

## The Rufford Foundation Final Report

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

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. 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. Please note that the information may be edited for clarity. 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](mailto:jane@rufford.org).

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Gonzalo Araujo
Project title	Whale Shark conservation and ecotourism at Panaon Island, Southern Leyte
RSG reference	16824-1
Reporting period	March 2015 – March 2016
Amount of grant	4,500
Your email address	<a href="mailto:g.araujo@lamave.org">g.araujo@lamave.org</a>
Date of this report	15 <sup>th</sup> March 2016

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

Objective	Not achieved	Partially achieved	Fully achieved	Comments
The development of new regional guidelines for whale shark interaction tourism in the Visayas and the lobbying of its implementation (bi-annual reports to the National Authorities DENR, BFAR and the Local Government Units).		X		We participated in consultations with the national offices of the Bureau of Fisheries and Aquatic Resources (BFAR), the Department of Environment and Natural Resources (DENR), and the Department of Tourism (DOT) for the creation of national regulations on marine wildlife interaction, including whale shark interaction guidelines. The results obtained from the present project were used to advice accordingly. This joint administrative order has yet to be passed in the Philippine Congress.
Increased awareness and education through media output on the project's website, blog and social media, and the production of a documentary on the research carried out on whale sharks in the Visayas.		X		The project was promoted on social media and used to produce infographics on whale shark interaction guidelines and how to help conserve the species (attached). The documentary is in production.
The supplementation of interactive educational sessions in local schools to raise overall ocean awareness, with particular focus on plastic and chemical pollution.			X	We reached 670 students in the municipality of Pintuyan over the duration of the project, and supplemented the national curriculum, with particular focus on plastic pollution.
The effective change in behaviour perceived through wildlife watching activities as a sustainable alternative livelihood for local communities.			X	We engaged and conducted workshops with the People's Organisation of KASAKA in a means to encourage alternative livelihood programmes such as this one. This is a long-term objective and our continued work at the site is encouraging such sustainable work.
Determine a better population assessment of the species at Panaon Island and their habitat use.			X	We successfully identified 45 individual whale sharks between February and June 2015, and 95 between November 2015 and

				February 2016. Whale sharks are now known to visit the study site to forage on blooms of different prey. We successfully deployed seven satellite tags in cooperation with Marine Megafauna Foundation-Mozambique, and five TDR tags to understand their depth usage. Satellite tags revealed a high level of residency before moving away to distant sites (>300km). TDR tags have yet to be retrieved.
Start the groundwork of a long-term plan to create a whale shark sanctuary in Sogod Bay, southern Leyte, and a migratory protected corridor in the northern Bohol Sea.		X		We presented our results at the Sogod Bay Alliance meetings (every 2-3 months) and highlighted the importance of the site for the whale shark. We have also informed the local government units where the whale sharks are known to occur, how their municipal waters are a hotspot for the species, and how certain measures could be followed to create a sanctuary.

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

The main difficulties we encountered were those where we the outcomes were beyond our control and required local response. We produced reports and shared results to the local agencies that we worked with. However, management suggestions and implementation of recommended guidelines has not occurred.

In the future, a possible solution to this issue might be to have a team member working closely with the authorities on both a local and regional scale for the duration of the project to ensure the long-term objectives push through.

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

1. The project built on the baseline data collected during the 2013 and 2014 seasons. We observed some of the same individual whale sharks that have been visiting the study site for years, and recorded a further 83 new individuals. We identified the main reason why the study site is a hotspot for whale sharks when conditions are right. Sharks were seen foraging on sergestid shrimps, and later, on copepods. These findings point to the importance of the area for the species as a foraging ground. We deployed satellite tags and temperature-depth-recorder tags. The tags tell us that whale sharks might be present in the area and staying deep. These also show that the whale sharks might travel long distances in a small amount of time, and then return to the site after a few days. This site fidelity is of great importance for the sustainability of the ecotourism industry that currently operates there.

2. We conducted supplemental educational modules in local schools during February and March 2015, and then again in January and February 2016. These modules were centred on the importance of marine resources and how anthropogenic factors directly influence these. A total of 670 elementary and high school students were taught basic ecology and environmental concepts, with particular emphasis given to the microplastic build up in the food chain. The local teachers engaged on the ecology modules we delivered, and children were seen doing marine-related homework around town, highlighting the success of our educational modules. We organised two community coastal clean-ups in the town of Pintuyan. Over 100 kids and adults participated on each event. Such activities are essential to link the lessons discussed in the classrooms with real scenarios. The Department of Education for the province of Southern Leyte produced a Certificate of Appreciation for our work in their schools.

