

# Darwin Initiative Half Year Report

<b>Project Ref. No.</b>	162/13/027
<b>Project Title</b>	Developing reserves for biodiversity conservation and sustainable fisheries in Rodrigues
<b>Country(ies)</b>	Mauritius
<b>UK Organisation</b>	University of Newcastle upon Tyne
<b>Collaborator(s)</b>	Shoals Rodrigues (primary collaborator); Fisheries Research and Training Unit (FRTU), Fisheries Protection Service (FPS), National Coastguard, Rodrigues Regional Assembly (RRA)
<b>Report date</b>	18 October 2005
<b>Report No.</b>	HYR 1
<b>Project website</b>	<a href="http://www.ncl.ac.uk/tcmweb/tmr/aje_darwin_rodrigues.html">http://www.ncl.ac.uk/tcmweb/tmr/aje_darwin_rodrigues.html</a>

## 1. Progress over the last 8 months (February – September)

The project started on 1 February 2005. Dr Alasdair Edwards, University of Newcastle and Dr Fiona Gell, Wildlife and Conservation Division, Isle of Man made an initial visit to Rodrigues from 28 February to 15 March 2005. In discussion with the *Shoals Rodrigues* management team, priorities were set, fisheries and habitat monitoring programmes were planned with input from Dr Edwards and fisher education programmes were planned with input from Dr Gell. A strategy for the management of the four proposed new northern marine reserves, using community consultation and stakeholder participation, was developed (Gell, 2005) following review of progress so far, discussions with FRTU, review of Shoals fisher training programmes, a presentation to the RRA Coordinating Committee for Fisheries and Marine Resources, and a meeting with UNDP in Mauritius (who are coordinating the establishment of the Rodrigues southern lagoon marine park programme). Dr Edwards reviewed the status of the *Shoals* fisheries and habitat monitoring programmes and made recommendations as to how these should develop following the establishment of the marine reserves (Edwards, 2005). Both UK visitors conducted training for *Shoals*, FRTU, and FPS staff. Dr Edwards focused on training in data collection and analysis for fisheries and how FRTU could utilise their data for management. Dr Gell focused on why marine reserves are needed, the benefits they provide and what is needed to make them work, drawing on lessons learnt from marine reserve successes and failures around the world. Both worked with Shoals staff in the field to review habitat, coral and fish survey techniques and test alternative methods.

Education of both fishers and young Rodriguans is central to making the marine reserves understood, accepted and ultimately successful. The *Shoals* Education Team (supported 25% by Darwin) spearhead this work.

### ***Shoals Rodrigues* education campaign**

Fisher Training has progressed well and there have now been 29 sessions at 4 fishing villages (Mourouk, Terre Rouge, Rivière Banane and Gravières), discussing topics such as coral reefs, octopus biology, fisheries management and shore safety. A new fisher training manual to complement the course has now been completed.

*Club Mer* (a weekly club for young Rodriguans who have an interest in conservation, the environment and the sea) started in February this year with 65 students. There have been 25 Saturday sessions so far this year, including PowerPoint presentations on topics such as ‘Shore Safety’, ‘Waves, Tides and Currents’ and ‘Fish Biology’ as well as an oceanography practical and coral reef field study. New *Club Mer* notes have now been produced to complement the course, with information on the lectures, a glossary of scientific terms and an identification guide for common marine species. Swimming sessions are also given to *Club Mer* members and the general public every Saturday.

The *Shoals* education team have now visited 13 primary schools in Rodrigues, discussing topics such as ‘Animals in the Environment’, ‘Water’ and ‘Mangroves’. They also talked to 80 students at Marechal College. School groups have also visited the *Shoals Rodrigues* Centre: 70 students from Don Bosco Primary School visited in March when they participated in activities such as ‘How Man becomes Fish’ and learnt more about corals, fish and plankton; and in July, 50 students from Lorette College, Curepipe in Mauritius visited the Centre and were taken on a rocky shore walk.

### **Educational poster**

The poster is entitled “Reef Fish of Rodrigues”, it includes drawings (by a local artist, Christophe

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Félicité) of 25 common fish species and facts about each one. 200 posters will be produced and distributed to all primary and secondary schools, FRTU, FPS as well as the fishing communities. The drawings are finished and the completed poster will be printed by November.

