

## Final Evaluation Report

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We ask all grant recipients to complete a project evaluation that helps us to gauge the success of your project. This must be sent in **MS Word and not PDF 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 – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

**Please DO NOT fill in and submit this form until the project has been completed.**

Complete the form in English. Note that the information may be edited before posting on our website.

Please email this report to [jane@rufford.org](mailto:jane@rufford.org).

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| Your Details        |   |
|---------------------|---|
| Full Name           | Ana Maria Garcia Cegarra  |
| Project Title       | Are whale watching tourism and entanglement in fishing nets stressing humpback whales in their breeding area of Peru? |
| Application ID      | 40202-B   |
| Date of this Report | August 2025   |

**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   |
|--|--------------|--------------------|----------------|--|
| <p>Determine whether biologically relevant differences in blubber glucocorticoid levels could be detected between entangled and non-entangled humpback whales and adult humpback whales with and without the presence of whale-watching vessels.</p>       |              |                    |                | <p>We succeeded in the sampling of adult humpback whales with and without the presence of whale-watching vessels.</p> <p>We performed 10 boat surveys and observed a total of 78 individuals of humpback whales. We obtained a total of 36 samples of adult humpback whales (14 with vessels present and 22 without vessels). However we did not succeed in the sampling of entangled humpback whales. Despite observing two entangled whales during our field season, we were not able to obtain skin biopsies as the whales were very elusive and with energy to avoid us. We were able to measure cortisol in blubber of overall biopsied whales and obtain cortisol concentration results.</p> |
| <p>Perform whale-watching best practices and how disentangled whales workshops to tour operators in Los Organos and El Ñuro villages to start the voluntary conduct code to avoid the observation of mother-calf pairs and a network of people able to</p> |              |                    |                | <p>We performed two whale-watching best practices workshops, one in Los Organos and another in Punta Sal training a total of 50 tour operators and showing the results of our previous Rufford 1<sup>st</sup> and 2<sup>nd</sup> small grants studies. We helped in the organization of the how to disentangle workshop performed in Los Organos and contribute in the creation of the disentanglement network.</p>  |

|  |  |  |  |  |
|--|--|--|--|--|
| <p>disentangle humpback whales in the area</p> |  |  |  | <p>The IMARPE (Instituto del Mar del Peru) is the legal authority to take place in activities related with marine megafauna in Peru. As we are an external NGO we could not organize by ourselves the workshops. Hence in order to guarantee that overall governmental authorities in Peru participated in the workshop, the date of performance was posterior to our field work. Finally, the disentanglement workshop was performed the 4<sup>th</sup> of December 2024.</p> <p>We are going in October 2025 to reinforce whale-watching best practices in Los Organos, jointly with WWF Perú by performing another workshop on best practices. We will help in the deployment of satellite tag on juvenile humpback whales in order to study their migratory paths.</p> |
|--|--|--|--|--|

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

- a) This study has been part of the Master Thesis of Bairon Cuevas to obtain his title in Marine Ecology. We success in measure cortisol in adult humpback whales with and without the presence of whale watching vessels during their breeding season 2024 in northern Peru.
- b) Cortisol results show that mother-calf pairs are the more vulnerable groups under the presence of vessels with a significant increase of cortisol during whale-watching vessels present. While the rest of social groups (competitive groups, pairs, or single individuals) do not show significant variation in cortisol in the presence of whale-watching vessels.
- c) A total of 50 tour operators were trained in whale-watching best practices and try to avoid the observation of mother-calf pairs and a disentanglement networks has been created in Los Organos.

Note that other species of whales such as Bryde whale (*Balaenoptera bonaerensis*), blue whale (*Balaenoptera musculus*), and southern right whale (*Eubalaena australis*) are observed in the area. They are also subjected to

unregulated whale-watching activities. And for example the report of a dead calf of southern right whale was observed in Ecuador, potentially dead due to collision with a vessel (Castro et al., 2024 [doi.org/10.1371/journal.pone.0312528](https://doi.org/10.1371/journal.pone.0312528)).

