



Community Action for Sustainable Use and Conservation of Coral Reefs

Annual Report 2

1st April 2006 – 31st March 2007



Darwin Initiative

Annual Report

Darwin Project Information

Project Ref Number	14-007
Project Title	Community Action for Sustainable Use and Conservation of Coral Reefs
Country(ies)	Sabah, Malaysia
UK Contract Holder Institution	Marine Conservation Society
UK Partner Institution(s)	a) International Coral Reef Action Network (ICRAN), Cambridge. b) University of Plymouth
Host country Partner Institution(s)	Sabah Parks Sabah Fisheries Department; Universiti Malaysia Sabah, WWF Malaysia
Darwin Grant Value	£140K
Start/End dates of Project	April 2005 – April 2008
Reporting period	1 st April 2006 – 31 st March 2007 Annual Report No 2
Project Leader Name	Elizabeth Wood
Project website	www.sempornaislandsproject.com
Author(s), date	Elizabeth Wood; Irwanshah Mustapa, April 2007

Please note: the Project partner in standard typeface is the main partner. Those in smaller type have also been involved.

1. Project Background

Community Action for Sustainable Use and Conservation of Coral Reefs is being implemented in the Tun Sakaran Marine Park (TSMP) in Sabah, Malaysia. The TSMP was gazetted in June 2004 following a previous project between Sabah Parks and the Marine Conservation Society funded by the EU Global Environment Fund.

Management of the site presents a radical new challenge because it is not only the largest MPA in Sabah, but the only one where local people live within the park boundaries, use the resources and in some case, own land and have 'Native Customary Rights'. The main challenge is to tackle the legacy of many years of unregulated and destructive fishing and to encourage alternative livelihoods which take pressure off the reefs.



Location map (modified from www.reefbase.org)



2. Project Partnerships

The partnership with Sabah Parks (our main project partner) has been good, particularly at the local level, with the staff at Sabah Parks Semporna. A new, senior staff member was appointed as Park Manager in 2006, and we have worked closely with him on all aspects of the project. He is also responsible for other Parks in the Semporna area, and because of this heavy work load welcomes the support, initiatives and capacity building being provided through the Darwin Project, which help to meet Sabah's CBD commitments.

Sabah Parks rangers and other field staff have also been actively involved in all the project activities (e.g. the Roadshow, Community Census, reef monitoring), and this has enhanced project progress and provided Sabah Parks staff with new skills. Our other partners in Sabah (Fisheries Department, WWF, Universiti Malaysia Sabah) were involved in the Workshop and Stakeholder Meetings and WWF has participated in the Roadshow.

During this year we have also worked in partnership with the International Coral Reef Action Network (ICRAN), based in Cambridge, specifically on the development of an educational cartoon colouring book for use in the project Roadshow. Although the book was produced for the Darwin project, ICRAN is keen for it to be adapted/translated and used in other areas. Another UK partnership this year is with Plymouth University and a postgraduate student who is carrying out a research project on aquaculture and tourism. He is based at Sabah Parks and working closely with local project and Sabah Parks staff.

The project has a link with the Sabah Wildlife Department (responsible for CBD matters in Sabah) – they attend Stakeholder meetings and receive copies of all the Project materials and information.

We also network and maintain links with the Sulu-Sulawesi Marine Ecoregion (SSME) programme, which is coordinated in Sabah by the Fisheries Department and WWF

and with the Darwin Project 13-009 (*Ethnobiology of proposed traditional use zones of Crocker Range Park*) because of common ground related to community-based management.

We have provided data on the population status of humphead wrasse in the Semporna area for a workshop on the endangered humphead wrasse held in Hong Kong in June 2006, organised by IUCN, TRAFFIC and WWF.

3. Project Progress

Progress in carrying out project activities

Output 1. Biodiversity conservation (no-take) zones in place and enforcement operating.

We have undertaken diverse activities this year to promote the establishment of the conservation zones. The location of no-take areas had been agreed in 2005-2006, but during this year we have had further debate and discussion with managers, local community and other stakeholders about the implementation timetable. The overall 'end-product' remains the same, but the timetable has been slightly refined, mainly in response to the practicalities of enforcement in the areas most distant from the Park Centre (Sibuan, Church Reef), and the needs of local communities (See *Workshop 3 Report; Stakeholder Meeting 2 Report*).

The final draft of the Park regulations (incorporating the zoning plan) was produced by the project team in November 2006 and passed to Sabah Parks and the Ministry for 'translation' into legal language prior to official endorsement/adoption (see *Final Draft Regulations for the Tun Sakaran Marine Park*). This latter process is still ongoing.

Information about the Conservation Zones has been widely disseminated during a Roadshow that began in January 2007 and is nearly complete (see *Tun Sakaran Marine Park Roadshow*). Over 50 villages and 18 schools are being visited, plus local government offices and tour agencies. This exercise is of major importance in ensuring that communities both outside and inside the Park are aware of the MPA, the no-take zones, protected species and other conservation initiatives and regulations.

Surveillance and enforcement of the no-take regulations in the lagoon Conservation Zone is very effective because Sabah Parks HQ staff have a clear view of the area through powerful binoculars and are proactive in stopping people fishing. Patrols around the outer areas are carried out most days, but the cost of fuel is a constraint and the number of rangers and other field staff has not expanded in line with the need for enforcement. However, this should improve soon. We have designed a 'No-take Zone' sign (see *poster*) and Parks staff are currently in the process of making and installing them in the sea and on the islands to mark out the conservation zones.

In order to try and boost stocks in the fully operational no-take zone in the lagoon we organised two separate trials involving the release of juvenile humphead wrasse (*Cheleinus undulatus*) and mouse grouper (*Cromileptes altivelis*). The main aim of these was to enhance biodiversity by boosting stocks of these over-exploited species and also to raise awareness of the types of conservation that can be taken (see report: *Fish enhancement trials in the Tun Sakaran Marine Park no-take zone*).

