



## **Coral Cay Conservation Member’s report on activities to ICRI**

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[www.coralcay.org](http://www.coralcay.org).**

**Reporting period:    October 2006 – April 2007**

Please note that the purpose of this report is to help you share information about your activities within the ICRI community to allow discussion at the next ICRI General Meeting. The report will be made available on the ICRI Forum prior to the meeting, and a question and answer session held at the meeting. The ICRI secretariat is well aware of your busy schedule, thus don't hesitate to submit incomplete report.

### **1. General Information**

Representation to ICRI (Country / Organization):	Coral Cay Conservation
Focal Point 1:	Simon Harding
Focal point 2:	Simon Draper
Last meeting attended:	Seychelles, 2005
How do you circulate ICRI information with your country and/or organization?	Via CCC website and by email
Budget allocated for coral reefs (please mention for year/period):	Approximately £220K per annum.

Coral Cay Conservation (CCC) is a UK based non-profit organization that was founded in 1986. CCC's aim is to provide resources (human, technical and financial) in order to help to sustain livelihoods and alleviate poverty through the protection, restoration and management of coral reefs and tropical forests. Invited by host countries, to assist with existing conservation issues, CCC does not charge for the collection of scientific information that is used to produce habitat maps and management recommendations. Instead, the services CCC provides are largely financed by international volunteers who pay to participate in an expedition. As a non-profit organisation, CCC donates all financial surplus to the CCC Charitable Trust, the only tropical conservation charity of its kind based in the UK (Registered charity no. 1025534). The CCC-Trust provides opportunities for local stakeholders (scholars) to take part on an expedition at no cost, through a Scholarship Awards Programme available to the nationals where CCC works. The aims of the Scholarship Awards Programme are threefold: firstly, to provide education in tropical ecology, conservation, SCUBA diving and trekking; secondly, to provide local participants with technical knowledge and thirdly, to generate local capacity in order to form local man-power for future monitoring and research programmes devised by the host nation government. Since its foundation CCC has been invited to monitor and survey coral reefs and/or tropical forests by the governments of Belize (1986-1998), Philippines (1995 to date), Honduras (1998-2006), Fiji (2001-2007), Malaysia (2002-2005), Trinidad and Tobago (2007 to date) and has participated in short collaborations with Indonesia at the Banggai Islands in Sulawesi (1996) and at East Kalimantan (1998).

## 2. Report

### A. Specific requests / questions for the next ICRI General Meeting

#### International Year of the Reef (IYOR) 2008

Do you have a committee/focal point for IYOR 2008? Not at present

If yes, contact information:

If available, brief description of what has been done so far:

Preliminary discussion of organising a fundraising event in the UK for IYOR 2008

If available, brief description of near future plans: Not available yet

Relevance to mangrove ecosystems - Please give details of activities pertaining to mangroves, particularly where mangroves are associated with coral reefs.

CCC is developing a carbon-offset scheme where donations will directly fund local mangrove plantation projects in the Philippines, particularly on the islands of Negros and Leyte. CCC project participants regularly take part in mangrove planting programmes in Southern Leyte in collaboration with the Provincial Government.

Where mangroves are present in project survey areas they are assessed and included in final recommendations for sustainable management of the coastal zone.

### B. Summary of activities and pertinent points

#### 1. Brief summary of major coral reef activities/projects:

Activity / Project Title	Location	Amount	Duration	Major activities	For more info (web site / email)
1. Southern Leyte Coral Reef Conservation Project	Southern Leyte, Philippines	~ £55K per annum	2002 - present	<ul style="list-style-type: none"><li>o Coral Reef baseline survey and monitoring programmes</li><li>o Coral Reef Habitat Mapping</li><li>o Local Capacity Building</li><li>o Environmental Awareness and Education</li></ul>	<a href="http://www.coralcay.org">www.coralcay.org</a>
2. Tobago Coastal Ecosystems Mapping Project	Tobago, Trinidad and Tobago	~ £55K per annum	2007-2009	As Above	<a href="http://www.coralcay.org">www.coralcay.org</a>
3. Fiji Coral Reef Conservation Project	Mamanucas and Kadavu Island Groups, Fiji, South Pacific	~ £110K per annum	2001-2007	As Above	<a href="http://www.coralcay.org">www.coralcay.org</a>

