St. Jean Bay "Designing the Future" Nature, Economy and Community.

Location:
St. Jean Bay, St. Barthelemy, French West Indies

Contracting Party:
Private Sector and Government

Project Dates:
2007-2011

Services Provided:
- Ecological Assessments
- Coastal Erosion studies
- Ecological Design
- Restoration
- Community Engagement
- Future planning
- Climate Change risks assessment
- Economic Assessment
- Eco-Disaster Risk Reduction planning

Key Outcome:
Developed a "Designing the Future" approach to help communities understand the changes that have occurred in their natural and human environments and to envision and design a future that includes a more robust approach to protecting nature, community and economic interests.

Project Summary:
When the iconic St. Jean Bay beach became severely eroded from a combination of coral reef decline, development, hurricanes, climate change (e.g., sea level rise and shifting storm patterns) shortly before peak tourist season, the tourism industry feared cancellations and loss of jobs. These economic interests wanted to dredge as a quick fix, environmentalists feared additional degradation, homeowners feared property loss, and the government wanted a solution. We were asked to assist.

We approached the challenge by validating the concerns of each group, thus opening the door for dialogue on how to balance the environmental, cultural and economic needs for the future. We carried out a hydrodynamic and sand balance analysis, coral reef assessments, community evaluations, and risk assessments from climate change and disasters. Through evaluation we determined that restoring the coral reef would provide protection against sea level rise inundation and would help to retain sand on the beach. We designed a solution that included addressing the immediate needs through short-term beach re-nourishment, and longer-term coral reef restoration to rebuild the reefs for climate change adaptation and disaster mitigation, as well as for biodiversity and tourism value. We carried out an economic analysis on the value of the reef as a method for sand retention. Initially we calculated the cost of the ecosystem service provided by the reef in sand retention (what it would cost to restore the beach in the absence of a healthy reef). Our results for reef restoration were within 5% of actual costs quoted for a one-time re-nourishment. We then began the program of beach stabilization and coral restoration.