

Reefix

Commonwealth of Dominica



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Introduction

The Inter-American Biodiversity Information Network (IABIN) was officially mandated by the Presidents of the countries in the Americas, at the Summit of the Americas on Sustainable Development, convened by the OAS in Santa Cruz de la Sierra, Bolivia, in December 1996. IABIN is an Internet-based forum for technical and scientific cooperation that seeks to promote greater coordination among Western Hemisphere countries in the collection, sharing, and use of biodiversity information relevant to decision-making and education. The objective of IABIN is to promote sustainable development and the conservation and sustainable use of biological diversity in the Americas through better access to and management of biological information. While IABIN is envisioned as a distributed system of data providers in which the data are maintained and controlled by the provider, coordinated access to the integrated resources of the network is a key component of IABIN.

Goal

The ICZM (Integrated Coastal Zone Management) Capacity Building Program component will assist the IABIN Caribbean Protected Areas Database Initiative – CPADI through a REEFIX activity in 4 case study sites regionally to facilitate the transfer of information between OAS CARICOM Member States specific to ICZM and marine parks.

Purpose

ReefFix is an ICZM tool employing multi-level linkages to train participating member States in ecosystem valuation and management techniques to restore coral reefs, mangrove ecosystems, and watersheds, through integrated marine park management.

Overview

Lacking the tourism infrastructure development of many of its neighbours, the Commonwealth of Dominica has carved out a globally recognized eco tourism niche. In contrast to most regional islands, there are no major developments on Dominica, no all inclusive or gated resorts, no chain hotels and no detailed accounting of the tourism dollar on a per site basis within the existing marine protected area, (MPA), as a consequence, even working with colleagues within the

Discover Dominica Authority and Fisheries Division, there is little data regarding average wages amongst hoteliers and dive operations, approaching individual operations for details about wages has proved to be very uninformative.

History

The Soufriere Scotts Head Marine Reserve (SSMR) was demarcated as a fishery driven reserve in the late 1980s following detailed mapping of the reefs and surveys, from then a lot of sensitization meetings and stakeholder consultations were undertaken until in 1998 the reserve was ratified by government. It is a self funded and managed entity and is an example of government permitting a local body to manage their own resource, a shining example of locally run resource management. The management body is the Local Area Management Authority, (LAMA) and is comprised of local stakeholders; Restaurants, community groups, the respective village councils and the local dive operators within the boundary. Bodies such as Fisheries Division, the Dominica Watersports Association hold seats on the board but have no voting powers.

Foreign visitors to the reserve pay a daily rate of \$US2 per dive (\$US 20 for a week of two tank diving), or individual snorkel trip and all monies generated go back to the overall management of the reserve, paying wardens, buying fuel and paying utilities on the reserve building. Internal tourism does not generate income.

Sadly in the past several years the overall management of the reserve has been lacking due to apathy of the local groups and a certain antipathy towards the manager, but the day to day operation of the reserve is functioning.

To date it is still the only one of its kind in the region and could serve as a template to other islands. It has been presented on the global stage at ITMEMS as an example of such.