Output 2. Species and habitats 'at risk' and requiring special protection identified. Measures in place to protect 'at risk' species and habitats, and enforcement operating.

All the points covered in Output 1 are also relevant to Output 2 i.e. the 'species and habitats' component has been included in all the activities described above for the Conservation Zones. The end result is that we have final strategies in place, regulations produced, awareness conducted through the Roadshow and surveillance underway, particularly in the lagoon area.

Output 3. Resource use carried out under permit and according to agreed strategy.

All the points covered in Output 1 are also relevant to Output 3 i.e. the 'resource use' component of the project has also been included in the activities described in Output 1, and the same progress has been achieved. The end result is that we have final strategies in place, regulations produced, awareness campaign conducted through the Roadshow and surveillance underway, particularly in the lagoon area.

On a broader level, taking 'resource use' to also encompass general use of the MPA for other activities, we produced (June 2006) additional policy guidelines to those in the Action Plan (see: *Policy topics for TSMP*) and a discussion paper (April 2006) on visitor entry fees (see: *Introduction of visitor entry fees for the TSMP*).

In addition, we have been working on the development of the Permit Scheme (see *Proposed Permit Scheme and Permit Application Forms*). Introduction of permits is supported by the local community and should help to ensure that resource use in the Park is properly regulated. The permits have not actually been introduced yet, but the foundations are in place and we will be concentrating on assisting Sabah Parks to trial and implement the scheme during 2007-2008.

Output 4. Mariculture and Sea Ranching Programme developed and operational.

Our local project officer has overseen the design of the spawning and grow-out tanks and details of hatchery layout. The tanks have been made locally, and are now on-site as are pumps and pipes. Purchase of laboratory equipment is in hand (through a local contractor, with funds from the State Economic Planning Unit for all major items). During discussions with local communities we discovered that a fisherman on one of the islands was 'looking after' a number of giant clams, including two mature *Tridacna gigas* which we believe are the only specimens in the Park. The fisherman wanted to continue to be the owner of the clams, but has willingly loaned them for the breeding programme. We have moved the clams to the lagoon, adjacent to the hatchery, ready for in-situ spawning once the hatchery is ready.

The giant clams that were provided to local communities for the ranching trials have outgrown their cages and in September 2006 were moved to open areas for continued growth and monitoring. Irwan Mustapa (local project officer) has registered for a Masters Degree (research-based) with the Borneo Marine Research Unit, Universiti Malaysia Sabah, using the trials as the subject for his thesis.

During this year we have produced management recommendations for seaweed farming as an alternative livelihood. One of the challenges faced by Sabah Parks is to ensure that seaweed farming is properly managed so that local communities benefit, and there are no adverse environmental impacts (currently it is free enterprise, with

no controls or permits). The project team carried out surveys in October 2006 and produced a report for Sabah Parks that is being used as a basis for management (see

Report: *Seaweed farming on the Sebangkat-Selakan reef top: Current situation and management recommendations*).

We have also held discussions with the Bajau Laut, through our Liaison officer and other project staff, to explore the possibilities of engaging the BL in seaweed farming, and prepared a proposal for Sabah Parks (see proposal: *Training of Bajau Laut in seaweed farming*).

We have, through the project, also initiated a study on the '*Integration of aquaculture with community-based tourism*'. This activity is being carried out by a postgraduate student at Plymouth University. He is currently based in the Sabah Parks HQ in Semporna (Jan – Aug 2007) and working closely with SP staff. The study is the first of its kind and we believe will provide a sound basis for Integrating invertebrate ranching, seaweed cultivation and community-based tourism in the Tun Sakaran Marine Park (see *Project Brief*).

Output 5. Reef biodiversity monitoring programme established and functioning.

Coral reef fish monitoring training and fieldwork was carried out in May 2006, with a team comprising 2 Project staff, 4 Sabah Parks staff and 3 members of the local community (see *Coral reef fish monitoring in TSMP*). The aim was to obtain baseline information about the distribution and abundance of fish at different sites in the Park and also to increase local capacity to monitor reef biodiversity. The permanent monitoring sites were also successfully re-surveyed in November 2006 and will be surveyed again in 2007. Data have been entered into the database and an interim report is in preparation.

Action was taken jointly with Sabah Parks to clean-up a localised outbreak of crown-of-thorns starfish (see *Crown-of-thorns starfish outbreak and clean-up in TSMP*). We also altered Sabah Parks and other authorities to the continuing problem of fish blasting in the Park (see report).

Several staff from the Sabah Parks Marine Unit moved to the Semporna Parks complex in 2006, and this has provided excellent opportunities for collaborative studies and to share and transfer knowledge. In March 2007 we participated in a *TSMP Marine Scientific Expedition* with the Marine Unit, which included surveys of seagrass, mangrove and coral reefs, and surveys of established Reef Check sites (see Programme schedule). We will be expanding these joint activities during 2007 – 2008.

Monitoring results were discussed in the Seminar held during the Marine Science Expedition, and a workshop is scheduled for later this year.

Output 6. Socio-economic monitoring programme established and functioning.

This programme is progressing well, with several major activities undertaken. A *Community Census* was carried out between June and September 2006, with the aim of visiting all the households currently living in the Park and obtaining up-to-date information on socio-economic aspects such as the location and size of the settlements, ethnicity and citizenship, types of residence, jobs and income. In addition, information was gathered on craftwork, culture and traditions, including migratory patterns within the Bajau Laut (see *Socio-Economic Monitoring in the Tun Sakaran Marine Park: Results of the 2006 Community Census*).

Other socio-economic monitoring carried out this year included an analysis of the current economic value of seaweed farming in the Park, and incomes generated (see Report: *Seaweed farming on the Sebangkat-Selakan reef top: Current situation and management recommendations*).