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

During field work it was very difficult to obtain skin biopsy samples of entangled humpback whales. In the first instance when an entangled individual was observed by other tour operators we did not arrive in time to the position and did not see the whale. And when we observed an entangled whale it was very difficult to approach and biopsied it. Hence we could not measure cortisol in blubber of entangled individuals but we could assist to two stranded humpback whales in northern Chile which cause of death was entanglement in fishing nets and we were able to measure cortisol in the blubber of these two dead individuals.

Due to my pregnancy status I could not perform laboratory analyses in 2024 and the beginning of 2025. Hence we performed the cortisol analysis and sex determination of humpback whales skin/blubber samples by July 2025. This delayed the results obtaining of our study and the elaboration of the final report.

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

We have trained tour operators in Punta Sal and Organos in good navigation practices and promote whale-watching best practices during our workshops. Also we encourage avoiding the observation of mother-calf pairs of humpback whales and keeping a safe distance from the whales.

We have contributed to follow the voluntary Peruvian whale-watching regulation protocol among whale-watchers and we hope with the publication of our results in a scientific journal contribute to the mandatory whale-watching guidelines in Peru.

We have encouraged other marine biology students in Peru to pursue a career in cetacean research and go to Chile to perform a Master's Degree as there are no masters programs in Peru.

Furthermore, we were invited to give a talk in the Sustainable Management of Whale-watching Workshop organized by the Peruvian Ministry of Tourism in October 2024 in Los Organos regarding our research on whale-watching effects on humpback whales in Peru.

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

Absolutely! Whale-watching regulation in Peru is currently voluntary and we aim to develop a mandatory conduct code for whale-watching and a regulation of the carrying capacity of whale-watching activity in northern Peru. Hence we plan in the short-term:

- To write a scientific paper with the results of this study and show that whale-watching vessels are stressing mother-calf pairs of humpback whales in Los Organos.

- To publish the results of this study in international conferences and among local communities and authorities in northern Peru.
- To train young Peruvian biologist in cetaceans' research and to encourage them to perform a Phd and/or Master studies.
- To continue the research on whale-watching effects in the behaviour of humpback whales, especially on mother-calf pairs in order to avoid their observation.

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

- Scientific publications: This study has been part of the Master thesis of a student and the results will be part of his master defence and writing. Moreover we are writing a scientific paper of this study and the results will be showed in the Conference of the Society of Latin American Aquatic Mammals Specialists (SOLAMAC) in Mexico next December 2025.
- Social media: we have published the activities performed during field work in CETALAB instagram with a very high participation.
- Workshops: workshops are needed at the beginning of the whale-watching season to promote responsible whale-watching among local tour operators and propose to avoid the observation of mother-calf pairs.
- We have shared our findings with the Peruvian authorities through our participation in the Foro Internacional de Turismo Responsable de Avistamiento de ballenas organized by Save the Blue Five which had the presence of Organos Major, Ministry of Tourism and Peruvian Navy authorities.

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

The most important next step is to publish the results of this study in a scientific journal and with this inform the Peruvian authorities of PRODUCE the importance of create mandatory whale-watching regulations in the country. It is also important to perform at the beginning of each humpback whale breeding season workshops of whale-watching best practices.

It is necessary to continue whale-watching effects research on the behaviour, welfare and physiology of humpback whales in order to contribute to the scientific knowledge and contribute to the creation of mandatory whale-watching regulations.

I will apply for the next funding of the Rufford Foundation to understand the health effects of whale watching on humpback whales.

## **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?**

Yes! We printed cetacean's identification guides and whale-watching best practices guides which were distributed among local tour operators during our workshops. We print t-shirts with the Rufford Foundation Logo during field season in Peru. The Rufford Foundation logo was used in every power point presentation.

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

**Ana M. Garcia-Cegarra** – Main scientific advisor, design and coordinate project activities. Coordinate field work in Los Organos and logistics. Laboratory logistics.