SSMR ZONES

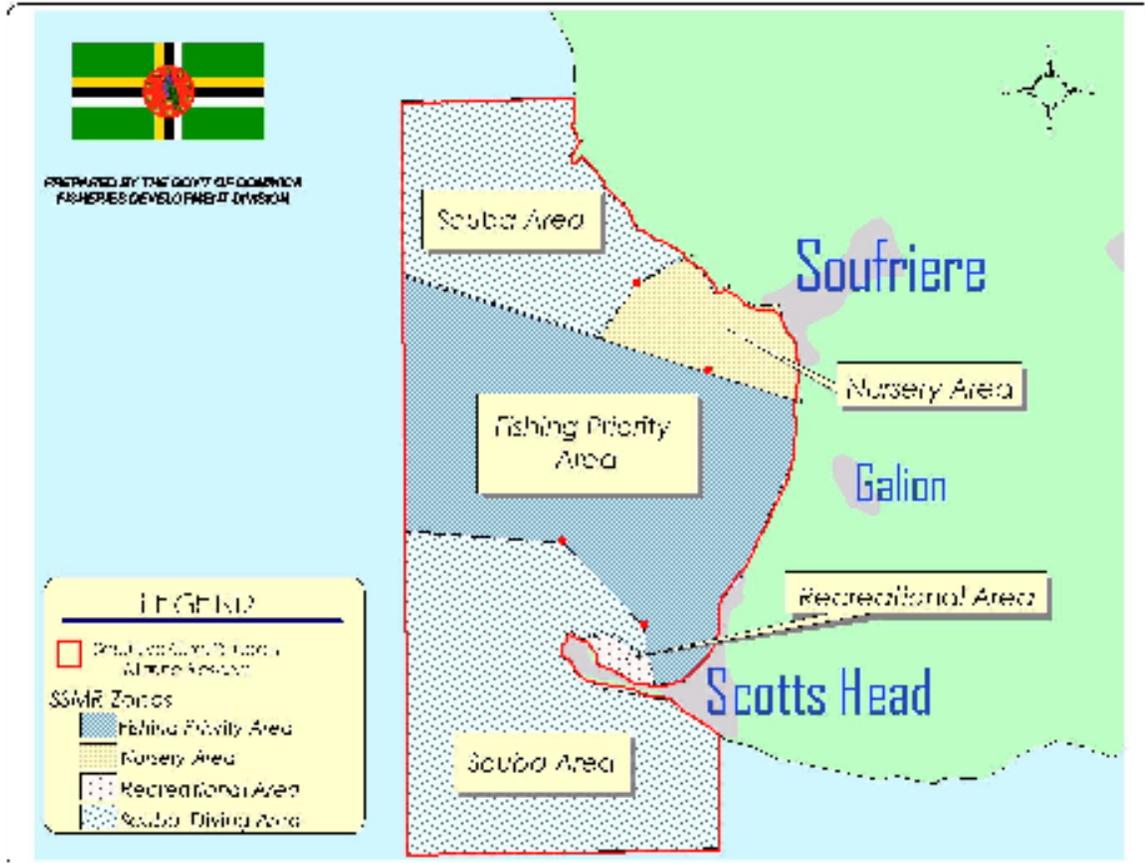


Figure 1: Soufriere Scotts Head Marine Reserve showing zonation

Site

After discussion with the programs manager at the OAS it was determined that the only site that currently generates any sort of direct quantifiable income within the reserve is at Champagne, or Anse Bateau as it is called on charts. A region of localized hot water vents and associated geothermal activity. This site is extremely popular with tourists and is one of the regions “must sees” for cruise ship passengers wishing to snorkel a volcanic vent area. It is because of the walk-in traffic and the ticket system that there is a direct record of revenue for this site.

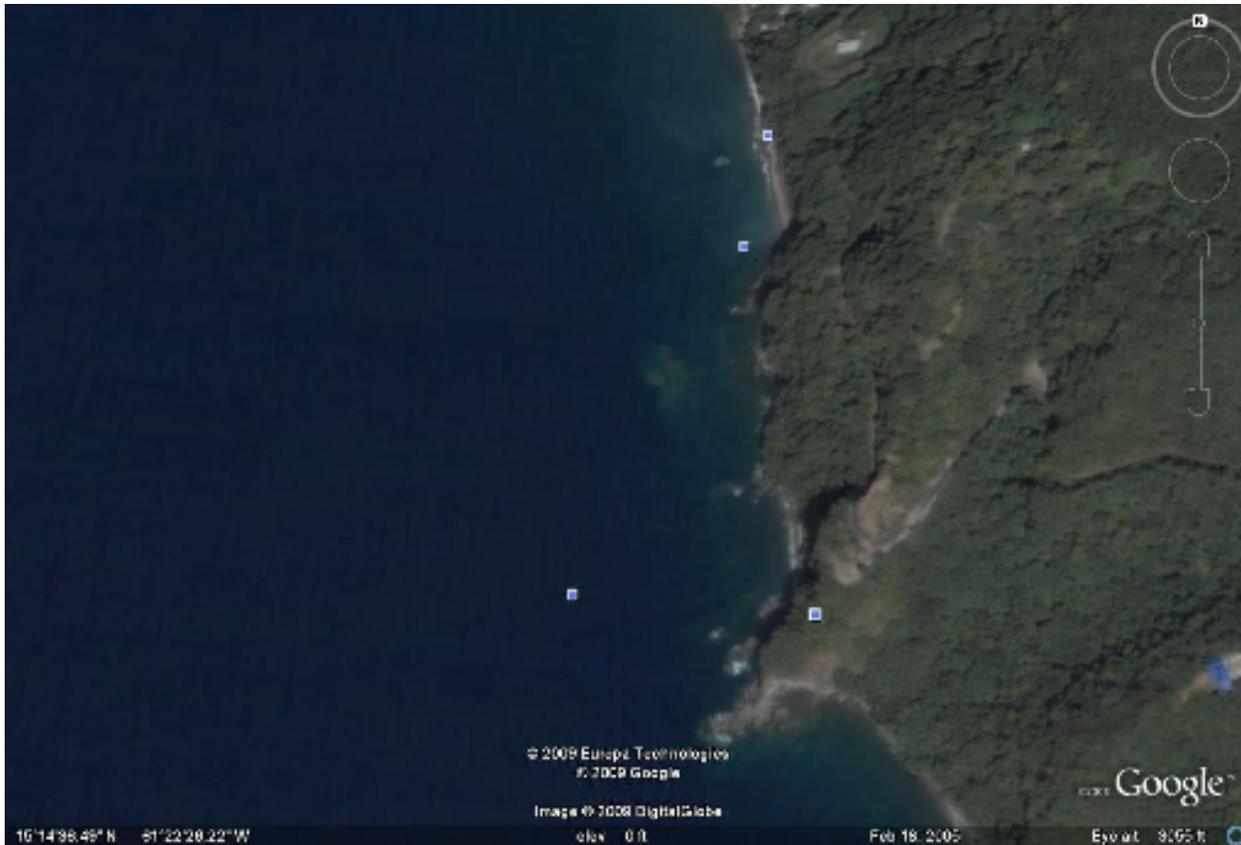
As of October 2009 the wardens are conducting a tally of user numbers at every site daily, this will lead to more efficient monitoring of numbers, give a truer representation of income generation for the area and using the data sheets provided serve to show better what this study is trying to determine.

