





Darwin Initiative Main: Annual Report

To be completed with reference to the "Project Reporting Information Note": (https://www.darwininitiative.org.uk/resources/information-notes/)

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes)

Submission Deadline: 30th April 2024

Submit to: BCF-Reports@niras.com including your project ref in the subject line

Darwin Initiative Project Information

Project reference	DPLUS177
Project title	Humpback Whales of the Pitcairn Islands
Country/ies	Pitcairn Islands
Lead Partner	King's College London
Project partner(s)	Government of Pitcairn Island
Darwin Initiative grant value	£99,723
Start/end dates of project	Jun 2022-Dec 2024
Reporting period (e.g. Apr 2023 – Mar 2024) and number (e.g. Annual Report 1, 2, 3)	April 2023 – Mar 2024 Annual Report 2
Project Leader name	Professor Terence
Project website/blog/social media	https://www.kcl.ac.uk/research/humpback-whales-of-the- pitcairn-islands
Report author(s) and date	Terence , Katherine , Emily , April 2024

1. Project summary

The humpback whales (Megaptera novaeangliae) found around the Pitcairn Islands are of scientific and conservation interest as they appear to be a satellite group of International Whaling Commission breeding sub-stock F2 (Oceania) from neighbouring French Polynesia. Whilst populations of humpback whales in the rest of the world have recovered well from commercial whaling, the Oceania sub-population, has not recovered so swiftly. It is likely to have declined 70% since 1942 due to intense Soviet whaling in Antarctic feeding grounds and was listed as Endangered on the IUCN Red List in 2008. The exact links between the humpback whales in the Pitcairn Islands and breeding sub-stock F2 are unknown due to the current lack of migratory and connectivity studies.

Understanding key demographic factors is essential in assessing their recovery from this intense exploitation and is a crucial step for their conservation worldwide. The IUCN Marine Mammal Protected Areas Task Force notes that the Pitcairn Islands are considered to be of significant interest for potential marine mammal conservation within the Pacific Island region as an important breeding and calving site and may require enhanced effort for monitoring species of marine mammal. The proposed project will collect photo-identification and genetic data to facilitate an

assessment of connectivity to other sites in the Oceania region, improving our understanding of the population's status and enhancing regional conservation efforts. It will directly address a number of actions in the Oceania Humpback Whale Recovery Plan specifically investigating emerging areas of interest with little or no historical records of whales and determining importance as breeding grounds or migratory corridors as well as improving understanding of breeding stock structure. The Pitcairn Islands Marine Protected Area (MPA), which covers almost 842,000 km2 of ocean prohibits all damaging human activities and provides a safe haven for the visiting whales. Improved understanding of site fidelity and importance of the area for breeding will help to assess the significance of the MPA for the conservation of humpback whales within the wider South Pacific region.

Humpback whales are an iconic species for the South Pacific; they also underpin the economic benefits derived from whale-watching in many Pacific Island states. In the Pitcairn Islands, a whale watching code of conduct has been developed to prevent disturbance to the humpback whales. The information obtained as part of this project will be used to develop materials to raise awareness of the importance of the MPA for marine species such as humpback whales amongst tourists and encourage responsible behaviour. It will also provide training to the local community to enable them to act as local tour guides for both land-based and boat-based whale watching. The project will therefore ensure that management measures within the MPA are effective in terms of minimising threats to the humpback whale population and, in particular, will ensure that current and future tourism activities are well managed and do not cause disturbance to the animals.

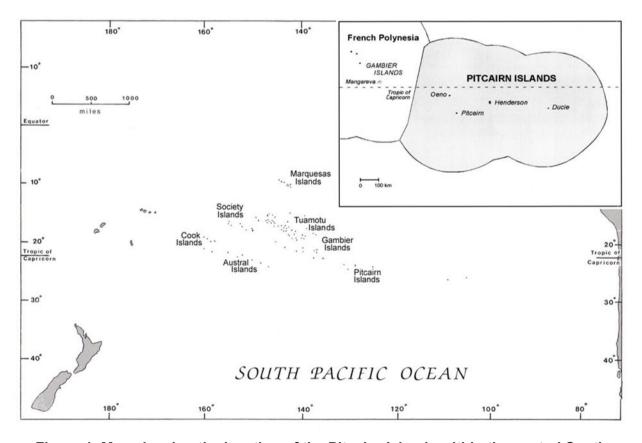


Figure 1. Map showing the location of the Pitcairn Islands within the central South Pacific and (insert) the extent of the EEZ around the islands.

2. Project stakeholders/ partners

Project partnerships

The main project partners are as follows:

Terry Dawson Project (Leader), King's College London

Katherine McCoy (PhD Student), King's College London and Zoological Society of London (ZSL). Supervision committee: Terry Dawson, Michael Chadwick (KCL), Tom Letessier (ZSL) and Catherine Horswill (ZSL).