We also carried out an investigation into the *use and availability of fish species in TSMP* (see attached document). This investigation was conducted through interviews with local fishermen and has provided useful data on the range of species utilised, together with their value and availability. The results are currently being analysed alongside data on fish distribution and abundance obtained from underwater surveys.

Output 7. Interactive Environmental Management and Information Planning System (EMIPS) installed and Sabah Parks staff trained in its operation.

We have continued to organise and enter information into the EMIPS database and in addition have also been developing a GIS system (mapinfo) to run in parallel with EMIPS. An explanation of the EMIPS system was presented to Sabah Parks staff during a project planning meeting in November 2006 and the full training session is a priority action for this year.

3.2. Progress towards Project Outputs

The strategies for biodiversity conservation, species/habitat protection and resource use have been agreed and translated into regulations. The assumption that stakeholders views would not conflict to the point where compromises would have to be made or decision-making delayed have held true.

Considerable efforts have been made to ensure that local communities are aware of the regulations and the major challenge in the coming year is to ensure that the permit system is operational and to strengthen the surveillance and enforcement programme so that biodiversity conservation, species protection and sustainable resource use goals are reached. Fish blasting is still a problem (see *Report on Fish Blasting*) and will be one of our priorities for action during 2007-2008.

The mariculture and sea ranching output is going more slowly than we had hoped. There have been continued, unanticipated, delays in constructing the platform for the seawater storage tanks (apparently due to 'problems' with the contractor). However, we now have broodstock 'on standby' and believe we should be able to begin to produce seed for grow-out very soon (see *Newsletter Issue 4*).

To compensate for the slow progress with the hatchery we are taking steps to engage Bajau Laut communities in seaweed farming, which would be an additional alternative to the invertebrate ranching. The assumption that local fishermen would be supportive of the mariculture and sea ranching programme still holds true. The study on aquaculture and eco-tourism is important because it will pinpoint ways in which these two activities can be integrated to improve local community livelihood opportunities. We have also been investigating other alternative livelihoods, such as mat-making. We are fully aware of the necessity to promote alternative livelihoods, in order that local fishermen do not suffer hardship as a result of the fishing restrictions imposed through the zoning plan.

We are satisfied with the progress on reef biodiversity and socio-economic monitoring and believe that our goals will be achieved. The assumption that local people are motivated to participate in the monitoring programmes still holds true. We do, however,

give an 'honorarium' for participants and we will need to plan how this system can be maintained beyond the life of the project.

Work on EMIPS has continued but the full training session has been deferred for a few more months until we are certain there will be no more changes to the management framework encompassed in the regulations and permit system. The regulations should have been ratified by the Sabah Parks Board of Trustees (BOT) and the State Cabinet last year, but there have been delays because of a changeover in the BOT members which means there have been no meetings for 5 months. We acknowledge there is slippage with this output, but Sabah Parks are in agreement that we should wait until the regulations have gone through all the legal processes before we launch the training programme. This is a delay rather than a change in project output.

Standard Output Measures

Table 1. Project Standard Output Measures

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	TOTAL
2	Masters qualification				
	i) Malaysian		1		
	ii) UK		1		
3	Sabah Parks staff trained and passed accredited 'PADI open water diver' Course.	4			
4A	Training and work experience for Malaysian undergraduates in awareness programme and data collection analysis		2		
4B	Number of days re above		6 days		
6A	i) Part-time local (Malaysian) project staff trained in socio-economic data collection.	3	6		
	ii) Sabah Parks staff trained in reef monitoring.	4	4		
	iii) Local Community members trained in reef monitoring.	3	3		
	iv) Part time local (Malaysian) community trained in education/awareness procedures for Roadshow		7		
6B	i) Each for 3 days in 2006	9 days			
	Each for 2 days in 2007		12 days		
	ii) Each for 2 days	8 days	8 days		
	iii) Each for 2 days	6 days	6 days		
7	Training Manual for Reef Check	1			

	monitoring produced in Bahasa Malaysia		
	Posters in Bahasa Malaysia covering proposed zoning scheme, regulations, permits and other topics.	10	5
	Information leaflet produced in 4 languages (BM, Bajau, Suluk, English)	1	
	20 minute project DVD in 4 languages	1	
8	Weeks spent by UK project staff on work in host country	22	30
9	Action Plan and proposed regulations	1	
	Final draft regulations for TSMP		1
	Seaweed farming management recommendations & guidelines		1
14A	Seminar on Mariculture & Sea Ranching	1	
14B	1 st Asia Pacific Coral Reef Symposium (Hong Kong)		1
	Marine Science Expedition Research Seminar (Semporna)		1
15B	Press Release on first Boatshow and Workshop	1	
	Press releases on fish stock enhancement & giant clam programme		2
16A	Newsletters	2	2
16B	Approx circulation in host country	400	400
	Approx circulation in UK	80	60
20	Reference books, survey equipment, LCD projector, DVD player & speakers	1,500	
	Survey and hatchery equipment		750
22	Monitoring sites established	14	2
23	Sabah Parks logistical support, Ministry sponsor of DVD, + various grants	30,450	
	SP logistical support (in kind value)		16,000
	Grants		6,525
	Additional outputs		
	Local community workshop (policy-making)	2	1
	Stakeholder Meeting	1	1
	Interactive educational & information-gathering materials for adults & children	4	6
	Permanent monitoring sites maintained	7	7

Table 2. Publications

Type *	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £
Newsletters (English version)	*SIDP News: Issues 3 (& 4		On website: www. sempornaislandsproject.com	
Report	Action Plan & Proposed regulations E Wood/SIDP 2006		On website: www. sempornaislandsproject.com	

3.4 Progress towards the project purpose and outcomes

The different elements of the project are leading in the right direction as explained in 3.3. Our assumption that all Partners and local communities would remain committed to the programme is holding true.

3.5. Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

Please see comment above – we feel we will be in a better position to properly assess the impact at the end of the project.