Site Description

Champagne reef is the most northerly site of the SSMR and has access from the main road from Roseau to Soufriere. There is one snorkel operation on the land adjacent to the water and this operation, Irie Safari, handles almost all the walk in traffic for this site. In 2005 the EU sponsored Ecotourism Development Program of the Ministry of Tourism constructed a walkway along the beach facilitating easier access to the water. The beach itself is quite rocky and subject to seasonal wave action.

The reef extends from shore as a boulder patch reef then continues to the reef proper. This is the size of approximately half a football field 50m wide by 100m long, forming a huge rock outcrop. The top is, at its shallowest approximately 40 cm deep and averages 3m depth. The western edge of the reef, drops dramatically as a near vertical wall to a plateau of approximately 15m (50ft), running along shore. It is because the reef has a shallow outer edge that it is a preferred site for cruise ship divers. The plateau extends seaward approximately 20m at its widest before dropping to over 24m and beyond. The top of the reef is dominated by boulder corals, sponge colonies and stands of Elkhorn coral, (*Acoropora palmata*), there are also small barrel and soft corals. At the southern end of the reef the formation breaks down into boulder patch reef following the shoreline. Against the shore at the northern end is an area of volcanic activity, the whole beach has been determined to be a volcanic vent, digging below the gravel and rocks produces hot water seeps.

In shallow water of an average 2.5m hot water vents and volcanically heated gasses seep out of the rock into the water column, giving the effect that one is swimming / diving in a glass of champagne. Several postgraduate studies have been undertaken to assay the vent gasses and hot mineral waters, results are however not available.



Management, Legislation & Enforcement

The SSMR is legislated through Statutory Rules and Orders (SRO) 16-20 of 1998 and SRO7 of 2001 under the Fisheries Act of the Ministry of Agriculture. These make provision for enforcement by the wardens, detail permitted and prohibited activities and has fees and fines set down.

Ecosystem Health

Dominica has little to no continental shelf along its western (Caribbean) coast, as a result upwelling's of nutrient rich waters occur several times a year, and this ensures that the reef remains in reasonably good health despite the numbers of snorkelers. One has to remember that the data obtained for this report is for walk-in only, there are two large dive operations taking cruise ship snorkelers to this site under contract, on some days there can be upwards of 300 people here.

All visitors, whether walk in or via vessel are given a briefing, and are actively discouraged from standing on or touching the reef.

As previously mentioned the reef flat has some good growth of Elkhorn coral, after heavy storm such as Dean (2007) and Omar (2008), the broken pieces of coral re attach and grow rapidly at this site.

The reefs around Dominica are not true reefs, the island is still very young and the reefs are granite or andesite base with a primary growth of sponge and encrusting sponge, larger sponges and boulder corals are secondary at this and every other site.