**Luis Aguilar** – Research assistant to obtain skin and blubber tissue samples of humpback whales during field season.

**Bairon Cuevas** – Master thesis student, assist in skin biopsy sampling, data obtaining of humpback whales position, behaviour and group composition. Sex determination analysis and cortisol analysis.

**Piero Uceda Vega** – research assistant during field season, photo identification of biopsied individuals. Permit obtaining for CITES and biopsy sampling with PRODUCE and IMARPE.

**Shaleyla Kelez** – logistics during field season, permits obtaining for CITES and biopsy sampling.

**10. Any other comments?**

I want to thank the Rufford Foundation to provide the necessary funds to perform this study. Without the support it would have been impossible to perform field season, sampling obtaining and laboratory analysis. These funds are very important to perform high quality research in remote and poorly studied places.



MUNICIPALIDAD DISTRITAL DE  
**LOS ORGANOS**

# CAPACITACIÓN

**BUENAS PRACTICAS EN EL DESARROLLO DE  
LA ACTIVIDAD DE AVISTAMIENTO DE  
FAUNA MARINA**

**DÍA: LUNES 12  
DE AGOSTO  
HORA: 3:00 P.M.**

**PONENCIA  
A CARGO DE:**



**LUGAR**  
**BIBLIOTECA DE LA  
I.E AUGUSTO SALAZAR BONDY**



Municipalidad Distrital de Los Órganos

**#ORGANOSAVANZA**  
Lo que se promete, se cumple

Figure 1: Invitation of the Los Organos Major to our workshop.



**Figure 2:** Whale-watching best practices workshop participants in Los Organos.



**Figure 3:** Whale-watching best practices workshop participants in Punta Sal.

# Mincetur organiza foro turístico para fortalecer el avistamiento de especies marinas

Creado por administración - 28th Oct 2024



Titulado “Gestión Sostenible para el Avistamiento de Fauna Marina”, es una iniciativa del Mincetur en colaboración con la Dirección de Productos y Destinos Turísticos (DPDT) del Viceministerio de Turismo, la Municipalidad Distrital de Los Órganos (Piura), y con el apoyo de la Cooperación Alemana GIZ.



Con fecha el jueves 31 de octubre, en el Malecón Turístico Los Órganos de Talara, reunirá representantes de instituciones públicas, asociaciones de la actividad turística, agencias de viajes y organizaciones sin fines de lucro, quienes entablarán diálogos para intercambiar conocimientos y experiencias con un enfoque sostenible e inclusivo.

Dentro de los ponentes, se encuentran especialistas de países como Colombia, Chile, Ecuador y Costa Rica, que hablarán de turismo sostenible, gestión y operación turística en espacios marino-costeros, investigación sobre conservación de cetáceos y educación ambiental.

**Figure 4:** Grey literature news regarding the First Workshop on Sustainable Management for Whale-watching in Peru.

The poster features a light blue background with a gradient. At the top left is the logo of the Ministry of Foreign Affairs and Tourism of Peru. At the top right are logos for 'Peru 2024' and 'Sustainable Peru 2024'. The main title is in large white letters: 'PRIMER FORO INTERNACIONAL "Gestión sostenible para el Avistamiento de fauna marina"'. Below this is the subtitle: 'IMPORTANCIA Y APOORTE DE LA INVESTIGACIÓN EN EL DESARROLLO DE LA ACTIVIDAD DE AVISTAMIENTO DE FAUNA MARINA'. The speaker's name and affiliation are listed: 'Dra. Ana María García-Cegarra, Directora CETALAB, Instituto de Ciencias Naturales Alexander von Humboldt, Facultad de Ciencias del Mar, Universidad de Antofagasta, Chile'. The date and location are 'Los Órganos, 31 de octubre 2024'. At the bottom, there is a row of logos for 'SAVE THE FIVE', 'IKI', 'giz', 'CONSERVACIÓN INTERNACIONAL', 'MAR VIVA', and 'MUNICIPALIDAD DISTRITAL LOS ÓRGANOS'. Illustrations of a sea turtle and a whale are also present.

