

## Final Evaluation Report

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Your Details	
<b>Full Name</b>	Phan Minh Tam
<b>Project Title</b>	Dolphin in the city: Protecting endangered Irrawaddy dolphins in Can Gio, Ho Chi Minh City, Vietnam
<b>Application ID</b>	38223-1
<b>Date of this Report</b>	06/11/2024

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

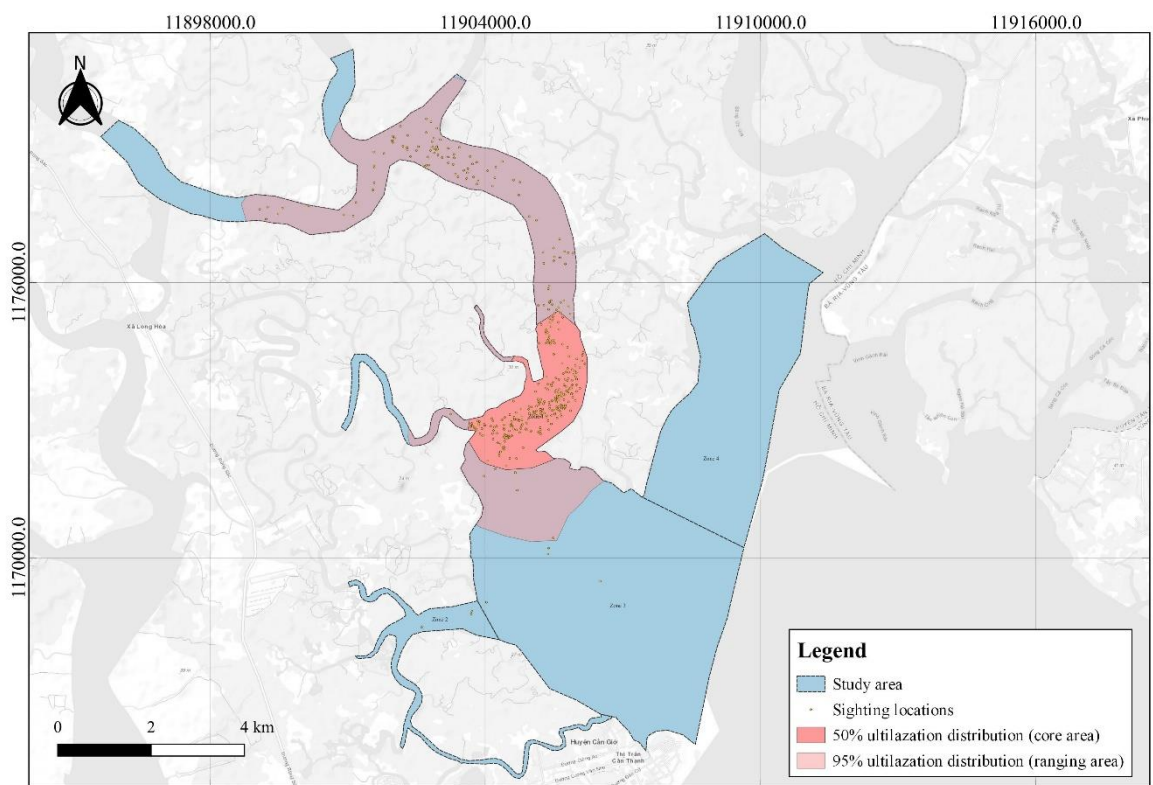
Objective	Not achieved	Partially achieved	Fully achieved	Comments
A comprehensive ecological baseline for Irrawaddy dolphins in CGMBR, with a focus on population size and trend, spatiotemporal distribution, and habitat use is established				The current data could only provide an understanding of the population size and spatiotemporal distribution of the Irrawaddy dolphin in CGMBR.
The first assessment of anthropological threats to the Irrawaddy dolphins in CGMBR is established				The potential threats to Irrawaddy dolphin population have been identified.
Local stakeholders (local authorities and local communities) are engaged and involved in Irrawaddy dolphin research, conservation, and management				Our project has received much attention and support from many local stakeholders.

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

a). The first photographic database (photo catalogue) for Irrawaddy dolphins in CGMBR: During the survey, a total of 11,204 dorsal fin photographs of Irrawaddy dolphins were taken, with 5,834 LDF and 5,370 RDF captures. Among those, only

2,464 (42.2%) photographs of LDF and 1,749 (32.6%) photographs of RDF met criteria  $D \geq 3$  and  $Q \geq 2$ . The LDF database could determine 45 individuals but the RDF could only identify 36.

b). The first baseline data on distribution and habitat use of the Irrawaddy dolphin population in CGMBR: The survey results showed that Irrawaddy dolphins have been mostly observed in the Long Tau River Upstream area which is zone 1 of the study area. Specifically, they were most sighted in the Long Tau River estuary and upstream of the Long Tau River which is 7 km from the river mouth. Kernel Density Estimation results showed that the core areas (50% UD) of Irrawaddy dolphins were very small, which was only 4.39 km<sup>2</sup>. The core area was concentrated in the lower Long Tau River. While the overall range area (95% UD) of Irrawaddy dolphins was estimated to be 16.34 km<sup>2</sup>. Parallel to Kernel density estimates approach, the Minimum Convex Polygon (MCP range) of identified Irrawaddy dolphins was computed to be 19.58 km<sup>2</sup>.