4. Monitoring, evaluation and lessons

We are continuing to use the logical framework as a basis for monitoring and evaluation, as described in sections 3.1. – 3.4. We also regularly discuss progress and problems within the Project Team and with Sabah Parks. We believe that the qualitative and quantitative ‘measurable indicators’ set out in the original logical framework (see Annex 2) provide a good measure of whether the project is achieving its aims and will reach its final goal.

Where possible we have investigated the effectiveness of project activities. For example during the Awareness Roadshow we asked participants if they were aware of the existence of the Park and the regulations. The data are still being analysed, but a high percentage were not aware of either – demonstrating the value of conducting the Roadshow and increasing people’s awareness.

One of the key lessons that we have learnt – just as last year – is the importance of being flexible and responding to new ideas and suggestions that will help us to meet the project goals of biodiversity conservation and sustainable use.

5. Actions taken in response to previous reviews

We were pleased to get detailed comments and questions from the reviewer – these raised a number of relevant and interesting points. Our responses and action taken are as follows:

a) Zoning Plan

The fact that there was less support for/certainty about the zoning plan in the second workshop may perhaps have been partly due to fears about loss of fishing grounds, but it is also possible that there were concerns about what other activities could/could not be carried out in the Conservation Zones. There may have been a misconception that the 'Red Zone' meant 'no entry zone' and over this past year we have been careful to make sure that people understand that the Conservation Zone is 'no-take' but not 'no-activity'. Please note that support for the Zoning Plan was high in the consultation carried out during the 3rd Workshop (see *Workshop Report*). The community representatives at the workshop are 'legitimate local community' (landowners or claimants of Native Customary Rights).

b) Alternative livelihoods

This is a valid point and is one of the aspects that most concerns us. In response to your questions:

- Seaweed farming: we have now in fact recommended an expansion of the seaweed-growing area specifically in order to try and get the Bajau Laut engaged in this activity (see Proposal: *Training of Bajau Laut in seaweed farming*). The Bajau Laut are heavy users of marine resources and have few other alternative livelihood opportunities. We have discussed this plan with the Bajau Laut and many would like to farm seaweed but don't have the expertise or funds to get started. We have also recommended a 'rationalisation' within the main seaweed-growing area, in particular to ensure that local people have access to a 'plot' of sufficient size for them to make a living. This is quite a politically sensitive issue because many of the current workers are 'illegals' (no documents; mainly from the Philippines). So in fact they are not really 'legitimate local community' and could be replaced by the Bajau Laut who we argue (and Sabah Parks agree) have a greater right to stay and work in the Park, even though they are Stateless. However, as far as the Project is concerned, we are committed to try and ensure that people who are living in the Park can farm seaweed to make a living – regardless of their citizenship status. It is up to the State/Federal government and Immigration Department to deal with these complex matters.
- Sea ranching: although the sea ranching trials are still at a fairly early stage, we remain confident that the techniques can be established. Unfortunately we are still hampered by the delays in preparing the hatchery for production of seed animals. The hatchery building was completed in May 2006, but there have been long delays in construction of a platform and installation of seawater and freshwater storage tanks. These tasks are in the hands of Sabah Parks and their contractors and for some reason there has been one delay after another. We are looking at ways of starting small-scale spawning trials with the facilities currently available and then expanding once the storage tanks are installed. Discussions about the future staffing and management of the hatchery are currently underway and it may become a separate commercial enterprise. A marketing study was carried out several years ago and we plan to update and reassess this during this year.

- Partly because of these problems and setbacks with the hatchery, and also because we are aware of the need to diversify and encourage other alternative livelihood opportunities, we have been investigating the possibility of training the Bajau Laut in seaweed farming (see above). Also since carrying out the Community Census we have become aware of the strong tradition of mat-making among the Bajau community. Currently these are mainly used in the household and presented as wedding gifts, but there is potential for small versions to be made for the tourist market. The local community is interested in this and we will be following up this and other ideas this year.
- Clam stocks: Although juvenile clams were imported from the Philippines for the sea ranching trials, we will be using local broodstock for subsequent production of seed animals. We have been loaned 2 mature *Tridacna gigas* by one of the local community – he had obtained these from the Bajau Laut about 10 years ago and kept them close to his house. We also have access to other specimens elsewhere in Sabah. Disease does not seem to be a particular issue for giant clams and the imported specimens were properly quarantined before being sent from the Philippines.
- Mariculture: the areas to be used for grow-out (sea ranching) are on the back reef/reef top where the water depth is 2m or more at low water and the seabed is predominantly sand with some small rubble. There is also some rock and live hard/soft coral in patches in some of the seaweed growing areas but the presence of the seaweed (surface lines) does not appear to be having a detrimental impact (see *Seaweed Farming report*).

c) Boatshows

The level of literacy is variable. About 50% of respondents interviewed during the Community Census had no schooling, but there is often one person in the household who can read. Interestingly, people seemed to have a reasonable understanding of the maps, as shown by the way they participated in the map-based activities (naming places and occurrence of rare species). Although the Boatshow visits have been relatively short, we have made repeat visits to consolidate the messages. We have also showed the DVD to every community during the census and again during the recent Roadshow – this is popular and hopefully the information about zoning and the permit scheme are digested. During the recent Roadshow we have left posters (enclosed) at every village and a copy of the Park regulations with the Headman, so that people have reference material to hand.

d) Gleaning

We have not yet carried out field surveys/interviews to determine if any of the species are declining, but do intend to pursue this study over the coming year. The community were not enthusiastic about any controls or closure as they consider they have traditional customary rights of use.

e) Newsletter audience

The target audience is quite wide. The newsletters go to government departments and other agencies, plus tour operators etc, in order to increase awareness of the project and its activities. We also distribute copies to local communities but as explained above have been using other more visual ways of disseminating information as well. Radio and TV are not widely used on the islands because of intermittent (or non-existent) power and cost of appliances (when we take the DVD we run it on a rechargeable car battery). Drama is a good idea and our Malaysian project officer is shortly going to attend a Training Course on Conservation Education run by the Global Diversity Foundation as part of another Darwin Project in Sabah.

