

1-1-1989

Ascidian investigations in Hillsborough Bay

City of Tampa Bay Study Group

Follow this and additional works at: http://scholarcommons.usf.edu/basgp_report



Part of the [Environmental Indicators and Impact Assessment Commons](#)

Scholar Commons Citation

City of Tampa Bay Study Group, "Ascidian investigations in Hillsborough Bay" (1989). *Reports*. Paper 162.
http://scholarcommons.usf.edu/basgp_report/162

This Statistical Report is brought to you for free and open access by the Tampa Bay Area Study Group Project at Scholar Commons. It has been accepted for inclusion in Reports by an authorized administrator of Scholar Commons. For more information, please contact scholarcommons@usf.edu.

Ascidian Investigations in Hillsborough Bay

The City of Tampa Bay Study Group has noticed high numbers of an anural solitary mogulid tunicate, of an unknown ascidian species, dominating some bottom communities of Hillsborough Bay during the winter. Ascidian concentrations have been found in excess of 4000/m², and lengths have ranged from 0.25mm to 20mm for larvae and adults, respectively. Coincident with these high ascidian concentrations, excellent water clarity has been observed, where the bay bottom is visible through water of 2 to 3m depths. Ascidians can filter large volumes of seawater as part of their food gathering process. Although not found in Hillsborough Bay, Phallusia, an ascidian only a few centimeters long, can reportedly filter 173 liters of water per 24 hours. Therefore, water clarity may be, in part, linked to the filter feeding activities of these organisms. In addition, other solitary ascidians have been observed in Old Tampa Bay, and colonial ascidians have been seen in middle Tampa Bay. To assess the impact of ascidians on the water column in any area of Tampa Bay, however, spatial and temporal distributions, as well as population densities and filtering rates, must be known.

In November 1987, three stations, covering sediment types from mud to sand, were established for monthly sampling in Hillsborough Bay. Sampling frequency is increased to two week intervals when ascidians are present during the winter months. Standard Ekman dredge sediment samples (15cm² area) are sieved through a 500um mesh screen and preserved with a 5% formalin-seawater solution to which Rose Bengal is added. Ascidians are counted in duplicate sediment samples for each station. The water quality parameters of temperature, salinity, secchi disk and dissolved oxygen are also measured at each station. In addition, surface and bottom chlorophyll-a water column measurements have been taken since January 1989.

Initial information from this ongoing project should reveal approximate densities and occurrence intervals, and whether or not ascidian densities are related to water clarity. In the future, practical methods to estimate areal coverage of the ascidian populations and techniques to measure filtering rates of these organisms need to be investigated.