During the bleaching event of 2005/6 photos were take at champagne to show over time the bleaching and subsequent recovery within a three month period, Again this is due to having no continental shelf and proximity to deep colder waters. The bleaching and recovery were used as an example of a Caribbean reef recovering at ITMEMS in November 2006.

Tourism

Recreation and tourism profile 2008

Annual Number of stay over visitors	79,767
Percent using reef	75
Average length of stay	14

Accommodation

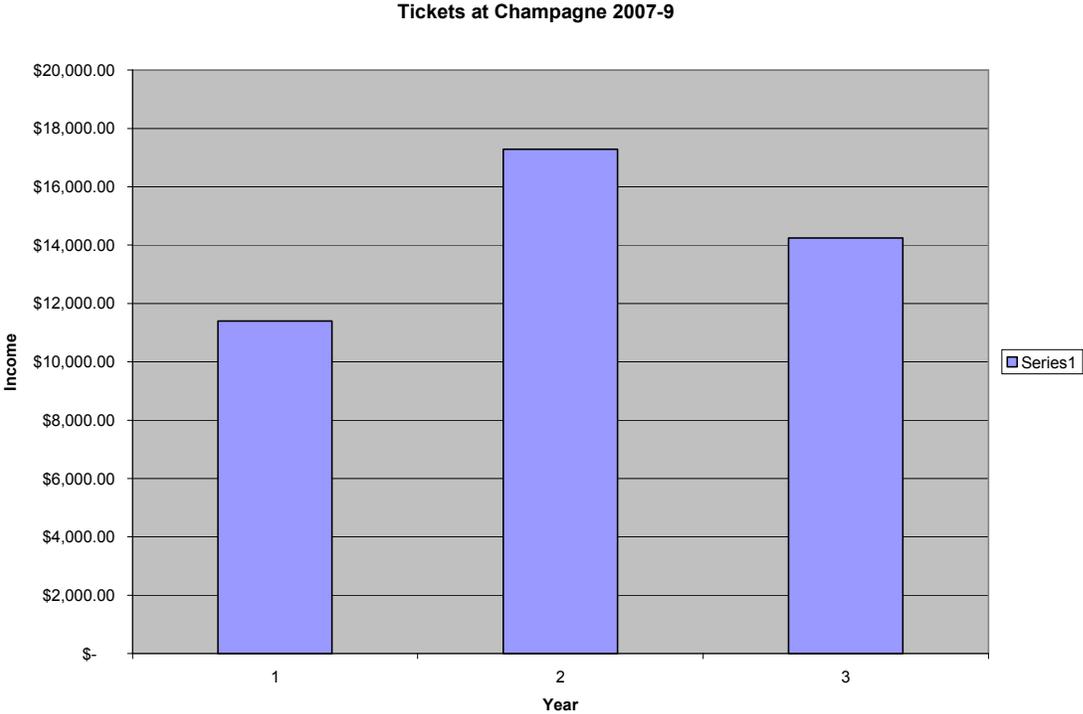
The table below represents island wide accommodation, not merely for the MPA

Include in valuation (yes or no)?	Accommodation Type*	Average Number of Rooms ^T	Average Occupancy Rate	Average Room Rate (price per night \$USD)	Total Number of Accommodations of This Type*	Percent of Visitors using Reef
N	Hotels	22	?	\$90.00	22	80.0%
N	Appt/villas/cottages	5	?	\$200.00	35	?
N	Guest Houses/ B&B	6	?	\$75.00	39	?
Total Number of Accommodations:					96	

The table below shows available ticket numbers for walk in visitors at Champagne (Anse Bateau) for the three years prior to the study. 2009 saw downturn in the global economy and this is reflected in the number of visitors to the island and here at the site.