f) Terrestrial conservation areas

Current use of the proposed terrestrial conservation areas is low because they used to be Forest Reserve. Although this designation was not particularly well enforced (many timber trees were removed illegally and wild animals hunted) people were still aware of the protected status and had not come to rely on these resources for their livelihoods.

g) Tourism

The area undoubtedly has great potential for tourism – the main challenge will be to try and ensure that local people benefit. We are trying to promote this approach (e.g. see Permit Application forms – which specifically ask how many local people will be employed), and also trying to promote the Homestay Programme.

h) Reefcheck sites

Although the wooden stakes do sound a bit unusual, they are effective because they stand out well and are long-lasting because they are made of belian which is extremely hard (it is used for houses that are built in the sea, and said to last for 150 years!). We have also used reinforcing bars and angle iron, and pvc pipe is another possibility - thanks.

i) EMIPS

Yes, there will be a simplified manual version – we are working on this concurrently with the digital version. Sabah Parks have not yet been involved in data entry as this will be part of the (delayed) training course. Computer access and usage is widespread in SP and increasing rapidly and we also know that there will be more staff brought in year-by-year, so freeing up more staff time.

j) Surveillance & enforcement

Yes, it is operating – please see section 3.1.

k) 'At Risk' habitat maps

Yes, these are incorporated in the GIS system.

6. Other comments on progress not covered elsewhere

No additional comments

7. Sustainability

We have continued to use various methods to promote the project, ranging from local community and stakeholder meetings to circulation of project reports and newsletters. The Education and Awareness Roadshow has reached a large audience many of whom were previously unaware of the project, or the existence of the Park. The website has also elicited interest and queries both inside and outside Malaysia.

The new Sabah Parks Manager in Semporna, together with SP rangers and other field staff have been actively involved in all the project activities and this has enhanced project progress and provided Sabah Parks with new skills and capacity for Park management which will contribute to the long-term legacy of the project.

The strategies developed with local communities through the project have been formulated into regulations that will provide a solid framework for biodiversity conservation and sustainable use of natural resources. We will be working during the final year to ensure that these strategies are turned into a working management system that will endure into the future.

8. Dissemination

The dissemination activities have been an important component of the project and are described in more detail in Section 3. They fall into several categories in terms of target audiences:

- i. Roadshow for the wider community and Park community
- ii. Workshop for local community representatives (mainly the land owners and claimants of customary rights in the Park)
- iii. Stakeholder meeting for representatives from the State Government and other government departments, NGOs and academic institutions.
- iv. Seminar on marine research and monitoring for Sabah Parks, involving Marine Unit staff.

Discussions are underway with Sabah Parks and the Local Community Forum for continuation of the dissemination programme, and we will be putting forward ideas about how dissemination can be built into the Park Development plan.

9. Project Expenditure

Table 3: Project expenditure during the reporting period (Defra Financial Year 01 April to 31 March)

b) OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum)

■ I agree for ECTF and the Darwin Secretariat to publish the content of this section

The **Community Census** has been one of the most successful project activities this year. This ran over a period of several months, and entailed lengthy interviews with each of the 387 households in the Park. It has provided a snapshot of the current socio-economic profile of the Park community that will help to assess people's current activities and needs and can be used to measure future improvements in job opportunities and income. Conducting the census was also a useful capacity-building exercise for the project partners and has helped to continue to build up further dialogue and good relationships with the local community.

The **SIDP Roadshow** has also been of major importance in ensuring that communities both outside and inside the Park are aware of the MPA, the no-take zones, protected species and other conservation initiatives and regulations. Over 50 villages and 18 schools have been visited, plus local government offices and tour agencies. A number of activities were developed to engage both children and adults, one of which was a specially-designed cartoon colouring book that brings home messages about fish blasting, litter and other reef conservation issues through an entertaining story line. The Roadshow team includes the Bajau Laut Liaison Officer, and the project is continuing to cross boundaries and engage closely with all sectors of the local community.

A novel research programme has been launched this year, looking at the potential for **integrating aquaculture with community-based tourism**. The study is the first of its kind and is important because one of the outcomes will be a plan for how these two activities can be combined to improve local community livelihood opportunities in the Tun Sakaran Marine Park. Thus activities such as seaweed farming and giant clam cultivation could provide dual incomes from the product itself and from visitor income, and could also be of value in increasing general awareness about sustainable methods of marine resource use.

Another achievement this year was to organise a **fish stock enhancement trial**. This involved the release of small numbers of juvenile humphead wrasse (*Cheileinus undulatus*) and mouse grouper (*Cromileptes altivelis*) into one of the newly-created 'no-take' zones in the Park. The trial not only highlighted the existence of the Conservation Zone to the public, but also illustrated the positive actions that can be taken to help promote the recovery of biodiversity. The mouse grouper trial was in collaboration with the Sabah Fisheries Department, who had cultured the fish, and provided a positive conservation story for a CBBC Saving Planet Earth feature that will be screened later this year.