Michele Christian (Island logistics coordinator), Pitcairn Island Government

Emily Hardman (Blue Belt programme coordinator and tourism lead), Marine Management Organisation, UK

Ellen Garland and Luke Rendell, (hydrophone technical support and whale song analysis and training), Sea Mammal Research Unit, St. Andrews University

Tilen Genov (genetics and biopsy sampling lead, photo IDs and training), Morigenos - Marine Mammal Society of Slovenia.

The team have all worked together on projects previously.

This project builds upon an earlier Darwin project 20-006 "A sustainable marine and fisheries management plan for the Pitcairn islands" where the Pitcairn Islands were first identified as an important breeding ground for the endangered Oceania sub-population (Dawson et al., 2017; Irving et al., 2018) and a citizen science whale sightings recording scheme was trialled. A follow-up expedition to Pitcairn Island in 2018 by Dawson and Hardman resulted in the collection of two biopsy samples for DNA analysis recorded in the South Pacific Whale Research Consortium database. Through the Blue Belt Programme, Hardman has assisted the GPI to develop a whale watching code of conduct and facilitated practical training for Island-based tour operators in the implementation of this code of conduct. However, this work identified that further training is necessary to enable the islanders to create a citizen science photo catalogue of natural marking patterns for individual whale identifications.

Community engagement

The project is already working in partnership with the island community, Pitcairn Islands Tourism and the Environment, Conservation and Natural Resources Division, GPI. This support has already been firmly established through a 12+ years collaboration with the project leader, Environmental, Conservation & Natural Resources and Tourism Divisions as well as the wider enthusiastic Island community. Community engagement was undertaken during visits to the Pitcairn Islands in July to September 2023. A community workshop was held on 20th September 2023 which was attended by 13 stakeholders from the local community including representatives from the Island Council. The workshop was highly participatory and gained an understanding of what opportunities there are for the development of new nature-based tourism activities in the Pitcairn Islands and what the community hopes these will achieve. A community questionnaire was also conducted with 18 households to understand their views and perceptions of the Marine Protected Area (MPA) and how benefits to the local community can be enhanced through marine nature-based tourism. At the end of the visit, presentations were given to the whole community on the work conducted by both Hardman and McCoy, which were very well received.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1. Humpback whale population around the Pitcairn Islands documented, analysed and findings published, generating recommendations on standardised monitoring methods to inform UK Blue Belt and international commitments.

Activity 1.1. Conduct surveys to determine the occurrence and spatial distribution of humpback whales and their nursery/calving grounds.

Between July – September 2023, presence monitoring and photo identification were carried out from land and from boat-based surveys around Pitcairn Island, supported by the local community. All survey effort was recorded along with environmental conditions (sea state, wind speeds, visibility). Sightings data included initial sighting cue, group size (min, max and best estimate), group composition and any notable behaviours. Whenever possible, photos were taken to help establish group size and composition. During the second week of the field season, the island experienced one of the worst storms noted anecdotally for 23 years. This significantly impacted boat and viewpoint access thus, data collection was carried out opportunistically.

Across the 31 days of observation, 40.5 hours of sighting effort was carried out with 30 sightings. This resulted in an overall sighting per unit effort of 0.74 per hour. Sighting frequency increased from July to August and August to September; 2, 11 and 20 sightings were made in each month respectively. There was no large variation in frequency of sightings across different hours of the day. The most common group composition found in 2023 was mother-calf pairs, which made up 18 of the total 30 sightings. The first mother-calf pair identified were spotted during at least five different surveys; first spotted on 12th August 2023 and last seen on 18th September 2023 (estimated).

Output 2. Citizen science programme established and populated with individual whale identifications.

Activities 2.1/2.2. A catalogue was created from the boat-based photos of dorsal fins and flukes through manual matching. Photos taken from viewpoints on land were omitted from cataloguing due to low image resolution from great distances. From the photos taken across the 2023 breeding season, 12 individuals have been identified and catalogued for the Pitcairn Islands. There were two mother-calf pairs identified, and a possible third, although this could not be confirmed due to low image resolution. In total, three fluke photos were uploaded to HappyWhale online database, providing three new IDs to the site, meaning they have not been previously seen in the database. Other expeditions have also provided ID photos through HappyWhale; four identified individuals at Pitcairn Island, one individual at Henderson Island, two at Oeno Island and one at Ducie Atoll. 12 images were taken and uploaded to HappyWhale from the Island community as part of the citizen science programme.

These initial findings have been presented at the 35th Annual Conference for the European Cetacean Society (April 2024).

