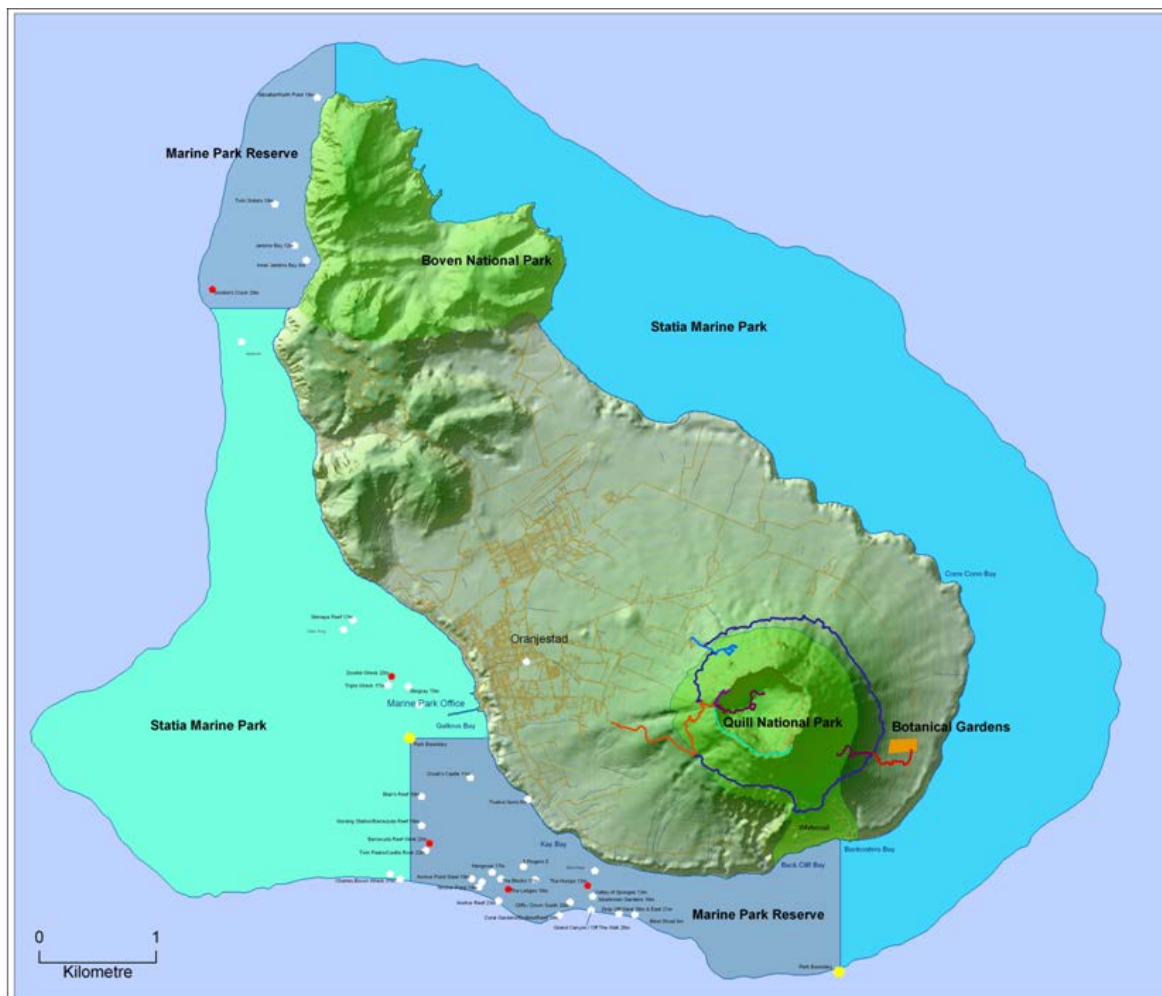


Coral Reef Monitoring started in St. Eustatius

Steve Piontek



Twenty sites were chosen (white dots), at depth ranging from 8-15 meters, representative of the variation of coral reefs within the St. Eustatius marine park.