**Figure 5:** our talk in the Whale-watching Sustainable Management Workshop organized by the Ministerio de Comercio Exterior y Turismo of Peru.

PRIMER FORO INTERNACIONAL / **Gestión Sostenible para el avistamiento de fauna marina** 2024 / LOS ÓRGANOS - PERÚ 21 DE OCTUBRE





| HORA          | ACTIVIDAD  |
|---------------|--|
| 07:55 - 08:30 | Registro   |
| 08:55 - 09:00 | Presentación del evento  |
| 09:00 - 09:05 | Palabras de bienvenida<br><b>Manuel Helmer Garrido Castro</b><br>Alcalde de la Municipalidad Distrital de Los Órganos  |
| 09:05 - 09:10 | Palabras de apertura<br><b>Luis Alberto Guillen Vidal</b><br>Director General de la Dirección General de Estrategia Turística MINCETUR.  |
| 09:10 - 09:25 | <b>Oportunidades para el turismo sostenible en la Reserva Nacional Mar Tropical de Grau - Perú</b><br><b>Juan Carlos Heaton Alfaro</b><br>Responsable de la UF Gestión de Turismo  |
| 09:25 - 09:45 | <b>Gestión y manejo de mamíferos acuáticos en Colombia</b><br><b>Gustavo Lara Rodríguez</b><br>Dirección de Asuntos Marinos Costeros y Recursos Acuáticos del Ministerio de Ambiente y Desarrollo Sostenible de Colombia                                       |
| 09:45 - 10:05 | <b>Avistamiento de fauna marina: Motor del desarrollo socioeconómico - Ecuador</b><br><b>Cristina Castro Ayala</b><br>Directora de Programas de Pacific Whale Foundation   |
| 10:05 - 10:25 | <b>Importancia y aporte de la investigación en el desarrollo de la actividad de avistamiento de fauna marina (Ponencia virtual)</b><br><b>Ana García</b><br>Directora del Laboratorio de Estudio de Megafauna Marina de la Universidad de Antofagasta de Chile |
| 10:25 - 10:40 | Coffee Break   |

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**Figure 6:** Program of the Sustainable Management of Whale-watching workshop with our participation.



# CETÁCEOS DEL NORTE DE PERÚ



**Ballena azul**  
(*Balaenoptera musculus*)

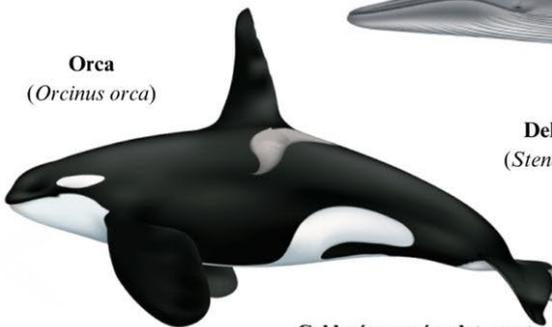


**Ballena jorobada**  
(*Megaptera novaeangliae*)

**Ballena bryde**  
(*Balaenoptera bonaerensis*)



**Orca**  
(*Orcinus orca*)



**Delfin moteado**  
(*Stenella attenuata*)



**Delfin oscuro**  
(*Lagenorhynchus obscurus*)



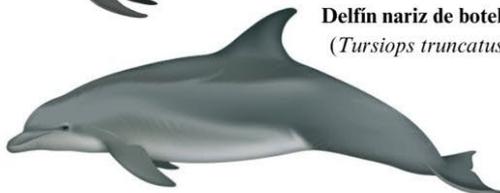
**Calderón común aleta corta**  
(*Globicephala macrorhynchus*)



