

## 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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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| Grant Recipient Details |                         |
|-------------------------|-------------------------|
| Your name               | Hilde van de Sande      |
| Project title           | Andaman Manta Rays      |
| RSG reference           | 15207-1                 |
| Reporting period        | January 2016 - May 2016 |
| Amount of grant         | £4433                   |
| Your email address      | vandesande.h@gmail.com  |
| Date of this report     | 01.04.2016              |

**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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------|--------------|--------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Provide baseline data on manta and mobula rays in the Andaman Islands |              | +                  |                | 1. The first information on manta rays in the Andaman Islands is being collected successfully.<br>2. Mobula sightings and information from divers and researchers were rare and often mobula rays were confused with manta rays. Thus a limited amount of information was collected on these species. It definitely shows the need for further studies in this area.                                                                                                                                          |
| Photo-ID database for the Andaman Islands                             |              |                    | +              | 1. The database has been created in coordination with Manta Trust and the data is shared with Manta Trust as well as Marine Megafauna Foundation.<br>2. Data is shared with Marine Megafauna Foundation in the hope mantas seen in the Andaman Islands will also be seen in Thailand and other locations. For the comparing of manta images, Mantamatcher is being used.<br>3. In addition to the data collected, the dive centres and researchers will keep providing manta ray photo identification images. |
| Manta ray distribution                                                |              | +                  | +              | 1. Data is being analysed and with the use of Mantamatcher and data from Manta Trust and Marine Megafauna Foundation we will see if manta ray individuals travel from habitats such as around Thailand and other regions.<br>2. Once all the data is received and processed a report will be drawn up.                                                                                                                                                                                                        |

|                                                                   |  |   |   |                                                                                                                                                                                                                           |
|-------------------------------------------------------------------|--|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Training local stakeholders                                       |  | + |   | Training took place in the diving centres however it was not possible to do this in the forest department as initially planned due to a change in management.                                                             |
| Identify main manta ray sighting locations in the Andaman Islands |  |   | + | The main sighting occurrence locations have been determined for this region according to local knowledge. Additional sites may be discovered as new data is received.                                                     |
| Create ongoing data collection by local stakeholders.             |  |   | + | The system for ongoing database collection has been set in place and dive instructors and researchers in the field are willing to contribute. Over time we will see how well this works and what changes may be required. |

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

1. The research permit required for the Mahatma Ghandi National Park from the Forest Department could not be obtained as the management and conditions in the Forest Department had changed. This essentially cut out the main manta ray sighting location in the Andaman Islands. However, I will be receiving data from a researcher who has a permit to dive in the Mahatma Ghandi National Park.
2. Due to not receiving a research permit I was not able to work with ANET as previously planned which meant that I was not able to rent a boat and go to various un-dived locations. Instead I was able to work directly with the dive centres in Havelock and rent a boat for Barren Island trips through connections on the mainland. This significantly increased the costs of the diving and resulted in being able to conduct fewer survey dives. Moreover, the dive centres were fully booked and sea conditions were too rough to go to far dive sites regularly which also resulting in fewer dives than foreseen. However, I was able to make contacts and collect data from the dive instructors in Havelock and researchers in other areas in the Andaman Islands.
3. The internet connection is very slow and expensive in the Andaman Islands therefore sending images of manta and mobula rays will be problematic for the dive centre staff. I have collected all existing data from the past years in

the time I was in the Andaman Islands and researchers and dive instructors will send me the photo identification images and data once they return to India mainland at the end of the diving season. A researcher from Dakshin Foundation as well as other researchers and a professional photographer will be collecting and sending me data when they return from the Andaman Islands.

4. The other issue encountered was that most manta and mobula rays are sighted in Barren Island and Twins. Sightings in other dive locations are unpredictable and getting to Barren Island is expensive. Additionally, dive centres only go during calm conditions and will only go once or twice a season as it is so far off. I was able to arrange a live-aboard to Barren Island through a local contact.
5. I sprained my ankle which delayed the research as I was walking on crutches for a month and could not do fieldwork in this time.

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

1. Baseline data for manta rays in the Andaman Islands has been collected about which no previous information was known.
2. A manta ray database has been created and works in association with Manta Trust. The sharing of this information with both Manta trust and Marine Megafauna Foundation will be crucial for conservation purposes of these species. Important links between habitats may be discovered when the data analysis is completed.
3. Data collection will be continued by dive professionals and researchers to enlarge the database. The training programme brought conservation issues to the forefront and clarified identification between manta ray and mobula ray species. Mobula rays are less sighted and are mostly confused with manta rays. Species identification was clarified during the education program and videos and pictures will be carefully analysed to confirm positive sightings.

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

Local dive professionals are involved in the data collection aspect of the project and appreciate the marine life and the value of conservation.

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

Data collection for the manta ray data base will continue as well as on acquiring more information about mobula rays in the area. I am also looking into collaborating with researchers working in the marine reserves in the Andaman Islands and potentially in other areas and creating marine conservation internships.

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

The database will continue to be shared with Manta Trust and Marine Mega Foundation as well as any information on mobula rays. Once data is analysed a report will give details of the findings to interested parties.

**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 grant was used over a five months' period which is a month over the initial estimate. However, the project is ongoing and data will continually be analysed.

**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                                                                                     |
|-------------------------|-----------------|---------------|---------------|----------------------------------------------------------------------------------------------|
| Stipend                 | 693.1           | 116.9         | 576.2         | Most of the stipend was diverted to diving costs                                             |
| Transport               | 1366.3          | 300.9         | 1065.4        | Amount of people travelling was less than expected                                           |
| Permits                 | 594.1           | 0             | 594.1         | Permits could not be acquired                                                                |
| Equipment               | 532             | 464.1         | 67.9          | One camera was borrowed                                                                      |
| Diving                  | 802             | 2142.5        | -1340.5       | Most of the stipend and contingencies went to diving which was more expensive than expected. |
| Accommodation           | 445.5           | 300.9         | 144.6         | Amount of people was less than expected                                                      |
| Contingencies           | 665             | 665           |               | Used for diving                                                                              |
| Institutional overheads | 443.4           | 443.4         | 0             |                                                                                              |
| <b>Total</b>            | <b>4433.7</b>   | <b>4433.7</b> | <b>2448.7</b> |                                                                                              |

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

1. In-depth analysis of the data gathered during this fieldwork and from what was received from divers.
2. To continue monitoring the manta ray population.
3. To explore sites which are not used by dive centres and more islands.
4. To form an estimate of the fishing efforts and yield of manta and other elasmobranchs in the Andaman Islands.
5. To gather DNA samples for fished manta and mobula rays in order to compare populations between regions.
6. To use recreational divers to gather manta and mobula ray information to monitor populations.
7. To look into the importance of manta and mobula rays in fishing practices and come up with alternatives.
8. To deepen the collaboration with local scientists and environmental organisations in India.
9. To educate the local people on the problem on marine litter and the effects on marine life in the Andaman Islands and come up with alternatives.

**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?**

The logo was displayed on the education resources, databases and presentations given out to dive centres in Havelock as well as to researchers willing to collect additional data. It was also used on the website and on the Facebook page. Reports once completed will include the logo as well.

**11. Any other comments?**

It was very motivating to find so many local people very interested in conservation and ready to help in any way possible. Diving tourism is booming and when divers are rightly informed this may also have a positive effect on marine populations.

I would like to thank Rufford Foundation for the opportunity to create this project and to contribute to manta and mobula conservation.

I look forward to future collaborations.