# The Rufford Foundation
# Final Report

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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.

Thank you for your help.

**Josh Cole, Grants Director**

| **Grant Recipient Details** | |
|---|---|
| **Your name** | Gonzalo Araujo |
| **Project title** | Whale sharks of northern Mindanao: hunters to spotters? |
| **RSG reference** | 20000-02 |
| **Reporting period** | Jan – Sep 2017 |
| **Amount of grant** | £5,000 |
| **Your email address** | g.araujo@lamave.org |
| **Date of this report** | 15th October 2017 |

**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 |
|---|---|---|---|---|
| Raise awareness on elasmobranchs | | | | This is an ever-ongoing objective of our work and hence partially achieved until elasmobranch catches are fully regulated. |
| Identify important areas for whale sharks | | | | Through surveys and interviews we identified habitats whale sharks use in the area. |
| Identify gear with negative impact on elasmobranchs | | | | We identified the gear that interacts with whale sharks (nets and long-lines), and learn in which gear other elasmobranchs are most commonly caught (long, and deep lines). Troubling numbers suggest elasmobranch catches are now rare, even though number of fisherfolk and effort has increased over time. |
| Further our understanding of the whale shark regionally | | | | Through this project we identified where whale sharks forage and in association with what fauna. This narrows down when whale sharks occur in the area (as corroborated by interviews with fisherfolk). |
| Work with the original whale shark hunters and explore the possibility of alternative livelihood | | | | We conducted interviews with the hunters and understood the original range of their operations, methods, and insight from the hunts. We also set the next steps for their involvement in marine wildlife tourism as the priority community. |

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

We had three main unforeseen difficulties: the fixed-wing drone broke down, the plankton net order was delayed, and rebel fighting in Surigao del Norte forced us to change survey sites.

The drone was to be used to aid our search for whale sharks over a vast area. Unfortunately when it arrived in the Philippines, parts were missing and/or broken.

The parts needed to fix the drone could not be found in the Philippines, and we hence had to abandon this plan. We conducted further surveys offshore than originally planned, and interestingly that's where we found the whale sharks in Talisayan.

The plankton net was ordered from the US and never arrived in time for us to use in the fieldwork. To this date it has not arrived. However, we managed to identify the prey the whale sharks were targeting in Talisayan by collecting samples with a fine mesh bought locally, and by examining the stomach contents of fish associated where the whale sharks were observed feeding.

Our first survey site was to be Malimono in Surigao del Norte. We met the mayor and the local officials in January 2017, and presented our project. They assisted us with finding a house and a boat for surveys. However, prior to us starting fieldwork in late February, the Armed Forces of the Philippines organised a military operation in Malimono in pursuit of the New People's Army, a rebel group operating in Mindanao. We therefore decided to start our work in Talisayan, Misamis Oriental, and then work in Salay where we had encountered whale sharks during exploratory surveys in 2016, and which would also provide baseline data for Macajalar Bay. We completed the work we would have done in Malimono, and although it would be good to return there in the future, it was not feasible this time.

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

The reception of municipal mayors and members of the local government units of Talisayan and Salay, was outstanding. They were eager to learn what we had to share with them, and were very open to us working with them in their waters. We therefore worked in partnership with officials at both municipalities. This level of engagement with local stakeholders was unprecedented and played a key role in one of our objectives: awareness. By working closely with the government and with fisherfolk we were able to share with them our knowledge on whale sharks and other marine megafauna that occur in their waters, their threats, and how they can be mitigated.

Through our surveys and interviews, we established the source of one of the main threats to whale sharks in the Philippines. Previous work reported a high degree of scarring on whale sharks in the Bohol Sea (Araujo et al., 2014, 2016, 2017), and though we inferred the source of the scars, it was through our work in Talisayan that we understood the real source of them. During the season for black skipjack and related species (November-May fishermen search for fish boils dragging a 30 m line with up to 30 hooks. The hooks have silver ribbons and no bait. When a fish boil is spotted, they drive over the boil with the line in the hope that fish will bite the hook. What tend to follow these boils are whale sharks. We were able to observe this first hand. When we interviewed fishermen that used this gear, many of them shared that it was common practice to hit a whale shark with their boats. Although they would prefer not to hit them, the whale sharks are foraging in the same boil of fish and hence moving very quickly. This knowledge led to our efforts to understand how they could avoid hitting the whale sharks.

Another important outcome of our project was the collection of baseline data on elasmobranch and turtle interactions with fisherfolk in northern Mindanao. Fisherfolk's perception of elasmobranch catches is that they dramatically decreased over time, even though competition for fishing grounds and effort has more than doubled. Large elasmobranch catches are a distant memory across all interviewees. This is worrying considering the number of fishermen going out throughout the year and the level of pressure. The status of sharks and rays looks grave, like that reported in most other places (e.g. Dulvy et al., 2014).

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

During our work in Talisayan and Salay, we hosted Tawikids and Talokids respectively with children aged 9 to 17. The days were packed with marine-related activities, including a beach cleanup followed by an identification exercise where children were made aware of the everyday things we use that make up the rubbish in our oceans and how they eventually end up in our plates. The participants were also introduced to the whale shark and the other megafauna that inhabit the sea they've grown up with, and how they can actively protect and preserve their marine resources.