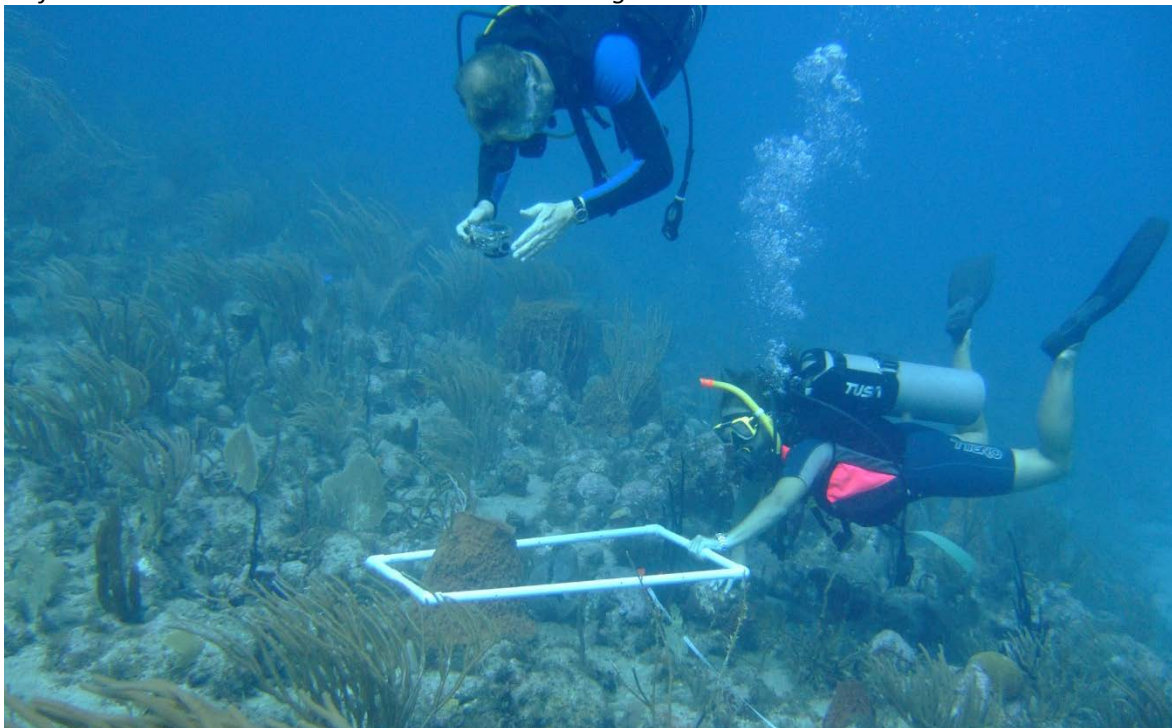
The island of St. Eustatius recently started a coral reef monitoring program using the guidelines agreed upon by the Caribbean (Global) Coral Reef Monitoring Network (Caribbean – GCRMN). The Caribbean GCRMN is an open network of coral reef scientists and managers involved with coral reef monitoring in the region. Following on the publication of the "Status and Trends of Caribbean Coral Reefs: 1970-2012" report, it has recently taken the initiative to strengthen or revitalize coral reef monitoring in the region, to ensure collection of useful and accessible data that can effectively reveal the status and trends of the coral reefs in the region.

Steve Piontek, marine biologist working on St. Eustatius for the Dutch government as data collection officer for fisheries and biodiversity, this year started to monitor the reefs around St. Eustatius in cooperation with the St. Eustatius Marine Park, using the methods and protocols recommended by the CRFMN. In order to ensure statistical robustness to detect trends in coral reef status, he selected twenty sites around the island to monitor yearly. Together the sites, ranging in depth from 8-15 m, represent the variation of coral reefs in the St. Eustatius Marine Park. Each site was then monitored along five transects of 30 meters length where the size and numbers of all fish was noted and a total

of 75 photographs taken to quantify bottom cover by corals, algae and key invertebrate species. In addition the number of coral recruits was carefully counted in small quadrats along the transects.