ANNEX 1 Report of progress and achievements against Logical Framework for Financial Year: 2006/07

<i>Project summary</i>	<i>Measurable Indicators</i>	<i>Progress and Achievements April 2006 - March 2007</i>	<i>Actions required/planned for next period</i>
<p>Goal: To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</p> <p>The conservation of biological diversity,</p> <p>The sustainable use of its components, and</p> <p>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</p>			(do not fill not applicable)
<p>Purpose Coral reef biodiversity protected and programme for sustainable use of reef resources established through implementation of integrated strategies devised jointly by reef managers, local communities and other stakeholders.</p>	<ul style="list-style-type: none"> ○ Biodiversity conservation zones operational by yr 2. ○ Species and habitats 'at risk' given special protection by yr 1. ○ Resource use carried out under permit and according to agreed strategy by yr 2. ○ Alternative livelihoods programme operating and evidence of economic viability by yr 3. ○ Direct exploitation of reef resources reduced by yr 3. ○ Evidence of recovery of protected and /or managed species and habitats by yr 3. 	<p>Partners and local communities have remained committed to the programme. Strategies have been agreed and good progress made on measures for biodiversity conservation, protection of species/habitats and sustainable resources use.</p>	<p>Further development of alternative livelihoods programme.</p> <p>Increased effort to introduce effective enforcement and surveillance.</p>

<p>Output 1. Biodiversity conservation (no-take) zones in place and enforcement operating.</p>	<ul style="list-style-type: none"> ○ Options for location of zones and boundaries produced by month 6. ○ Boundaries decided and implementation timetable agreed by yr 1. ○ First conservation zones established in yr 2 and additional ones by yr 3. ○ Surveillance and enforcement mechanisms developed and operational by yr 2. 	<p>Implementation timetable for the Biodiversity Conservation Zones refined</p> <p>Biodiversity Conservation Zone in the Bodgaya lagoon area operating effectively.</p> <p>Indicators considered appropriate – if we can ensure that the no-take zones are fully operational at the end of the project this will be a major step in conservation of biodiversity.</p> <p>Major activities in 2007-2008 will be to further develop and strengthen the surveillance and enforcement programme, and to ensure that the other Conservation Zones are introduced as planned.</p>
<p><i>Activity 1.1</i> Final review of plans with project partners and Park rangers (by e-mail and through meetings)</p>	<p>During each of the activities (1.1. to 1.3), there was further debate and discussion with managers and stakeholders about the implementation timetable for the introduction of the ‘no-take (Conservation) zones’. The overall ‘end-product’ remains the same, but the timetable was slightly refined, mainly in response to the practicalities of enforcement in the areas most distant from the Park Centre (Sibuan, Church Reef), and the needs of local communities. (See <i>Workshop 3 Report; Stakeholder Meeting 2 Report</i>)</p>	
<p><i>Activity 1.2.</i> Local Community Workshop September 2006</p>		
<p><i>Activity 1.3.</i> Stakeholder Meeting Sept 2006</p>		
<p><i>Activity 1.4.</i> Drafting of official regulations for the Park November 2006, incorporating Zoning Plan</p>	<p>Final draft of the Park regulations was produced in November 2006 and passed to Sabah Parks and the Ministry for ‘translation’ into legal language prior to official endorsement/adoption.</p>	
<p><i>Activity 1.5.</i> SIDP Roadshow conducted</p>	<p>Launched in January 2007 and nearly complete. Major importance in ensuring communities both outside and inside the Park are aware of the MPA, the no-take zones, protected species and other conservation initiatives and regulations.</p>	
<p><i>Activity 1.6.</i> Patrols and surveillance by Sabah Parks field staff</p>	<p>Effective surveillance in lagoon Conservation Zone. Patrols and enforcement elsewhere need strengthening.</p>	
<p><i>Activity 1.7.</i> Fish stock enhancement trials</p>	<p>Two separate trials have been carried out, the first with the humphead</p>	

		wrasse (<i>Cheleinus undulatus</i>) and the second with the mouse grouper (<i>Cromileptes altivelis</i>). The main aim of these was to enhance stocks of these over-exploited species in the no-take zone.
<p>Output 2.</p> <p>Species and habitats ‘at risk’ and requiring special protection identified.</p> <p>Measures in place to protect ‘at risk’ species and habitats, and enforcement operating.</p>	<ul style="list-style-type: none"> ○ Draft list of ‘at risk’ species produced by month 6. ○ Draft list of ‘at risk’ habitats produced by month 6 ○ Lists agreed by yr 1. ○ Surveillance and enforcement mechanisms developed and operational by yr 2. 	<p>As with the Conservation Zones, there have been some small adjustments and refinements, but the overall approach and ‘end-product’ remain the same.</p> <p>The indicators are considered appropriate – the main challenge is to develop and strengthen the surveillance and enforcement programme.</p>
<i>Activities: please refer to activities 1.1 – 1.6</i>		The ‘species and habitats’ component of the project was included in each of the activities 1.1 – 1.6, and similar progress achieved as reported for the Conservation Zones.
<p>Output 3.</p> <p>Resource use carried out under permit and according to agreed strategy.</p>	<ul style="list-style-type: none"> ○ Draft strategy for resource use produced by year 1. ○ Strategy agreed by yr 1. ○ Strategy operational with surveillance, enforcement and monitoring mechanisms in place by yr 2. 	<p>Detailed strategies for resource use agreed.</p> <p>Permit Scheme developed and is ready for implementation.</p> <p>The indicators are considered appropriate – the main challenge in the coming year is to make the permit system operational and strengthen the surveillance and enforcement programme.</p>
3.1. See Activities 1.1.- 1.6.		The ‘resource use’ component of the project has also been included in activities 1.1. – 1.6 and similar progress was achieved as reported for the Conservation Zones.
<p><i>Activity 3.2.</i></p> <p>Development of Permit Scheme (see <i>Proposed Permit Scheme</i> and <i>Permit Application Forms</i>)</p>		The permits have not actually been introduced yet, but the foundations are now in place and we will be concentrating on assisting Sabah Parks to implement the scheme this year.

