

# RESILIENCE SOURCEBOOK

INSPIRED BY THE 2013 MILSTEIN SCIENCE SYMPOSIUM  
*UNDERSTANDING SOCIAL AND ECOLOGICAL RESILIENCE IN ISLAND SYSTEMS*  
*INFORMING POLICY AND SHARING LESSONS FOR MANAGEMENT*



CASE STUDIES OF SOCIAL-ECOLOGICAL  
RESILIENCE IN ISLAND SYSTEMS



AMERICAN MUSEUM OF NATURAL HISTORY

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# SPEYSIDE MARINE AREA COMMUNITY-BASED MANAGEMENT PROJECT: A CASE STUDY FOR SOCIO-ECOLOGICAL RESILIENCE

SPEYSIDE, TOBAGO, TRINIDAD & TOBAGO, SOUTH CARIBBEAN

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## THE SETTING

The Republic of Trinidad and Tobago is the southern-most island-system in the Caribbean, off the northeastern coast of Venezuela. The economy is based mainly on petroleum and natural gas extraction, with smaller contributions from tourism and agriculture. The Speyside community is located on the northeast edge of the island of Tobago. The community is quite small, home to approximately 1,000 people, as most inhabitants of Tobago reside within the southwest region of the island. Community members work in governmental positions in some capacity, and in construction, with a smaller group working in the tourism and fishing sectors. In comparison with other parts of Trinidad and Tobago, there are moderate levels of unemployment.

Speyside is located at 11°17' N. Latitude and 60°32' W. Longitude. The terrain is steep hillside that comes down to narrow, rocky shorelines. Underwater, the Speyside area supports some of the healthiest and most productive reefs in Tobago. The remoteness of the region has shielded the forest and reef ecosystems from human pressures to date. As a result of the healthy state and uniqueness of their natural environment, the people of Speyside have developed a sense of pride in their community.

## THE DISTURBANCE

The same characteristics that have made the area unique are also what make it vulnerable to tourism infrastructure development and port development. Such activities would include extensive hillside forest cover loss and potential damage to the coral reefs themselves. The area is also earmarked for oil and natural gas



exploration. In 2005, there was a mass coral bleaching event in Tobago;

Map  
Data:  
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Google

Tobago's reefs exhibited, on average, 66% bleaching, with the worst-affected sites having greater than 85% bleaching. This widespread and severe event had ramifications for the livelihoods of people involved in ecotourism and fisheries in Tobago. Speyside's reefs, however, were not as affected as the majority of the other reefs in Tobago, with less than 20% bleaching. The relative robustness of Speyside's reefs highlighted their importance to regional conservation efforts.

In response to these potential and actual threats, the community wanted to expand their role, to be included as part of the discussion and process when such development plans are being made, and to be more active in the protection of their environment. Following the 2005 coral bleaching event, the community had become more sensitive to the value of the ecosystem and the services it provides. Additionally, while the community had a sense of the status of their

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Photo: Hyacinth Armstrong

ecosystem, the government required scientific data on the integrity of the Speyside marine ecosystems for the North East Tobago Management Plan. This Plan acknowledged the conservation of marine ecosystems as an important aspect for the long-term economic development of the region.

### THE RESPONSE

The Speyside Marine Area Community-Based Management Project (SMACMP) – a collaboration among the Buccoo Reef Trust, the Tobago House of Assembly (THA) and Coral Cay Conservation – started with teaching the community some basic ecological tools, such as how to conduct marine surveys and then analyze and interpret the gathered data. From 2008-2009 all the reefs in Speyside and nearby communities were intensively surveyed and mapped as part of SMACMP. The project leads wanted to set an example for how a community-based program could collect the data and manage its own resources.

The community members involved eventually formalized themselves into a local NGO, Speyside Eco-Marine Park Rangers (SEMPR), which took about a year and a half to establish. Although officially the Tobago House of Assembly manages resources, it does not actively manage the reef. The community saw it in their best interest to manage their own resources, which led them to formalize SEMPR in order to gain recognition. SEMPR continued the ecological work, and expanded its operations to public consultation, education and bringing awareness to the community. In addition, SEMPR began to bridge the gap between the average community member and the government. Although the project spanned only one year, the

project team was able to seed the groundwork and find the champions and leaders from within the community who have continued the work on their own, with continuing support from the project mentors.