Champagne

YEAR	TICKET BOOKS	individual tickets	USD	XCD
2007	285	5700	\$11,400.00	\$30,438.00
2008	432	8640	\$17,280.00	\$46,137.60
2009	356	7120	\$14,240.00	\$38,020.80



Graph 1: showing ticket sales per year 2007-2009

<u>Area and Habitat</u>		Data	Units
Total MPA Area		11	sq. Km
Total marine area		11	sq. Km
Total terrestrial area (if applicable)		0	
Total coral reef area			
Total mangrove area		0	
Coralline beaches present? (y/n)		0	
What town(s) or cities are close to the MPA, and/or utilize it for fishing and tourism?			
Local population (How many people live in these areas?)			
Management			
Primary managing organization		local	
Co-managing organization or agency (if applicable)		none	
Other		none	
Current (annual) cost of managing the park			
non-labor operating costs		\$22,346*	USD
labor costs		\$ 6,631*	USD
		\$16,015*	USD
Aspirational funding level		\$50,000*	USD

* denotes approximate values

Fees

Fee Type	# of Visitors Paying This Fee	Fee Amount	Total Revenues			
User fee	8,640	\$2	\$17,280.0			
			\$0.0			
			\$0.0			
			\$0.0			
Total Fee Revenues			\$17,280.0			

	Data	Year if different from above	Range (+/-) %	low	high
Number of recorded visitors to the MPA / year		2008		-	-
Recorded # of foreign visitors	8,640			-	-
Recorded # of domestic visitors	0			-	-
Do you believe visitation is under-recorded? (y/n)	Y				
If so, estimate the actual number of annual visitors:					
Corrected Foreign Visitors	Not available			-	-
Corrected Domestic Visitors				-	-

As previously discussed, the number of foreign visitors to the site is grossly underestimated; the figure above does not include those arriving by sea. Currently no figures are available for this. Domestic visitors do not pay to use the reserve. It is their resource.

Yachts & Liveboards

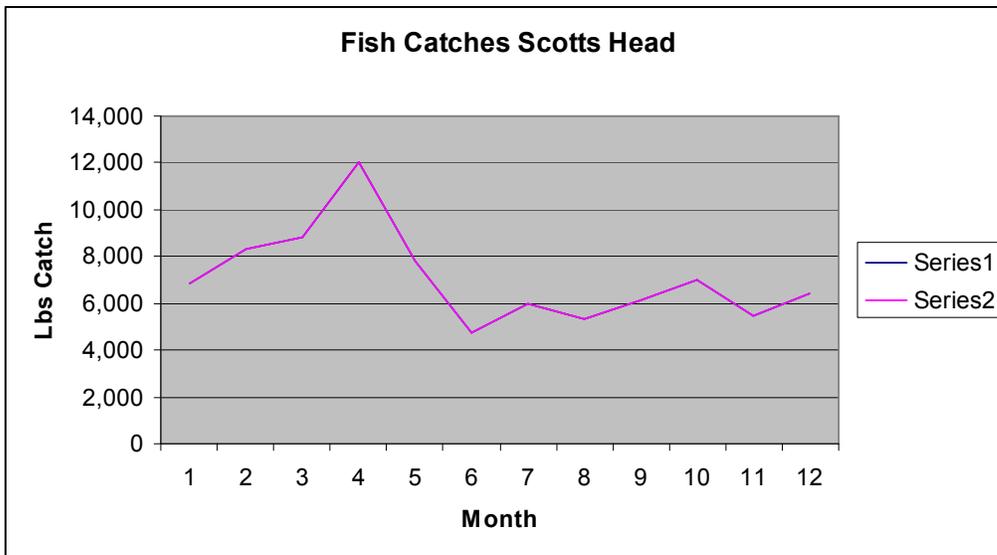
Yachting activities are not permitted within the boundaries of the reserve, there is no provision made for anchoring and all watersport activities have to be conducted through a watersport operator, this is coastwise.

Fisheries

As per the SROs for the reserve, fishing is prohibited in the area around Champagne and as such there is no data available. The wardens' patrol daily and the entire reserve is self policed, if a dive operator sees anything untoward, they alert the wardens and or Fisheries Division and action is taken.

Data collection for the tagged species, lobster, conch, finfish and “other” is not recorded as there is no fishery for them. The site described is in a no fishing zone and is monitored.

The nearest village with recorded catch is Scotts Head at the southernmost point of the island; it is approximately 3km from the study site. Fishermen here utilize Fish aggregating devices (FAD’s) for a more commercially viable catch, training for which was undertaken during the implementation phase of the MPA, none of the catch is exported.