**Figure 1 Kernel density estimate of Irrawaddy dolphin core habitat**

c). The first population estimate: The abundance estimates of Irrawaddy dolphins varied between three primary sampling occasions from 77 (95% CI [65-113]) in Oct-

Dec 2022 to 60 (95% CI [56-77]) in Feb-Apr 2023, and to 74 (95% CI [62-110]) in Jun-Aug 2023.

d). Identifying the potential threats to the Irrawaddy dolphin population in CGMBR, especially vessel traffic and fishing practices.

e). Successfully organised the first mobile exhibition to raise awareness of communities on dolphins in the project area.



**Figure 2** From left to right: Irrawaddy dolphin mascot; Irrawaddy dolphin mascot attracts many kids and visitors to visit our exhibition booth

f). Engagement with Maritime Administration of Ho Chi Minh City on the potential conservation plan of the dolphin population.

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

The study area presents complexities due to overlapping administrative management. The water passages within Can Gio are crucial maritime routes managed by the Ho Chi Minh Maritime Administration. Moreover, Gio Can serves as a maritime boundary area overseen by the Vietnamese Border Guard. Biodiversity and fishery aspects fall under the purview of the Ho Chi Minh City Department of Fishery. Stakeholder engagement was challenged due to the complex policies and the dense working schedule.

Due to the constraints posed by the high cost of installing a billboard and the intricate political landscape in our project area, we have decided to adapt our strategy by enhancing our activities in the mobile dolphin exhibition. The exhibition took place during a local festival that attracted 10,000 visitors and involve the whole

local communities. With the dolphin exhibition, we featured the Irrawaddy dolphin mascot along with video clips, photo and hand-held hashtag. While a billboard would have provided a static form of communication, the mobile exhibition offers a dynamic and interactive platform to reach a wider audience, including local communities, tourists, and stakeholders. By utilising this approach, we can effectively raise awareness about Irrawaddy dolphin conservation in a more accessible and inclusive manner. The presence of a mascot adds an element of excitement and intrigue, drawing attention to the importance of protecting these majestic marine mammals and their habitat. Through educational displays, interactive exhibits, and informative sessions, we can inspire greater appreciation for marine biodiversity and foster a sense of stewardship among all who encounter our exhibition. Despite the challenges we faced, this alternative approach allows us to maximise our impact and continue our mission of safeguarding the Irrawaddy dolphin population in our project area.

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

During this project, we have hired a local boat operated by locals to do the boat-based surveys. Mr. Nguyen Van Thanh, our excellent boat skipper has much knowledge of Irrawaddy dolphins in CGMBR. He also has good eyes, which greatly helped us during the boat-based survey. Throughout this project, not only was his income improved but also gained more understanding of this species.

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

We are planning to establish a monitoring programme, further stakeholder engagement and long-term education campaign to strengthen the protection of the core habitat to ensure the survival of this population. Our preliminary plan and anticipated activities are:

- Establish a robust long-term monitoring programme to track population trends, habitat use, and threats to Irrawaddy dolphins in CGMBR.
  - Develop standardised protocols for data collection, including photo-identification surveys, acoustic monitoring, and habitat assessment.
  - Establish a dedicated team for regular monitoring activities, including trained field researchers and data analysts.
  - Implement a systematic approach for data analysis to assess population dynamics, habitat utilisation patterns, and trends in anthropogenic threats.

- Utilise advanced technologies such as drones and satellite imagery to enhance monitoring capabilities and spatial analysis of habitat use.
- Strengthen engagement with local stakeholders, including communities, government agencies, and NGOs, to garner support for conservation efforts and sustainable development initiatives.
  - Conduct regular meetings and workshops with local communities, government agencies, and NGOs to share project findings, solicit feedback, and co-develop conservation strategies.
  - Collaborate with local fishers and tour operators to implement sustainable practices that reduce potential threats to Irrawaddy dolphins, such as bycatch and disturbance from boat traffic.
  - Establish community-based conservation initiatives, including alternative livelihood programmes and eco-tourism opportunities, to incentivise conservation stewardship among local stakeholders.
- Expand educational outreach efforts to raise awareness about marine mammal conservation and the importance of CGMBR as an IMMA.
  - Expand the existing mobile exhibition and educational materials to reach a broader audience, including schools, universities, and tourism establishments within Ho Chi Minh City and Vung Tau province.
  - Organise workshops and training sessions for educators and community leaders to integrate marine mammal conservation topics into formal and informal education curricula.
  - Continue to utilise social media platforms, documentaries, and public events to raise awareness about the importance of CGMBR as an IMMA and the need for collective action to protect marine biodiversity.
- Foster collaboration with regional and international partners to promote CGMBR's recognition as an IMMA and enhance conservation efforts on a broader scale.
  - Engage with relevant international bodies, such as IUCN and the Marine Mammal Protected Areas Task Force, to nominate CGMBR as an IMMA.