#### 2. Please list:

- Key activities of the member since last report relating to coral reefs and associated ecosystems
  1. *Southern Leyte Coral Reef Conservation Project*. Continued surveying of Sogod Bay, S Leyte, Philippines. Active monitoring of four community based fish sanctuaries in the municipality of Padre Burgos.
  2. Tobago Coastal Ecosystems Mapping Project. Commencement of a 2 year GEF/SGP part-funded project in March 2007 in partnership with the Buccoo Reef Trust and the Tobago House of Assembly.
  3. Fiji Coral Reef Conservation Project. Cessation of project activities in February 2007 in the Kadavu island group after CCC being present in Fiji over a period of seven years. Recent coral reef survey reports for northern Kadavu Islands (completed) and Tokoriki region of the Mamanucas island group (in progress).
  4. Coral Reef Resource Assessment and Management Recommendations, Polillo Islands, Southern Luzon, Philippines. In September 2006 CCC completed a rapid assessment of coral reef resources in the Polillo Islands and provided a number of recommendations for coral reef management.
  
- Identify points of relevance to other ICRI members, or the secretariat (e.g. points of particular concern; questions to ask of ICRI; information requested; assistance sought; lessons learned
  
- Identify forthcoming activities that might be of interest to other members in terms of funding; partnership; uptake.

CCC welcomes suggestions for future collaborative projects, funding partnerships and collaborative fundraising events in the UK for IYOR 2008.

## Project Updates

### Southern Leyte Coral Reef Conservation Project (SLCRCP) - Philippines

The Southern Leyte Coral Reef Conservation Project (SLCRCP) is a tri-partite initiative, convened jointly by Coral Cay Conservation (CCC), the Philippine Reef and Rainforest Conservation Foundation Inc. (PRRCFI) and the Provincial Government of Southern Leyte.

The project has been undertaken with the objective of assisting in the conservation of the coral reefs of Sogod Bay for the long-term benefit and food-security of the residents of the Province. Three strategies have been identified as appropriate for achieving this objective, namely:

- 1 - Conservation education for the fisherfolk, schools, colleges, and Local Government Units (LGUs) of the Province
- 2 - Capacity building of technical skills amongst the employees of the Provincial Government of Southern Leyte
- 3 - Resource appraisal of the current status of the coral reefs of the bay

The four recently created community-based Marine Protected Areas (MPAs) in the Municipality of Padre Burgos were surveyed in November 2006 and the results were presented to the fisherfolk and LGU's. Furthermore, four MPA marker buoys were installed, one in each community based MPA, during February 2007. A highly useful fact finding visit to Mactan Island was organised for the Padre Burgos MPA Committee in March 2007 to gain knowledge of successful MPA management at the local level.

Ongoing activities include the planning the next teacher training workshop for April 2007, coastal clean-ups, environmental awareness open days, training sessions for MPA local wardens, extensive mangrove planting projects, and SCUBA training for Provincial Government Employees, plus marine science lectures and presentations and surveying.

CCC survey teams conducted a total of 182 survey dives, which included both baseline surveys to generate habitat maps and monitoring surveys using the Reef Check methodology. The location of each of these surveys was determined using a Global Positioning System (GPS) receiver, these data can be imported to a Geographic Information System (GIS), to facilitate spatial analysis. These data will be made freely available to the resource managers of Southern Leyte, to allow for target specific querying of the dataset, as well as the selected analysis.

Low abundances of commercially important fish and invertebrate species provides an indication of over-fishing of the reefs within the bay and highlights the concern that fish stocks are considered to be both biologically and economically overfished in most areas of the Philippines.