**Delfin común hocico largo**  
(*Delphinus capensis*)



**Delfin nariz de botella**  
(*Tursiops truncatus*)



**Delfin común hocico corto**  
(*Delphinus delphis*)



**Figure 7:** Cetaceans identification guide, printed.

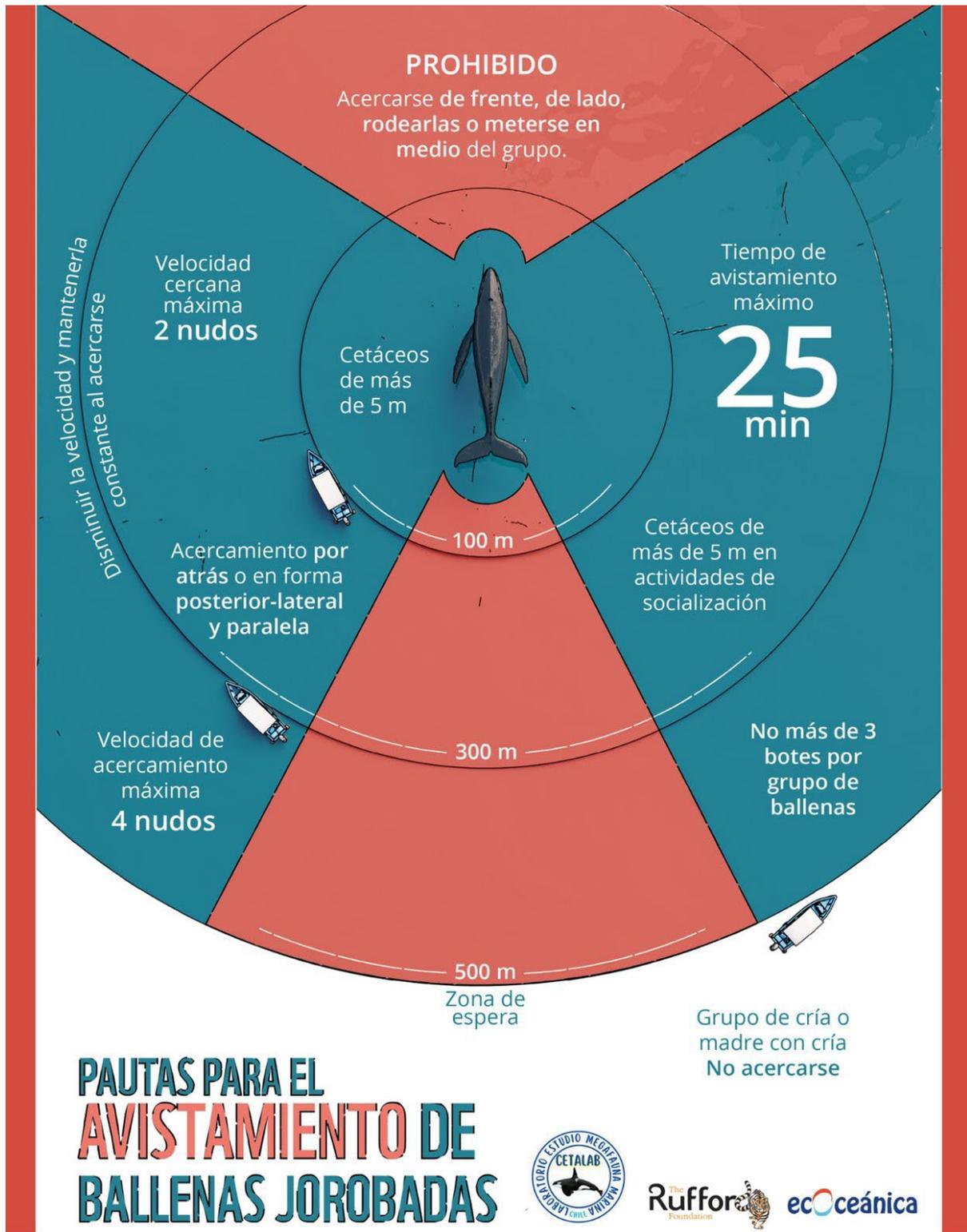


Figure 8: whale-watching best practices guide, printed.

**ANNEX – Financial Report**  
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