Through our >400 interviews with fisherfolk, we got to spend time with them, tell them about our work, and the threats our oceans are facing. Listening to what they had to say was refreshing and empowering. We shared all the data and results with the local government units, and it was a good avenue for fisherfolk to anonymously communicate with the government, including the raising awareness of existing issues, illegal practices observed that affect their catches, etc. On the other hand, our close relationship with government officials and our sharing of data and results benefited their decision-making, based on science.

One of our objectives was to understand the presence and distribution of whale sharks in the area, and assess the feasibility of it for tourism. Although whale sharks proved harder to find than anticipated, cetacean sightings were reliable, particularly off Talisayan. We therefore put into motion the creation of a People's Organisation by the original whale shark hunters and their relatives. With help from the mayor of Talisayan, and the governor of Misamis Oriental, there are opportunities to explore that would greatly benefit not only them, but also other communities in the area.

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

We want to return to Talisayan next year and facilitate the development of their marine tourism plan. We will involve other stakeholders, such as the Department of Tourism, both provincial and national, to ensure the sustainable development of such tourism activities. We work closely with the country's top decision-makers for marine tourism, and we will invite them to be part of the development of this endeavour.

Opportunistic whale shark surveys will be carried out in the area should conditions permit, and fishermen reports (through our newly integrated reporting system with the local government unit) confirm sightings of whale sharks. Monitoring how, where, and when whale sharks occur in the region is still important for management and conservation.

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

The results were shared with key stakeholders in September 2017. We held meetings with the mayors of Talisayan and Salay, as well as workshops with fisheries, natural resources officers, heads of fisherfolk and with the original whale shark hunters. The workshops provided information about whale sharks in the Philippines, their threats and how they can be mitigated. Their avoidance of whale shark entanglements suggestions were also presented to them during the workshops.

The data collected on whale shark distribution and threats identified has been shared with the national government who has a management plan for the species that fits into the National Plan of Action (NPoA) for sharks and rays. The fishery data obtained through the interviews will also be shared for the NPoA.

Whale shark results will be used as part of two scientific publications currently in preparation: whale sharks of the Bohol Sea (which also includes data from Southern Leyte supported by RSG16824-1); and a national whale shark paper collating all historical, social and ecological science information on the species. The bulk of the interviews data will also be used for a scientific publication on the perception of shark, ray and turtle small-scale fisheries interactions in northern Mindanao.

All our results are shared on our social media platforms (>20K followers) as well as print media in due time. Timing is sometimes sensitive when dealing with endangered species and communities.

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

The project was due to run from January to the end of July. We were slightly delayed to start due to a strong storm hitting the area through most of February. Cagayan de Oro City was heavily flooded, crippling regional logistics. We started fieldwork in March through to end of June 2017, with reporting and analyses into late September.

**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.** 1 £ sterling = 4.44 Nuevo Sol

| Item | Budgeted Amount | Actual Amount | Difference | Comments |
|---|---|---|---|---|
| 2 x Panasonic Lumix TS6 with UW Housings | 754 | 800 | -46 | The cameras were hard to find when we ordered them and ended up costing more than originally budgeted for |
| 2 x eTrex 20 Garmin GPS | 264 | 264 | 0 | |
| 1 x JBL Hawaiian sling | 124 | 139 | -15 | |
| Biopsy tips, vials, etOH | 192 | 192 | 0 | |
| 60 x pump boat-based surveys | 1130 | 1074 | 56 | We completed 57 surveys between Talisayan and Salay |
| Project house rental x 7 months | 1319 | 1350 | -31 | In Talisayan the only available property was unfurnished, so we had to buy basic beds and mattresses |
| Travel costs between sites x 7 months | 650 | 650 | 0 | |
| Projector | 415 | 414 | 0 | |
| 1 x Plankton net | 151 | 151 | 0 | |

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

We set up a reporting system for whale sharks with the municipalities of Talisayan and Salay. It is important to monitor whale sharks in the region and understand fluctuations over time and how these might be linked to commercially important fishery species. The reporting will continue, and we have established excellent relationships with the local government units.

We met with the mayor of Talisayan in late September 2017. He has a strong vision to develop marine tourism in his municipality and our involvement is pivotal. We will facilitate the development of a marine wildlife watching endeavour following sustainable practices.

**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?**

Throughout the project we displayed The Rufford Foundation logo on presentations, workshops, public meetings and educational events. The Rufford Foundation logo is also displayed on our website (www.lamave.org) which gets a lot of traffic thanks to our active social media accounts. The RF will be acknowledged in the three publications mentioned above, and has been mentioned on a recently submitted

paper about our satellite tagging work during RSG16824-1 in Southern Leyte, and some of which took place in northern Mindanao.

**11. Any other comments?**

This project would not have been possible without the support from the Rufford Small Grant 20000-2. The grant was used directly to support our work and through this, has engaged marine conservation in a new region. We have gained incredible insight into the status of marine megafauna in northern Mindanao, and how this is directly linked to the fate of the people. This project has helped locals establish a positive relationship with the marine environment. The potential development of marine-based ecotourism from Talisayan would be an incredible success story of 'hunters to spotters' even if the spotting is not for whale sharks, but for other megafauna. The data from this project will be used in regional and national management and conservation plans, highlighting the importance of the work. None of this work would have been possible without your support, and we are extremely grateful for the funding opportunity you granted us. We look forward to working with you again in the near future.