The high diversity and abundances of fish species and live hard coral cover in existing fish sanctuaries, such as Napantau on the eastern coast of Sogod Bay, are extremely attractive to divers. The presence of whale sharks and various other 'megafauna', such as turtles and different shark species, represent great potential for dive related tourism in this area. Individual whale sharks in the region are also being photographed and registered with the Whale Shark Project run by the Shark Trust.

CCC is planning to move the project base across the bay within the next six months to the eastern side, which will open up a new area of coastline for biological assessment and habitat mapping, including the Pacific coast of southern Leyte.

## Fiji Coral Reef Conservation Project – Kadavu Islands

*Note: Although this project was conducted prior to the current reporting period for ICRI it has been included as it was not reported in the previous CCC members report to ICRI.*

Following on from the work conducted by Coral Cay Conservation (CCC) in the Mamanuca Islands as part of the Fiji Coral Reef Conservation Project (FCRCP), CCC were engaged in May 2005 to assist in coral reef assessment and management in the Kadavu Islands. Fieldwork in northern Kadavu commenced in March 2006 using a quantitative version of CCC's baseline technique that allows a level of information to be collected that is appropriate for coastal management decision makers and facilitates the use of remotely sensed imagery and Geographic Information Systems to represent the coral reef systems.

A total of 340 survey dives were completed at 77 survey stations for three main reef types in northern Kadavu (island fringing reefs, lagoonal and outer ribbon reefs) at four depth bands; surface (2m depth), shallow (6m), medium (12m) and deep (16m).

The survey results indicated that the coral reefs in the region are generally in a pristine condition, particularly for seaward facing slopes of the main ribbon reef. There were a few local anthropogenic impacts on lagoonal and fringing reefs, although these were considerably lower in occurrence than observed in the more developed Mamanucas Islands. The biological field data indicate that the outer reef slopes of the northern part of the Great Astrolabe Reef are of high ecological importance with a diverse and abundant benthic community and associated reef fish assemblage.

Environmental Awareness and Community Work was conducted in collaboration with the LMMA network in Fiji. A total of 10 Community Fish Wardens were successfully trained in scuba diving, reef assessment and monitoring, and data management. Eight of the participants were from the Lau region and were provided through collaboration with WWF while the remaining two participants were from the local village on Dravuni Island.

Environmental education sessions were also held at local schools. Topics covered in the sessions included the importance of coral reefs to the socio-economic well being of the community, basic coral reef ecology and the links between coral reefs, seagrass beds and mangroves. In addition to these classroom-based sessions, each class was taken on guided snorkel tours around the reef adjacent to Dravuni Island to assist in the understanding of the coral reef environment and some of the main factors that can influence overall coral reef health.

## Fiji Coral Reef Conservation Project – Tokoriki Island Group – Northern Mamanucas

*Note: Although this project was conducted prior to the current reporting period for ICRI it has been included as it was not reported in the previous CCC members report to ICRI.*

Following on from the work conducted by CCC in the southern Mamanuca Islands as part of the Fiji Coral Reef Conservation Project (FCRCP), CCC were approached to establish a presence in the north-western part of the archipelago, namely the Tokoriki Island group or Mamanucas-I-Caka in 2005.

Fieldwork was completed in the Tokoriki phase of the FCRCP between October 2005 and July 2006. Survey progress included 495 survey dives on 112 transects. The fringing reefs around all the main islands were assessed along with a number of large patch reefs. Offshore barrier reefs were not included in the assessment.

Survey results indicated that there are some locally and regionally (Mamanucas) attributable anthropogenic impacts affecting the Tokoriki island group. Measures should be taken to mitigate these impacts including the determination of the precise cause of impacts such as seaweed proliferation. Further coastal development within the island group should proceed in a sustainable manner to prevent any increase in anthropogenic impacts upon the local marine environment.

The field data indicates that the reef slopes and crests of the system of fringing and patch reefs in the Tokoriki region are of high ecological importance with high diversity and abundance in terms of both the benthic communities and the fish assemblages associated with them.