## **Shoals Rodrigues Fisheries monitoring programme – lagoon seine net fishery**

A key effect of the marine reserves should be additional protection for fish species targeted by the lagoon seine net fishery. A better understanding of the population dynamics of these species is being built up using *Shoals* monitoring data on length-frequency distributions and gonads and FRTU data on catch and effort. The Darwin Initiative grant is providing 30-40% support to several *Shoals* staff to ensure this vital monitoring data continues to be collected.

Assessments of the seine net catches have been carried out on 30 fishing days between 1 March and 30 September, working with 4 fishing teams (Port Sud Est, Pointe Corail, Pointe l'Aigle and Baie du Nord). The lengths of 14,975 fish were measured and fish were also brought back to the laboratory for length-weight measurements and assessment of gonads. The data are currently being analysed using a database developed by Dr Edwards.

## **Shoals Rodrigues Habitat monitoring programme**

The first period of coral reef monitoring concentrated on maintenance of the permanent transects, replacing lost markers and adding new markers in order to help with the re-location of transects and to increase the accuracy of repeated surveys (issues identified by Edwards, 2005). Due to bad weather surveys could not be carried out in September, however surveys will be carried out during October and November using the Line Intercept Transect (benthos) and Belt Transect (fish and invertebrates) techniques. There are now 13 monitoring sites, 6 within the marine reserves and 7 outside (see table). Monitoring of the lagoon habitats took place at 10 sites during May, using a timed-swim technique to survey three 500m transects at each of the sites.

Inside Reserves			Outside Reserves		
Site	Reef Flat	Reef Slope	Site	Reef Flat	Reef Slope
Rivière Banane	*	*	Passé Armand	*	*
Grand Bassin	*	*	Passé l'Ancre	*	
Passé Demi		*	Trou Blanc	*	
Passé Cabri	*		Ile aux Fous	*	*
			North Ile aux Sables		*

In order to evaluate the impact of the marine reserves, carefully focused monitoring of selected fish species will be needed. To teach the techniques needed, Dr Charles Anderson of Atoll Wildlife visited for 10 days from 18–29 September carrying out training in estimating fish lengths underwater. The initial training session was attended by 2 *Shoals Rodrigues* staff (Eric Blais and Jovani Raffin) as well as M. Raffaut, F. D'A. Speville, M. Peermamode, G.E. Jolicoeur, J. Ah Kang, W. Grandcourt (FPS) and Sylvio Perrine (FRTU). Four in-water snorkelling sessions were held, during which time all participants improved in their ability to accurately estimate fish lengths (Anderson, 2005). The staff from FPS are very keen to continue the training and future sessions will be organised by *Shoals* staff..

## **Dive Training**

Four students (E. Momus, A. Auguste, D. Allas (*Club Mer* students) and R. Lamvohee (*Shoals* member)) gained the PADI Open Water Qualification on 10 September 2005 and all have started training for PADI Advanced Open Water. Six students (M.M. Azie, F. Bernard, J.C. Jean, M.I. Perrine, J.M. Azie (Mauritius Wildlife Foundation) and M. Anthony (*Shoals* member)) started PADI Open Water training in August and S. Perrine started training for PADI DiveMaster in September.

**Publicity** for the Darwin Initiative work has included a radio interview by Eric Blais, Director of Shoals on local radio on 4 March 2005 and a piece in *Le Mauricien* newspaper on 12 September based on a press release we made in Mauritius.

Anderson RC (2005) *Impacts of marine reserves in Rodrigues: report of a training visit to Shoals Rodrigues, September 2005*. 26 pp.

Edwards AJ (2005) *Review of the status of fisheries and habitat monitoring programmes at Rodrigues with recommendations for development following establishment of marine reserves*. 23 pp. + appendix.

Gell F (2005) *Development of a strategy from marine reserve management in Rodrigues using community consultation and stakeholder participation*. 28 pp. + appendix.

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**2. No notable problems or unexpected developments. Dr Mark Spalding's involvement was not possible due to change of job but his place was taken by Dr Charles Anderson.**

**Have any of these issues been discussed with the Darwin Secretariat and if so, have changes been made to the original agreement? No.**

**Discussed with the DI Secretariat: no/yes, in..... (month/yr)**

**Changes to the project schedule/workplan: no/yes, in.....(month/yr)**

**3. There are no issues I wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures.**

Please send your **completed form by 31 October each year per email** to Stefanie Halfmann, Darwin Initiative M&E Programme, [stefanie.halfmann@ed.ac.uk](mailto:stefanie.halfmann@ed.ac.uk). The report should be between 1-2 pages maximum. **Please state your project reference number in the header of your email message.**