



Marine Benthic Communities: Coral Reef Monitoring in Salt River Bay National Historical Park and Ecological Preserve

2012

Importance: A critical resource for fisheries, tourism and marine biodiversity

Coral reef communities within Salt River Bay National Historical Park and Ecological Preserve (SARI) consist of stony corals, octocorals, sponges, algae, and gorgonians (e.g., sea fans). Reefs support incredible marine biodiversity and provide habitat for a multitude of fish species, lobsters, sea turtles, and other creatures. Coral reefs also play a vital economic role by supporting fisheries, tourism, sand creation for beaches, pharmaceutical bio-prospecting, and shoreline protection to name a few. Monitoring coral reefs was identified as a national priority in President Clinton’s Executive Order 13089, establishing the Coral Reef Initiative. Coral reefs are negatively impacted by events such as extreme water temperatures that cause “bleaching”, vessel scarring, major storms, coral disease, damaging fishing practices, sediment runoff, nutrient enrichment, contaminants, ocean acidification, and abrasion of the reef by debris or careless snorkelers and divers.

Monitoring: Site Installed in 2012

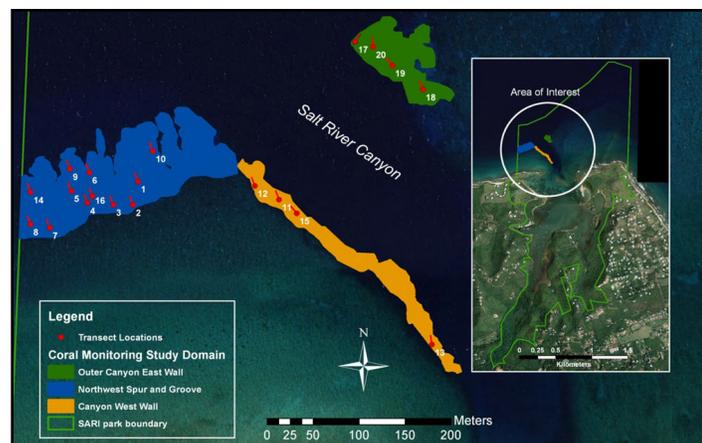
The SARI coral reef monitoring site was installed in April 2012. The site is 26,437 m², and consists of 20 randomly placed permanent transects, located within three sections; Canyon West Wall, Canyon East Wall, and Northwest Spur and Groove. These areas were constrained to ≤ 33 m depth and were chosen because of relatively high coral cover, reef complexity, and historical significance. The 10 m transects are monitored annually using underwater video. Percent cover of living coral by species, macroalgae, turf and coralline algae, octocorals, and sponges are calculated. Data on coral disease, bleaching, water temperature, and long-spined sea urchins are also collected.

Status and Trends

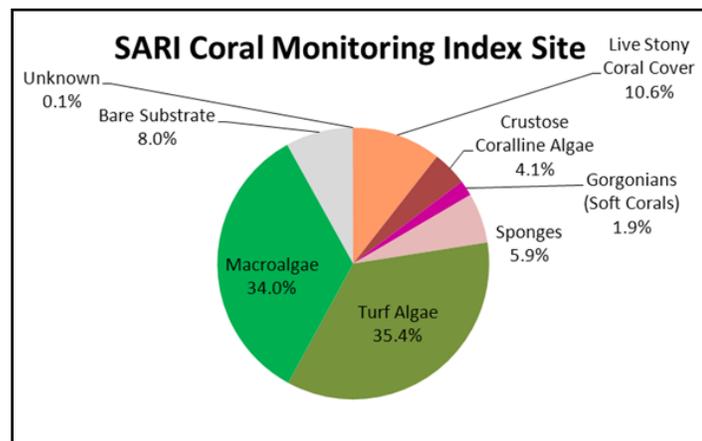
This is the first year the SFCN has collected benthic data at the SARI site. Live stony coral cover was 10.6%. A comparison of historical data shows that coral cover on the Canyon East Wall of the Salt River canyon is within the historical range but coral cover on the Canyon West Wall is below values reported previously from 1979-1984. SFCN data also shows relatively high macroalgae cover (34.0%), which was not listed as a benthic component in any historical report for SARI.



The Salt River submarine canyon is approximately 100 m deep; characterized by a steep near vertical west wall and more gradually sloped (15 - 20°) east wall.



Locations of the 20 transects which make up the SARI coral reef monitoring index site: outer Canyon East Wall (green), Canyon West Wall (orange), and Northwest Spur and Groove (blue).



Initial results from SARI coral reef monitoring index site.

