

### The Rufford Small Grants Foundation

### **Final Report**

Congratulations on the completion of your project that was supported by The Rufford Small Grants Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to jane@rufford.org.

Thank you for your help.

Josh Cole Grants Director

### **Grant Recipient Details**

Your name	Joanna Alfaro Shigueto			
Project title	Experimental trial of acoustic alarms to reduce small			
	cetacean by catch by gillnets in Peru			
RSG reference	20.12.08			
Reporting period	April 2009- February 2010			
Amount of grant	£5,792			
Your email address	ddress Jas 26@yahoo.com			
Date of this report	20 February 2010			



# **1.** Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

	Not	Partially	Fully	
Objective	achieved	achieved	achieved	Comments
Assess the			$\checkmark$	While research into pinger effectiveness
effectiveness of				should be continued, the purpose of this
pingers as a small				pilot project has been achieved. The
cetacean deterrent				work has shown that pingers can reduce
in the gillnet fishery.				bycatch in Peru's artisanal gillnet fishery
				and practical lessons regarding their use
				have also been learned.
Encourage			$\checkmark$	This has been realized both in terms of
fishermen and				the pinger trials which were done in
marine authorities				partnership with gillnet fishermen from
to become involved				the port of Salaverry but also in the form
in cetacean				of repeated workshops held with
conservation.				fishermen and marine authorities.
Provide technical			$\checkmark$	Project results have been shared with
information to				the Peruvian government (IMARPE) and
government				the Comision Permanente del Pacifico
agencies showing				Sur (CPPS) summarizing the acoustic
the availability of				pinger trials and results.
small cetacean				
bycatch mitigation				
measures.				

## 2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

There were no unforeseen difficulties that arose during the project. There were some challenges associated with implementation of the pinger trials (e.g. lost gear, failed gear) but these were expected.

#### 3. Briefly describe the three most important outcomes of your project.

The three most important outcomes of the project can be summarized as follows:

- 1. This pilot study of acoustic alarms (pingers) has shown that this technology could be an effective measure to mitigate the bycatch of small cetaceans in Peru's artisanal drift gillnet fishery. A preliminary analysis of the results indicate that fishing sets that used pingers had at least a 73% reduced rate of capture of dolphins and porpoises in relation to control sets.
- 2. Valuable practical experience was gained trialling this technology in the fishery and has provided important insights into project logistics, the placement and spacing of pingers, and pinger specifications for future work.
- **3.** Study results also suggest that the use of pingers did not have an effect on the target species catch rate. This is very encouraging and will help assuage any concerns fishermen may have



that by using pingers they would be impacting the profitability or efficiency of their fishing efforts.

## 4. Briefly describe the involvement of local communities and how they have benefited from the project (if relevant)

Local communities have benefited through the educational component of the project as well as participation in the pinger trials. We held educational workshops in the study port of Salaverry as well as in seven other ports. These workshops pertained to small cetacean biology and conservation and the availability of bycatch mitigation measures. Workshops were attended by over 400 fishermen and also had the participation of many local government officials. Workshops were also attended by about 200 students from local universities and fisheries technical colleges. Attendees to the talks were provided with educational materials developed for the project and discussing small cetacean biology, conservation, identification and safe release methods.

Community involvement also included the participation of the two fishing vessels and crews in the pinger trials. This work would not have been possible without the voluntary participation of these captains, crew and vessels and their experience will be very valuable in future efforts to promote the use of pingers in the fishery.

#### 5. Are there any plans to continue this work?

We have several project proposals in review that would continue and expand upon the results of this work but funding has not yet been secured.

#### 6. How do you plan to share the results of your work with others?

Project results have already been shared with the Peru government's marine research agency (IMARPE) as well as the regional intergovernmental organization the Comision Permanente del Pacifico Sur (CPPS). The CPPS will also be preparing a report in 2010 summarizing the results of all the marine mammal projects they supported, and will include any entry for the pinger project. We also anticipate preparing a manuscript of this work for publication in an international peer reviewed journal.

### 7. Timescale: Over what period was the RSG used? How does this compare to the anticipated or actual length of the project?

The RSG field work was over a period of 11 months (February-December 2009). This is equal to the anticipated time for the research and education components listed in the project proposal. Project design and start-up occurred in February and March, with the pinger trials and educational work following from April to November. Project write-up time was shorter than anticipated and concluded in February 2009.



## 8. Budget: Please provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used.

Item	Budgeted Amount	Actual Amount	Difference	Comments
At sea work	3040	3038	2	-
Travel and lodging	1150	1165	-15	-
Supplies	882	882	0	-
Communication & printing	720	723	-3	This item was short for massive printing educational materials.
TOTAL	5,792		-10	

#### 9. Looking ahead, what do you feel are the important next steps?

Recommendations and next steps are summarized in more detail in the full project report but we feel that this work has provided proof-of-concept with regard to the effectiveness of pingers at deterring small cetacean bycatch in the Peruvian artisanal drift gillnet fishery. It is important that this research be continued with more participating vessels and on a larger scale (e.g. involving more than one port) to confirm the statistical significance of these results and to gain further experience in the actual implementation of this technology in the fishery. Another next step will be to build upon the educational and awareness raising work begun here and continue to introduce fishermen to this technology and the benefits it can to them and their fishery. We will also continue efforts to publicize these exciting and important results.

## **10.** Did you use the RSGF logo in any materials produced in relation to this project? Did the RSGF receive any publicity during the course of your work?

Yes, the Rufford Small Grants Foundation logo was used on 2 educational materials produced and distributed during the course of the project. RSGF is also acknowledged on the Pro Delphinus website as a supporter of our research. There was no project publicity other than the distribution of materials at fishing ports along the Peru coast.

#### 11. Any other comments?

The following article, based upon our research on small cetacean bycatch in Peru, was just published in the peer reviewed journal Biological Conservation and in it we acknowledge the support of the RSGF:

Mangel, J.C., et al. Small cetacean captures in Peruvian artisanal fisheries: High despite protective legislation. Biol. Conserv. (2009), doi:10.1016/j.biocon.2009.09.017



Below are samples of the two educational materials produced during the project and which include the RSGF logo.



Pages 1 and 2 of marine mammal leaflet

A marine mammal identification sticker.