3. We worked closely with the KASAKA People's Organisation that runs the ecotourism in Panaon Island, southern Leyte. The two villages from where the members are (Son-ok I and Son-ok II) have an average household income that is more than double of other local coastal villages (LGU Pintuyan, 2012). The whale shark ecotourism has benefited the community and increased the awareness of locals towards the species. Initiatives such as KASAKA's are popular, and with the right support can sustain alternative livelihoods. We visited coastal villages as part of our whale shark population assessment, and everyone was interested in helping. The current legislation for whale shark interaction states that the village in whose waters the interactions take place, receive 10% of the conservation fee (currently 250PHP). We are working to increase the fees associated with whale shark tourism. Currently a spotter makes 250PHP and a guide 300PHP per 3hr interaction. We drafted a new ordinance that will hopefully be adopted and passed by the local government in the near future to increase these by 20%. LAMAVE hire local pumpboat operators to conduct dedicated whale shark surveys, and they benefit greatly from 3-4 hrs of work, and have increased perception of marine wildlife and its potential value as a sustainable source of income through tourism (or in our case, research).

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

We held workshops with KASAKA members for the duration of the project. During such workshops, we helped them improve their guiding skills as well as their knowledge of the whale sharks, and advised them on how their operations can be improved. The area is not immediately accessible to tourists, making the site one of the less crowded places in the world for whale shark interactions. As such, we encouraged a zero tolerance policy regarding interaction guidelines, inciting how this would benefit them long-term. In 2013 we helped the women from the villages of Son-ok I and Son-ok II start their own alternative livelihood programme through the making of handsewn stuffed whale shark toys. This was done in collaboration with Conservation Sew Mates (<http://www.csvsewmates.com.hk/>). During the Project, we encouraged them to find new markets, and have engaged with multiple large purchases that were sold elsewhere.

Pintuyan is a small town and the presence of this project brings small but sustained income to many businesses, from pumpboat operators to small shop vendors. The locals are aware that our work is centred on the whale sharks, and this indirectly raises awareness and care for their marine environment.

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

Yes. This work helped establish the nature of the whale shark's occurrence at Panaon Island. Understanding what might drive the presence or absence of the animals from the site, ultimately determines the long-term sustainability of the ecotourism industry currently operating. With preliminary results suggesting no long-term impact on individual whale sharks from the tourism industry, their variability points towards environmental conditions that affect their prey distribution. Continuing work will focus on establishing the drivers of their prey, and subsequently the whale shark, and how climate change might play a role in affecting this.

Behavioural change towards marine ecosystems is a long-term objective, and continued work at the site will aim to address this by reinforcing ecology concepts to the community. By pursuing a behavioural change from within, fuelled by education-oriented involvement, we can try and ensure the sustainability of ecotourism activities on marine resources.

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

We produced a seasonal report for 2015, and a mid-season report for the 2015/2016 season. These were shared with the local authorities, as well as with the tour operators and KASAKA. A 2016 seasonal report will be produced and shared in late June. All of these have, and will, acknowledge the Rufford Small Grant support.

Two scientific papers are currently in development that will acknowledge the Rufford Small Grant support. The first one will test the use of remotely sensed satellite data to predict whale shark occurrence at the site, with sighting data from four seasons at the site. Should results prove positive correlations between certain environmental variables, one could predict the most likely conditions under which whale sharks would appear in specific areas, prompting the development of other ecotourism destinations as alternative livelihoods, and the protection of such critical habitats. The second one will discuss the tourist-whale shark in-water interaction data collected over these same 4 seasons, that will be used to inform management, not only in the Philippines, but abroad.

LAMAVE has over 6,800 followers on Facebook and we will seek to disseminate our results via this means, as well as our website ([lamave.org](http://lamave.org)) and other social networks. I will conduct meetings with regional stakeholders (i.e. BFAR, DENR, DOT, LGUs, Tour Operators) to further disseminate our findings and how these relate to them, and the conservation of the species.