Two environmental awareness and education activities were successfully completed during CCC's time in the Tokoriki region in close collaboration with the Mamanucas Environmental Society (MES). Firstly an education programme was completed at the local school on Yanuya Island. Secondly CCC and MES organised a coastal cleanup as part of the international 'Dive in to Earth Week' in April 2006.

## Tobago Coastal Ecosystem Mapping Project (TCEMP)

The TCEMP is a two-year collaborative project involving CCC, the Buccoo Reef Trust and the Tobago House of Assembly. The project commenced in April 2007 and aims to provide a baseline of data on the current status of the coral reef, mangrove and seagrass ecosystems surrounding Tobago. Data collection was designed in close collaboration with the Tobago House of Assembly to ensure the provision of relevant information for effective policy-making and management of coastal resources. The project will also have strong community education and capacity-building components, in order to optimise public awareness and benefits from this project.

The main objectives of the Tobago Coastal Ecosystem Mapping Project are to:

- (1) provide a scientifically sound database of the natural resources
- (2) increase capacity for the use of decision-support tools (e.g. GIS)
- (3) improve public awareness of local environmental issues.

The proposed programme of work to be conducted consists of both scientific study and community capacity building in years one and two of the project. The work programme for year two will also include a comprehensive presentation of results, recommendations and multi-stakeholder management planning at the end of the project, along with an emphasis on building organisational capacity and self-sufficiency of local stakeholder groups to maintain and enhance core activities beyond the proposed project cycle.

## Coral Reef Resource Assessment and Management Recommendations for the Polillo Islands.

In September 2006 CCC sent a team of scientists to conduct a marine resource assessment in Polillo, an island group off the south of Luzon province, Philippines. Based on previous recommendations and rapid reef assessments, the team focused on surveying areas of relatively good reef health.

Fringing coral reefs were surveyed around the Polillo Island group in and around two main sectors, Polillo and Burdeos municipality. Over the two-week period, 12 discreet sites were surveyed using a Point Intercept Transects for benthic composition and belt transects for reef fish and invertebrate diversity and abundance. At most sites, deep and shallow surveys were completed producing 4300 data points from 43 transects.

Results show mostly poor to moderate reef health affected by illegal fisheries, mainly cyanide and dynamite and high sedimentation runoff from Polillo's extensive river system. Overfishing was a problem throughout the region. Areas of good to excellent reef health were found in fish sanctuaries installed in the area more than 10 years ago such as Carlagan and Kalubakis (Agta Fish Sanctuary). Cabalwa and Carlagan South had the highest overall coral cover (69% and 64% respectively). *Acropora* and *Porites* species were the most common coral genera recorded. Fish diversity was highest for Malaguinoan Northwest and Cabalwa East. Commercially important and conditional indicator species were most numerous in Kalubakis and Anawan. Butterflyfish diversity was found to be high on Polillo's reefs (32 species).

High numbers of *Diadema* urchins were found on some of the reefs (Anawan) in addition to potential threats from Crown-of-thorns starfish that were abundant in Anibong. Main anthropogenic impacts were blasting patterns from dynamite fishing, and coral bleaching. When comparing the results for all stations between each other, Malaguinoan, Anawan North, Cabalwa, Carlagan South, Kalubakis West and Ikulong had the highest Conservation Management Values (CMVs) and these areas should be considered important conservation sites. A management plan was proposed that creates a network of sanctuaries and allows sections of important fisheries grounds to recover.

Information seminars were held for Barangay and Municipal representatives to outline the problems affecting the reefs and suggest management strategies that could be implemented. A school and college visit were organised to promote coral reef awareness and appreciation amongst the younger generation.

CCC recommended that an intensive effort be made to put a halt to all illegal fishing activities though financial support for the Provincial Government to pay for patrol boats and personnel. This should be supported by an information drive to increase awareness within the community of the destructive effects of illegal fishing practises. A long term survey project should be set up to include surveys of all the islands and integration of data into GIS maps. A holistic and integrated management approach that combines marine and terrestrial habitats of Polillo's islands is the most effective means to conserving this coastal and marine environment.