SEMPR are now considered one of the significant stakeholders when it comes to marine conservation within Tobago. SEMPR has also expanded both its area of study and regional scale, conducting climate change and social issues analyses. SEMPR participates in a radio soap opera, “My Island – My Community,” broadcast in ten Caribbean countries. Through this outreach, the SEMPR have encouraged voluntary measures to help to reduce pressures on the reefs. For example, most fishers don’t fish on particular reefs in order to preserve the area’s best diving features. SEMPR also periodically monitors water quality with Tobago’s Department of Natural Resources and the Environment (DNRE), and works to ensure best practices in the hillside land-use.

The project team built the capacity of the community members and SEMPR on some key administrative tools such as proposal writing and fundraising. Community members participated in a workshop in St. Lucia in 2010, where they worked with park managers in community-based resource management programs. The rangers were then able to bring some of that knowledge back, with continuing progress being made, for example, with respect to best practices for tourism operators.

Recently, the Tobago House of Assembly has begun considering designating the northeast side of Tobago, specifically Speyside, as a



Photo: Speyside Eco-Marine Park Rangers Facebook page: <https://www.facebook.com/SpeysideRangers>



Photo credit: Hyacinth Armstrong

Marine Protected Area (MPA), with a new piece of legislation that was drafted to facilitate this process. SEMPR is one of the largest proponents for the MPA's establishment and is expected to be involved in MPA management in the future.

#### LESSONS LEARNED AND RECOMMENDATIONS

- *Building trust within the community.* The authors were able to gain trust through a concerted and extensive effort to engage the local community in various ways; for example they informally reached out to individuals, called people, and attended community meetings. Another important way the project built trust was by taking a distinctive approach from previous projects in Speyside; the authors served as guides to help the community achieve goals that they thought were important, rather than promoting a set agenda.
- *Maintaining long-term relations.* In the past, non-locals would conduct similar programs, and would leave at the end of the project. In this program, the team members are still working with the community.
- *Finding leaders and champions from within the community.* The successes of this project would not have been possible without local champions.
- *Maintaining government interest and involvement.* This served as a sign to the community of endorsement of the project's activities.
- *Sincerity and transparency.* While the

project may have had ambitious goals, no false promises were made to the community and once they recognized what was realistic and what was being asked of and/or from them, they were better able to make a decision on whether to get further involved.

#### FUNDING SUMMARY

- International Coral Reef Action Network (ICRAN)  
<http://www.icran.org>
- GEF Small Grants Program  
<https://sgp.undp.org>
- In addition, local businesses sponsored monthly environmental activities (such as marches and parades) in Speyside. Sponsors included: Tobago Water; Mystic Hemp; Almandoz Hardware Tobago; Manta Lodge

#### LEAD ORGANIZATIONS

- The Buccoo Reef Trust

#### PARTNERS

- Coral Cay Conservation  
<http://www.coralcay.org>
- Integrating Watershed and Coastal Area Management (IWCAM)  
<http://iwcam.org>

The Trinidad House of Assembly:

- Department of Natural Resources & the Environment  
<http://www.tha.gov.tt/divisions/agriculture-marine-affairs-marketing-a-the-environment?start=1>
- Department of Marine Resources & Fisheries  
<http://www.tha.gov.tt/divisions/agriculture-marine-affairs-marketing-a-the-environment>

#### RESOURCES

- Speyside Eco-Marine Park Rangers (SEMPR)  
<http://www.speysiderangers.org>
- GEF Small Grants Programme: Speyside  
[https://sgp.undp.org/index.php?option=com\\_content&view=article&id=261&catid=36&Itemid=186#.Uw-SnP3x-0s](https://sgp.undp.org/index.php?option=com_content&view=article&id=261&catid=36&Itemid=186#.Uw-SnP3x-0s)

*As told to Nadav Gazit.*

## THE MILSTEIN SCIENCE SYMPOSIUM

The collection of this case study and others like it results from the April 2013 Milstein Science Symposium, Understanding Ecological and Social Resilience in Island Systems: Informing Policy and Sharing Lessons for Management. Held at the American Museum of Natural History, the Milstein Science Symposium convened local resource managers, researchers, educators, island leaders, policy makers, and other leading conservation practitioners to examine characteristics, qualities, and processes that may foster resilience for coastal and marine systems as well as explore interactions, linkages, and feedback loops in complex social-ecological systems and what this means for management. The Milstein Science Symposium was organized in collaboration with The Nature Conservancy, the Gordon and Betty Moore Foundation, the National Science Foundation, The Christensen Fund, the Coral Reef Alliance (CORAL), the Scripps Institution of Oceanography at the University of California San Diego, the University of California Santa Barbara, the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries, and Small Island Developing States (UN-OHRLS), and the Wildlife Conservation Society.

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