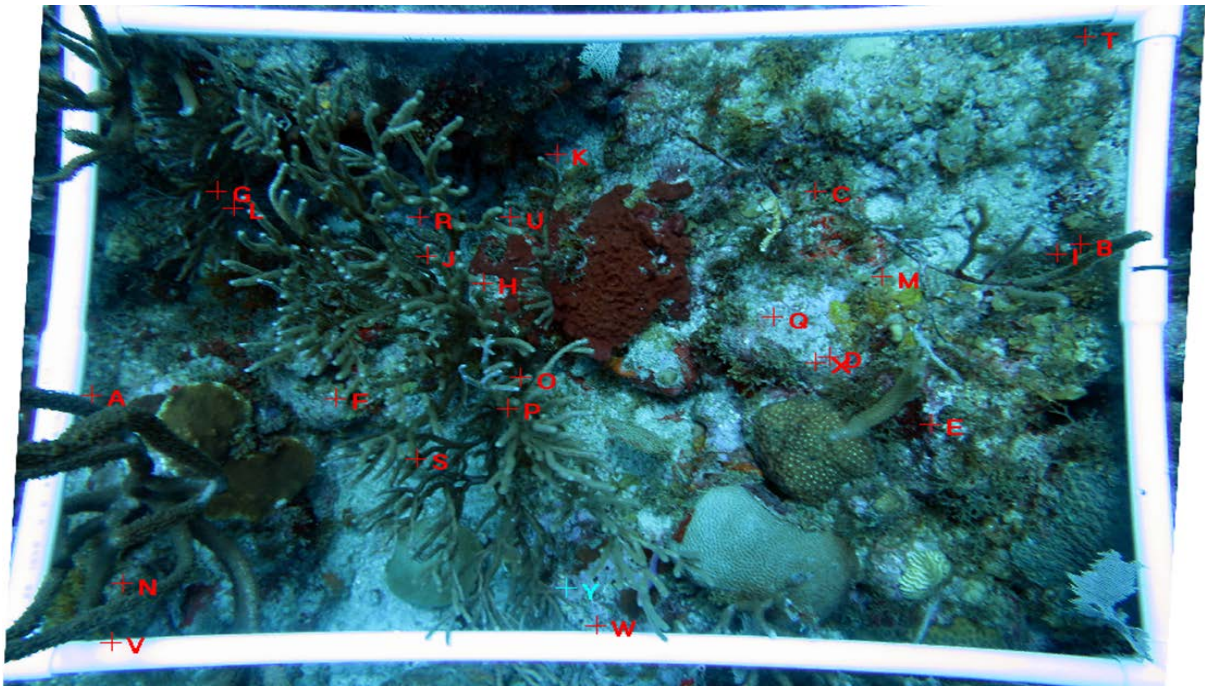
All fish were counted and their sizes estimated along the 30 m transects.



Photographs were taken along the transects with the help of a 60x90 cm quadrat

In the past St. Eustatius monitored a few reef sites using the Reef Check protocol. Steve reports: “A huge advantage [of this new method] is being able to do all of the in-water sampling on one dive.” He noted a few practical issues though, “you really need a high quality camera to enable correct identification of coral and algal species,” and even then “We have a lot of siltation here - volcanic

soil, moving sand, etc, which makes [identification] difficult even with high res pictures.” The photographs are examined for coral disease and key invertebrates such as sea urchins and sea cucumbers, and then analyzed using a software package called Coral Point Count that allows you to select random points (25 per photograph) for identification of the coral or algal species or key invertebrates at that particular point, and then exports the data to an excel spreadsheet. Steve reports that “Coral Point Count is a good program for analyzing the data, but it still uses the old taxonomic names and does not have seagrass or cyanobacteria listed, so you have to go back into the excel spreadsheet to add these in.”



Random points on each photograph for identification of coral and algal species



Coral recruits (1-4cm²) were counted in five 25x25cm quadrats per transect along the first three transects.