<p>Output 4. Mariculture and Sea Ranching Programme developed and operational.</p>	<ul style="list-style-type: none"> ○ Resource surveys to locate broodstock of selected species by mo 6. ○ Culture underway by yr 1. ○ Village-run ocean nursery sites selected by yr 1. ○ 10 communities (c. 50 fishers) trained in sea ranching by yr 2. ○ Sea ranching units fully operational by yr 3. 	<p>Giant clam broodstock 'on standby' and believe we hope to begin to produce seed for grow-out very soon.</p> <p>Action being taken to see if it is possible to engage Bajau Laut communities in seaweed farming, and are also looking at other alternative livelihood alternatives.</p> <p>The indicators are still appropriate, although as mentioned above, we feel that introducing alternative livelihoods is the key challenge, and that we should (and will) therefore also be investigating jobs in other fields – for example in tourism.</p>
<p><i>Activity 4.1.</i> Hatchery development.</p>		<p>Delays encountered, but tanks, pumps and ancillary equipment ready.</p>
<p><i>Activity 4.2.</i> Study for Masters Degree in giant clam sea ranching</p>		<p>Local project officer has registered for a Masters Degree (research-based) with the Borneo Marine Research Unit, Universiti Malaysia Sabah and completed much of the work for his thesis.</p>
<p><i>Activity 4.3.</i> Procurement of giant clam broodstock</p>		<p>Locally sourced mature <i>Tridacna gigas</i> broodstock moved to the lagoon, adjacent to the hatchery, ready for in-situ spawning once the hatchery is ready.</p>
<p><i>Activity 4.4.</i> Continued monitoring of farmed clams</p>		<p>Clams moved from ranching cages to open areas for continued growth.</p>
<p><i>Activity 4.5.</i> Management recommendations for seaweed farming as an alternative livelihood</p>		<p>Survey of seaweed farming carried out and report produced for Sabah Parks that is being used as a basis for management.</p>
<p><i>Activity 4.6.</i> Study on integration of aquaculture with community-based tourism</p>		<p>Research project being carried out in collaboration with Sabah Parks by postgraduate student from Plymouth University.</p>
<p><i>Activity 4.7.</i> Investigation of handicraft expertise and production by TSMP communities</p>		<p>Study underway with view to producing recommendations for how handicraft production might be integrated into the alternative livelihoods programme.</p>

<p>Output 5. Reef biodiversity monitoring programme established and functioning.</p>	<ul style="list-style-type: none"> ○ Monitoring protocols defined by yr 1. ○ 4 SP staff & 8 local people trained in monitoring by yr 1. ○ First set of data by end yr 2. ○ Workshop by end yr 2 ○ Report produced by yr 3. 	<p>Good progress with involvement of local community and Sabah Parks staff as planned. Results discussed in the Seminar held during the Marine Science Expedition; workshop scheduled for later this year.</p>
<p><i>Activity 5.1. Coral reef fish monitoring</i></p>		<p>Coral reef fish monitoring fieldwork carried out in May 2006, with mixed team of Sabah Parks staff and local community.</p>
<p><i>Activity 5.2. Surveys of Permanent Monitoring sites</i></p>		<p>Surveys successfully completed</p>
<p><i>Activity 5.3 Marine Scientific Expedition and Seminar with Sabah Parks Marine Unit:</i></p>		<p>Marine Scientific Expedition carried out in March 2007, including surveys of seagrass, mangrove and coral reefs.</p>
<p>Output 6. Socio-economic monitoring programme established and functioning.</p>	<ul style="list-style-type: none"> ○ Protocols for monitoring programme defined by yr 1. ○ 2-3 Sabah Parks staff trained in monitoring techniques by yr 2. ○ 12 local village community representatives trained in data collection by yr 2. ○ First set of data produced by end yr 3. 	<p>Work on this output has been progressing well, with the completion of the Community Census in the Park.</p> <p>Socio-economic data were also collected during the Roadshow (activity 1.5.) from people living outside the Park.</p> <p>Both these activities have involved hands-on training and then extended periods of data-collection involving both Sabah Parks staff and local people from the Semporna area and the islands.</p>
<p><i>Activity 6.1. Community Census 2006</i></p>		<p>Completion of in-depth study that provides a detailed socio-economic profile of the local community</p> <p>In 2007-2008 we will be setting out a plan for continued socio-economic monitoring beyond the life of the project.</p>
<p><i>Activity 6.2. Seaweed farming study (see Activity 4.5)</i></p>		<p>This study included an analysis of the current economic value of seaweed farming in the Park, and incomes generated.</p>
<p><i>Activity 6.3. Use and availability of fish species in TSMP</i></p>		<p>An investigation conducted through interviews with local fishermen.</p>

		Results are currently being analysed alongside data on fish distribution and abundance obtained from underwater surveys.
<p>Output 7. Interactive Environmental Management and Information Planning System (EMIPS) installed and Sabah Parks staff trained in its operation.</p>	<ul style="list-style-type: none"> ○ Introductory training of 3-4 Sabah Parks staff by yr 1. ○ Site data entered into EMIPS yr 1. ○ Further training in operation and application of EMIPS by yr 2. ○ System fully operational by yr 3. 	Work on EMIPS development has continued but the full training session has been deferred for a few months until we are certain there will be no more changes to the management framework encompassed in the regulations and permit system.
Activity 7.1. Data entry and GIS development		Data organised and entered into the EMIPS database and in addition have also been developing a GIS system (mapinfo) to run in parallel with EMIPS.
Activity 7.2. etc Pre-training briefing on EMIPS		Explanation of the EMIPS system presented to Sabah Parks staff in November 2006. The full training session is a priority action for this year.