- Form partnerships with other marine conservation projects and research institutions in the region to share data, best practices, and collaborative opportunities for marine mammal conservation.
- Advocate for policy support and funding opportunities at the regional and national levels to sustain long-term conservation efforts in CGMBR and promote its recognition as a globally significant marine mammal habitat.
  - Engage with government agencies and policymakers.
  - Advocate for policy support and funding.
  - Collaborate with national conservation organisations.

Regular monitoring and evaluation will be conducted to assess the effectiveness of conservation actions and adapt strategies as needed. Key performance indicators will include changes in dolphin population size, habitat quality, stakeholder engagement levels, and progress towards IMMA recognition. By implementing this comprehensive continuation plan, we aim to ensure the long-term conservation and sustainable management of the Irrawaddy dolphin population in CGMBR. Through ongoing monitoring, stakeholder engagement, education campaigns, and collaboration, we strive to promote CGMBR's recognition as an IMMA and contribute to the global conservation of marine mammals.

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

As a part of my master's thesis, I will present the project results at the thesis defense at Ho Chi Minh City University of Science. The participants of this presentation include the thesis committee, professors, researchers, and students.

Leaflets and information about the project finding will be presented at the 25th Biennial Conference on the Biology of Marine Mammals in Perth, Western Australia, in 2024.

We are planning to publish a paper on the project finding in the Marine Mammal Science Journal in the third quarter of 2024.

The final technical report will be submitted to the relevant stakeholders to support their planning and decision-making processes. This report will also be published in ResearchGate, which is easier to access for domestic and international researchers.

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

Although the first comprehensive ecological baseline has been conducted, several aspects remain uncertain. For example, the current data was not strong enough to provide the population trend and the survival of this population in CGMBR.

Therefore, long-term monitoring is needed to collect more data to provide a better understanding of those remaining aspects.

Additionally, the uncertainty persists regarding the impact of identified threats on the Irrawaddy dolphin population. Further research is imperative to elucidate this matter and provide effective conservation strategies.

**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 Rufford Foundation logo has been only used in the Irrawaddy dolphin stickers set designed to be distributed to participants in the exhibition. This material has been mentioned in the project update report in October 2023. The Rufford logo was also used as handheld hashtag for people to hold and take photos during our dolphin exhibition event in Can Gio. We estimate that the Rufford logo has appeared on at least 200 photos on different social media platforms.

The Rufford Foundation has always been receiving our acknowledgement in all of our activities. For example, when engaging with local stakeholders, our team have presentation with Rufford's logo on it. In the upcoming the 25th Biennial Conference on the Biology of Marine Mammals in Perth, Western Australia, in November 2024, we will ensure that Rufford logo is well displayed in CBES booth and materials that related to this project.

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

S/N	Full Name	Role
1	Phan Minh Tam	Project Leader/Project Investigator
2	Vu Long	Co-Investigator
3	Louisa Ponnampalam	Project advisor
4	Nguyen Khanh Luong	Observer/Photographer/Spatial data analysis
5	Nguyen Trong Duc	Observer/Photographer/Logistic support
6	Nguyen Hoang Thien	Observer/Photographer
7	Vo Trong Tai	Observer/Photographer
8	Truong Anh Tho	Communication
9	Nguyen Thanh Ngoc Han	Communication
10	Tran Ly Anh Duy	Volunteer/Data recorder/Designer
11	Vo Hoang Khoa	Volunteer/Data recorder



S/N	Full Name	Role
12	Nguyen Thanh Long	Volunteer/Data recorder
13	Le Minh Thien	Volunteer/Data recorder
14	Cao Le Minh Thi	Volunteer/Communication/Designer

**10. Any other comments?**

We extend our sincere appreciation to The Rufford Foundation for providing funding for our project. This support serves as a crucial foundation for us to continue our work at the site. Unfortunately, we could not set up the billboard on the Irrawaddy dolphin in the local harbour (as proposed in our proposal) due to the high price and complexity of local policies. However, the dolphin mobile exhibition and distribution of other educational materials were very successful, which ensure that our desire conservation messages spreading well among the community.