There is no longer any seagrass immediately around the dock.



There is loose seagrass detritus rolling in the surf along the beach.

IMPACT OF DOCK MAINTENANCE AND INSTALLATION OF RO LINE

The maintenance of the existing dock and the installation of the RO line should have no impact to the existing environment.

We however felt it was extremely important to document the condition the bay was found in when the new owner took possession of the island. The bay which previously had dense seagrass beds up and around the dock and along the shoreline, now had poor water quality and huge blowouts and depressions along the shoreline. The new owner is in no way responsible for these impacts that occurred over the last several years the previous owner had the island, especially over the last several month when they took equipment off the island by barge.



There are large amounts of loose seagrass in the middle of the depressions.