Annex 2. Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal:</p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve:</p> <ul style="list-style-type: none"> • the conservation of biological diversity, • the sustainable use of its components, and • the fair and equitable sharing of benefits arising out of the utilisation of genetic resources 			
<p>Purpose</p> <p>Coral reef biodiversity protected and programme for sustainable use of reef resources established through implementation of integrated strategies devised jointly by reef managers, local communities and other stakeholders.</p>	<ul style="list-style-type: none"> ○ Biodiversity conservation zones operational by yr 2. ○ Species and habitats 'at risk' given special protection by yr 1. ○ Resource use carried out under permit and according to agreed strategy by yr 2. ○ Alternative livelihoods programme operating and evidence of economic viability by yr 3. ○ Direct exploitation of reef resources reduced by yr 3. ○ Evidence of recovery of protected and /or managed species and habitats by yr 3. 	<ul style="list-style-type: none"> ○ Reports, maps and other publications. ○ On-site notices and boundary indicators for Biodiversity Conservation Zones. ○ Field survey reports. ○ Monitoring reports (biodiversity, resource use, socio-economic status). ○ Community-run enclosures (pens) for grow-out of marine invertebrates (sea ranching). ○ Marketing plan for ranched animals. 	<p>All Partners and local communities remain committed to the programme.</p>
<p>Outputs</p>			
<p>Biodiversity conservation (no-take) zones in place and enforcement operating.</p>	<ul style="list-style-type: none"> ○ Options for location of zones and boundaries produced by month 6. ○ Boundaries decided and implementation timetable agreed by yr 1. ○ First conservation zones established in yr 2 and additional ones by yr 3. ○ Surveillance and enforcement mechanisms developed and operational by yr 2. 	<ul style="list-style-type: none"> ○ Report with options for location of no-take zones. ○ Records of stakeholder meetings. ○ Workshop reports. ○ Document and maps showing agreed location and boundaries. ○ Conservation Zones marked on-site. ○ Public information programme. ○ Patrols operating: activity logs. 	<p>Stakeholders provide feedback within timeframe and views do not conflict to the point where compromises have to be made or decision-making is delayed.</p>
<p>Species and habitats 'at risk' and requiring special protection identified.</p> <p>Measures in place to protect 'at risk' species and habitats, and enforcement</p>	<ul style="list-style-type: none"> ○ Draft list of 'at risk' species produced by month 6. ○ Draft list of 'at risk' habitats produced by month 6 ○ Lists agreed by yr 1. ○ Surveillance and 	<ul style="list-style-type: none"> ○ Draft lists. ○ Records of stakeholder meetings. ○ Workshop reports. ○ 'At risk' species list. ○ 'At risk' habitat maps. ○ Public information programme. 	<p>Stakeholders provide feedback within timeframe and views do not conflict to the point where compromises have to be made or decision-making is</p>

operating.	enforcement mechanisms developed and operational by yr 2.	o Patrols operating: activity logs.	delayed.
Resource use carried out under permit and according to agreed strategy.	o Draft strategy for resource use produced by year 1. o Strategy agreed by yr 1. o Strategy operational with surveillance, enforcement and monitoring mechanisms in place by yr 2.	o Draft strategy o Records of stakeholder meetings. o Workshop reports. o Resource use plan. o Resource use permits. o Public information programme. o Resource use logs.	Fishers participate fully, support agreed strategy and record resource use.
Mariculture and Sea Ranching Programme developed and operational.	o Resource surveys to locate broodstock of selected species by mo 6. o Culture underway by yr 1. o Village-run ocean nursery sites selected by yr 1. o 10 communities (about 50 fishers) trained in sea ranching by end yr 2. o Sea ranching units fully operational by yr 3.	o Field survey reports. o Reports of training workshops. o Workshop training materials. o Database of survival and growth. o Progress reports. o Sea ranching units (enclosures).	Local fishers are fully supportive. External factors (e.g. storms, disease) do not cause damage and set the programme back.
Reef biodiversity monitoring programme established and functioning.	o Monitoring protocols defined by yr 1. o 4 SPstaff & 8 local people trained in monitoring by yr 1. o First set of data produced by end yr 2. o Workshop to discuss results by end yr 2. o Report produced by yr 3.	o Discussion papers. o Manual defining protocols o Reports of training workshops. o Database of field data and analysis. o Report of workshop to discuss results. o Monitoring report	Local people are motivated to participate in the monitoring programme.
Socio-economic monitoring programme established and functioning.	o Protocols for monitoring programme defined by end of yr 1. o 2-3 Sabah Parks staff trained in monitoring techniques by yr 2. o 12 local village community representatives trained in data collection by yr 2. o First set of data produced by end yr 3.	o Discussion papers o Manual defining protocols. o Reports of training workshops. o Database of field data o Activity logs of local community representatives. o Report of workshop to discuss results. o Monitoring report	Productive relationship is built up between Sabah Parks and local communities, so ensuring good quality data.
Interactive Environmental Management and Information Planning System (EMIPS) installed and Sabah Parks staff trained in its operation.	o Introductory training of 3-4 Sabah Parks staff by yr 1. o Site data entered into EMIPS by yr 1. o Further training in operation and application of EMIPS by yr 2. o System fully operational by yr 3.	o EMIPS manual and CD demonstration. o Report of training workshop. o System installed on Sabah Parks computers. o Report of advanced training and troubleshooting workshop.	No major technical difficulties in operation of software. Trained staff remain to train others.

Annex 3. List of project reports and other materials attached separately

1. Tun Sakaran Marine Park Roadshow: information and itinerary
2. Set of information posters (English version) produced for Roadshow
3. Cartoon colouring Book (English and BM)
4. Newsletters Issues 3 & 4
5. Workshop 3 Report
6. Stakeholder Meeting 2 Report
7. Final Draft Regulations for the Tun Sakaran Marine Park
8. Policy topics for TSMP
9. Introduction of visitor entry fees for the TSMP
10. Seaweed farming on the Sebangkat-Selakan reef top: Current situation and management recommendations
11. Proposed Permit Scheme and Permit Application Forms
12. Project Brief: Integration of aquaculture with community-based tourism
13. Fish enhancement trials in the Tun Sakaran Marine Park no-take zone
14. Proposal: training of Bajau Laut in seaweed farming
15. Coral reef fish monitoring in TSMP
16. Crown-of-thorns starfish outbreak and clean-up in TSMP
17. Report on Fish Blasting
18. TSMP Marine Scientific Expedition
19. Use and availability of fish species in TSMP
20. Socio-Economic Monitoring in the Tun Sakaran Marine Park: Results of the 2006 Community Census