

## Final Evaluation Report

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Your Details	
Full Name	Evan Nazareth
Project Title	Assessing the status of Sharpnose guitarfish ( <i>Glaucostegus granulatus</i> ) and the role of coastal habitats in their life histories in Andaman Islands, India
Application ID	28040-1
Date of this Report	25/05/2022

**1. 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
Map out the potential distribution of giant guitarfish in the Andaman Islands				Completed using data gathered through interview surveys.
Identify areas where giant guitarfish pups aggregate				Restrictions due to the COVID pandemic and adverse weather conditions.
Identify factors that influence the aggregation of giant guitarfish pups				Restrictions due to the COVID pandemic and adverse weather conditions.

**2. Describe the three most important outcomes of your project.**

- a).** Documenting the widespread distribution of giant guitarfish in the Andaman Islands.
- b).** Publishing a manuscript presenting some of the findings of this study and discussing the conservation implications that it could have.
- c).** Observing pups of five other shark and ray species also using these shallow coastal waters.

**3. Explain any unforeseen difficulties that arose during the project and how these were tackled.**

The COVID pandemic and the restrictions that followed had a major influence on the timeline of the project and the type of work that could be carried out. The lockdowns (March to May 2020 and May to July 2021) prevented us from carrying out field work. However, this time was utilised to analyse the data collected and publish a manuscript titled "Distribution of the Critically Endangered Giant Guitarfish (*Glaucostegus typus*) based on Local Ecological Knowledge in the Andaman Islands, India", in the journal *Ocean and Coastal Management*\*.

The original timeline for the project took into consideration the intense monsoon seasons (May to December) that the islands experience, and our field work was planned around this. But the addition of travel restrictions and lockdowns added additional factors that needed to be considered when planning the work. In some cases, this provided us with a much shorter time to carry out field work.

The travel restrictions prevented us from conducting fieldwork at multiple locations across the Andaman and Nicobar Islands. So, the objectives of the study were

modified to make the best of the situation at hand and use the time effectively. Since traveling between islands was not possible, we settled on a single site to survey and evaluated the effectiveness of Visual Transect Survey vs Baited Remote Underwater Video Surveys (BRUVS). This helped us identify a method and protocol that proved effective in detecting juvenile giant guitarfishes in shallow coastal waters. Once travel restrictions were relaxed and we could sample at multiple locations, we were able to better evaluate the method and protocol that we used.

#### **4. Describe the involvement of local communities and how they have benefitted from the project.**

The data that have been collected over the course of this project, and which were published\*, have provided a significant leap forward in mapping out the distribution of this Critically Endangered species in the Andaman Islands. Previous studies had only documented few sightings of giant guitarfish (*Glaucostegus typus*) from landing sites around South Andamans. This study has shown that the species is widespread throughout the Andamans and may be using many of its shallow coastal waters as nursery grounds. Hence, this study has not only helped identify a globally significant population of this threatened species but has also helped identify a part of their range which may be serving as an ideal habitat for juveniles of the species. If this is true and conservation measures are taken to protect these habitats and regulate other anthropogenic threats, the Andaman Islands could serve as a safe refuge for a species that is on the verge of extinction across most of its range.

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

The first phase of the project utilised Local Ecological Knowledge, which involved conducting interviews with local communities. Local communities represent major stakeholders in the utilisation and conservation of natural resources. The involvement of these communities in conservation driven research can play a major role in determining the long-term success of these projects. By engaging with these communities during the first phase of this project we have taken an important step towards incorporating local knowledge into the collection of data that could aid in future conservation initiatives.

We also conducted a workshop with the armed forces operating along the Andaman's coastline. However, since this project was primarily focusing on collecting baseline data on these elusive species, community engagement was not a major focus of the project and as a result it did not provide any direct benefits to local communities.

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

Yes, during the course of this study we also documented several species of rays, sharks, turtles and dugongs utilising some of these shallow coastal habitats. Moving forward we plan on documenting how giant guitarfish and these other threatened species are utilising these coastal areas. Identifying areas that are dependent to a wide variety of threatened marine species would better justify the protection of these habitats and the species that depend on them.

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

This study not only helped collect baseline data on giant guitarfish in the island but also showed that these shallow coastal waters are being utilised by other threatened species. Moving forward we not only hope to better understand the way in which giant guitarfish are utilising these coastal habitats, but also document the range of other megafauna utilising these habitats. In doing so we hope to highlight the importance of these coastal habitats to a range of species which would further support the conservation of these exploited and rapidly degrading coastal areas and in turn help conserve the species that depend on them.

Disseminating our findings to local stakeholders is also an important step that we plan on engaging with as the project progresses. This will help us work along with communities that depend on these coastal areas to better manage and conserve them and the species that live there.

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

The logo was included on all presentations that were used to spread awareness about the project and its results at Nature Conservation Foundation annual meeting, the Rufford Conference and the workshop conducted with the armed forces in the Andaman Islands.

The Rufford Foundation was also credited for being the sole source of funding for this project in a manuscript published in *Ocean and Coastal Management*\*, as well as an article that was published in *Shark News*, the official IUCN Species Survival Commission Shark Specialist Group magazine\*\*.

We will also continue to credit the Rufford Foundation in any additional manuscripts and articles that are published based on the findings of this project.

**9. Provide a full list of all the members of your team and their role in the project.**

**Dr. Rima W. Jabado (Project Advisor)**

Served as a project advisor with vast knowledge and experience in the field of shark and ray research and conservation.

**Dr. Rohan Arthur (Project Advisor)**

Served as a project advisor, he played an important role in the designing the study.

**Dr. Erika D'Souza (Project Advisor)**

Served as a project advisor with years of experience working in the Andaman Islands, she provided information about field logistics and feasibility of the study design.

## 10. Any other comments?

The team at The Rufford Foundation have been very accommodating and easy to work with and I would like to thank them for their support and flexibility during these difficult times.

### References

\* Nazareth, E., D'Souza, E., Arthur, R., Jabado, R.W., 2022. Distribution of the Critically Endangered Giant Guitarfish (*Glaucostegus typus*) based on Local Ecological Knowledge in the Andaman Islands, India. *Ocean Coast. Manag.* 220. <https://doi.org/10.1016/j.ocecoaman.2022.106075>

\*\*[https://www.iucnssg.org/uploads/5/4/1/2/54120303/iucn\\_ssc\\_ssg\\_shark\\_news\\_issue\\_05\\_april\\_2022-s.pdf](https://www.iucnssg.org/uploads/5/4/1/2/54120303/iucn_ssc_ssg_shark_news_issue_05_april_2022-s.pdf)