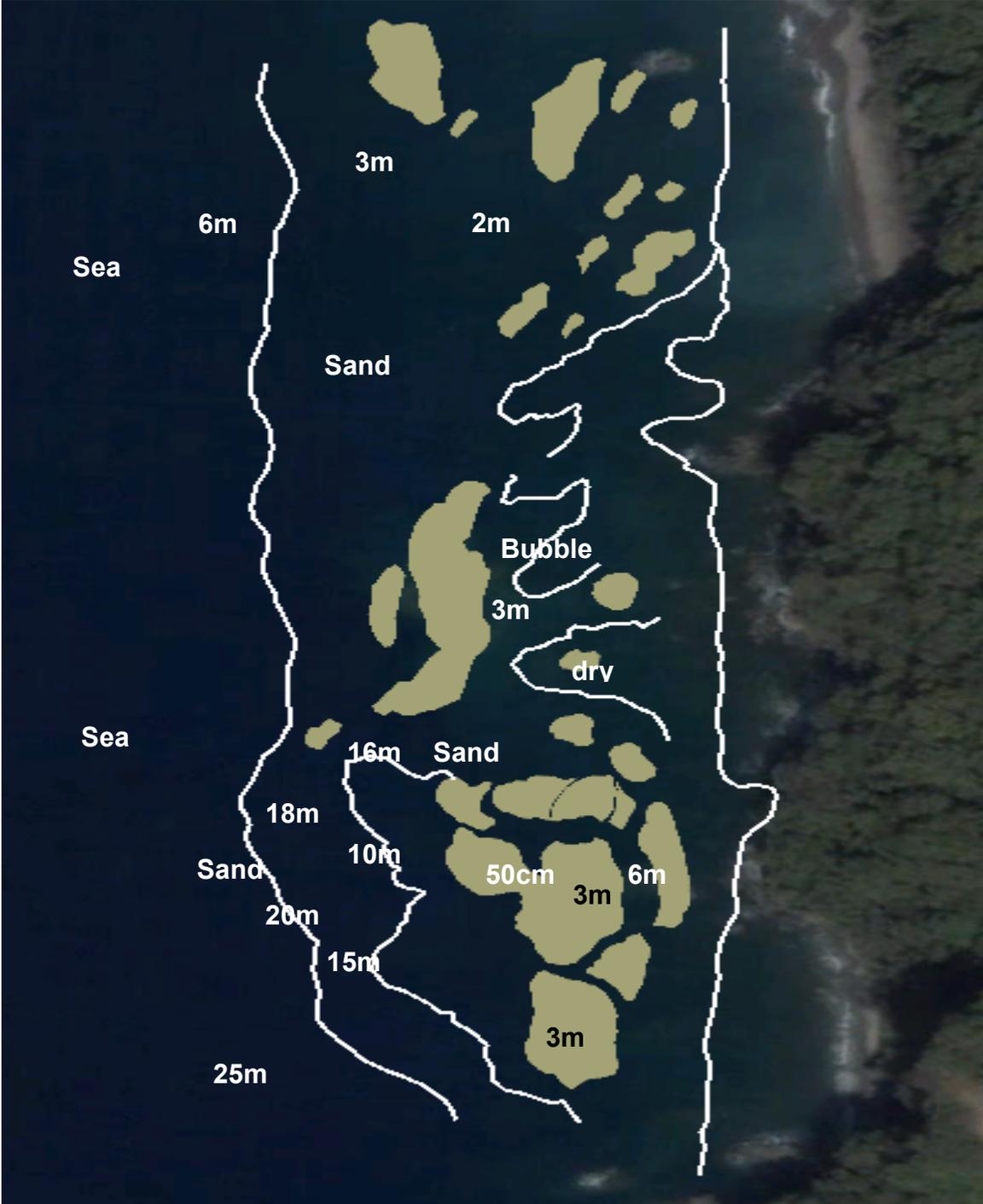


2008	
Month	Catch (Lbs)
Jan	6,862
Feb	8,278
Mar	8,858
Apr	12,001
May	7,832
Jun	4,768
Jul	6,007
Aug	5,304
Sep	6,111
Oct	6,973
Nov	5,502
Dec	6,427
	84,923

Graph 2: catch per month at Scotts Head.

The table and graph above show the monthly catch recorded by fisheries division for the year 2008.

Map of region



Images



Walkway constructed under the EU funded Ecotourism Development Program through the Ministry of Tourism, to facilitate walk in traffic to the site.



Acoropora palmata growth is good on the reef top, in clear shallow water with access to deep water nearby for nutrients.



Tourists enjoy the dramatic drop on the outside of the reef whilst snorkeling



Volcanic vents, giving the area its name.



Divers enjoying the hot water vents and bubbles streaming from the rock.

Acknowledgements

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All images: Images Dominica and Google Earth