In late June 2016, we will attend the Conservation Asia conference in Singapore where we will present some of the results from this Project. We will acknowledge the Rufford Small Grant support there also.

## **7. Timescale: Over what period was The Rufford Foundation grant used? How does this compare to the anticipated or actual length of the project?**

We were able to extend the original support period due to the early disappearance of whale sharks in the 2015 season (February-July). We therefore restarted the Project as soon as weather conditions permitted in November 2015. We managed to cover almost two seasons worth of work under the RSG support.

**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
Season surveys (96)	1623	1623		(65 surveys Feb-Jun 2015; 31 surveys Nov 2015-Mar 2016)
Underwater Cameras with Housings (2)	624	624		
Food & Housing (3)	1437	1437		
3Tb Hard Drive (1)	100	100		
GPS Unit (1)	141	141		
Supplies & Consumables	563	563		
<b>Total</b>	<b>4,488</b>	<b>4,488</b>		*1GBP = 66.7PHP

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

It is important to continue to monitor the whale shark aggregation visiting Panaon Island. This will produce trends over time that will help with the management of the species in the Philippines and in South East Asia. In this study, the use of satellite telemetry is essential in understanding their range, especially since these animals are known to venture into potentially dangerous waters outside Philippine protection. Our continued efforts in the Philippines can help shed light on this.

An individual whale shark identified on December 13<sup>th</sup> 2015 stranded in a net and died on January 2<sup>nd</sup> 2016 at a nearby island (Bucas Grande). This example of an incidentally caught whale shark was a reminder of the high coastal pressure present in the Philippines and its marine resources. Unreported cases of incidental catches like this could be common, and such cases could have a toll on the population of whale sharks in the region.

A large whale shark fishery operates from the south of China (Wild Life Risk report, 2014). Through the use of photo-identification we know that whale sharks travel to and from Taiwan, possibly travelling through high-risk areas where these fisheries operate. Establishing the level of connectivity between the Philippines and areas of high-risk is essential, reinforcing the need for satellite tagging. The continued exploitation of the species in the region is prompting the IUCN to downgrade the species' Indo-Pacific subpopulation classification from Vulnerable to Endangered (Pierce & Norman, 2016).

Continued work is needed to establish long-term behavioural change towards marine resources, minimising the risk of incidental and purposely caught endangered species (e.g. manta rays, turtles), and increasing the value these species can have alive through ecotourism.

During the 2014 whale shark season, only few whale sharks were sighted for the duration of the season (7, see Araujo et al., 2016). This decrease in sightings was possibly influenced by the super-

typhoon that hit the area in November 8th 2013. Climate change could be playing a pivotal role on the distribution of many marine species, and therefore long-term monitoring is essential to understand what might drive such changes in their distribution.

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

For the duration of the project, we displayed The Rufford Foundation logo on public talks, workshops, printed materials, and educational sessions in schools, as well during public events (i.e. movie nights and coastal clean ups). The printed materials included three infographics we developed displaying: a. the cycle of plastic in the food web; b. the recommended whale shark interaction guidelines; and c. how the general public can help whale shark conservation by photographing the side of the animals. The last two were given to tour operators that visit the area, as well as copies given to municipal halls in Sogod Bay where tourists were likely to visit. The cycle of plastic in the food web was displayed on a common community area in the town of Pintuyan, near the sea.

The infographics were also shared on social media (Twitter, Facebook) to help raise awareness, bearing The Rufford Foundation logo.

**11. Any other comments?**

This project would not have been possible without the support from the Rufford Small Grant. The grant directly contributed to a better understanding of the whale sharks that visit Panaon Island. This information is essential to support long-term alternative livelihood programmes like the KASAKA whale shark ecotourism initiative. This project has helped locals establish a positive relationship with the marine environment. Our supplemental modules in schools have benefited 670 students, delivering content from the Philippine national curriculum in a more interactive way. Through our community involvement activities such as beach clean-ups and movie nights, public awareness of the role we all play in ensuring long-term sustainability of our oceans, has increased. The project has contributed results for the development of a joint administrative order on a national regulation for marine wildlife interaction, and hopefully the creation of a whale shark sanctuary in Sogod Bay. None of this work would have been possible without your support, and we are extremely grateful for the funding you granted us. We look forward to working with you in the future.