Output 3. Marine megafauna database established for Pitcairn Islands, with data contributing to relevant national and international databases documenting individual humpback whales, GENBANK (DNA sequence data) and whale-songs.

Activity 3.1. Develop protocols to ensure all individual whale sightings and associated information is logged and recorded online and linked/updated to International scientific databases

The utility of the HappyWhale database has been evaluated, with some image contributions already uploaded from local islanders. Further biopsy samples are to be collected in September 2024. DNA analysis is still to be undertaken.

Training for ECNRD staff (Activity 3.2) to be completed in September 2024.

Output 4. Visitors to the Pitcairn Islands are aware of the importance of humpback whales and know how to behave responsibly and Strategy and Action Plan for nature-based tourism in the MPA produced to inform future development of activities.

Activity 4.1 Provide training for local Pitcairn islanders to enable them to work as marine tour guides

In discussion with the Environmental, Conservation and Natural Resources Division (ECNRD) within the Government of Pitcairn Islands, it was agreed that some initial scoping was required to determine what additional training was required for the development of nature-based tourism activities to ensure that any benefits are shared equitably across the local community. Concerns had previously been raised that the activities were focussed on younger people who had access to a boat, excluding other members of the community. As a result, community consultation was undertaken during September 2023. A community questionnaire was undertaken with 18 households (86% of households on the island) to understand how many people are currently involved in nature-based tourism activities and to investigate interest in participation in future nature-based tourism activities. A total of 78% of respondents listed tourism and associated activities as a source of household income however, only 6 respondents (33%) listed marine nature-based tourism as a form of household income. This included whale watching, snorkelling, marine-related land tours, rock pooling and diving. The survey identified an additional 4 households that would be interested in exploring marine nature-based tourism enterprises in the future. A community workshop was also organised which was attended by 13 stakeholders from the local community who discussed current nature-based tourism activities being offered in the Pitcairn Islands and the potential for development of new activities; this included identifying any training required to enable these activities to be taken forwards. More detailed discussions with the Pitcairn Islands Travel Coordinator highlighted that there is a need for training for local tour guides to be able to speak about the MPA and the community's relationship with the marine environment. This scoping work will inform the development and delivery of training in Q1-Q2 of Year 3.

Activity 4.2 Produce films and share these with Pitcairn Islands Tourism for publication on TV and online

Some underwater filming and photography was undertaken by the organisation Protect Blue who were in the Pitcairn Islands during September 2023. This footage / images will be made available to the project for use in awareness-raising activities and for the Government of Pitcairn Islands to showcase the unique marine environment of the Pitcairn Islands on an international scale via media and their website. The low numbers of whales present during this time however meant that this is not currently sufficient to develop a short film and so further footage will be collected during Q2 of Year 3. In addition, in collaboration with the Blue Belt Programme, a poster highlighting the MPA and its importance for species such as the humpback whales was designed, printed and put up in the Silver Supporter to raise awareness with visitors travelling to the Pitcairn Islands on the ship.

Activity 4.3 Assist the marine tour guides to develop presentations to give to tourists and passengers on cruise ships and Explorers Voyages

During the September visit to the Pitcairn Islands, a consultation meeting was held with the Pitcairn Islands Travel Coordinator and the On-island Service Provider. The current materials that are shared with visitors were discussed and opportunities identified to improve these in order to enhance their awareness of the humpback whales and marine environment in general. This included the inclusion of some short underwater film clips. The information gained during this consultation will be used to update and improve the presentations given to tourists and passengers on cruise ships and Explorers Voyages during Year 3.

Activity 4.4 Carry out questionnaires with visitors to capture environmental awareness and understanding of responsible behaviour

A questionnaire was developed to provide baseline information on the level of awareness of visitors of the importance of the Pitcairn Islands for humpback whales. This was sent out to all individuals who have visited the Pitcairn Islands since the border reopened in March 2022 by the Pitcairn Islands Travel Coordinator via MailChimp. As of 1st December 2023, 20 responses

had been received. Six responses (8.6%) indicated that one of their motivations for visiting the Pitcairn Islands was because they were interested in Pitcairn's natural environment; 2 (2.9%) specifically said they were interested in the Marine Protected Area (MPA) and 2 (2.9%) also noted that they were interested in marine nature-based tourism. All respondents were aware of the Pitcairn Islands MPA, 85% were aware that humpback whales and other marine animals are protected and all thought it was either important or very important to protect the marine environment around the Pitcairn Islands. Most visitors did not participate in marine naturebased tourism activities – 3 had participated in an island circumnavigation small boat tour and 2 had been fishing off the rocks with a local; the activities of boat fishing with a local, community fishing from the longboat, snorkelling and boat-based whale watching with a local all received 1 response. The majority of people did not participate in marine nature-based tourism activities due to their short stay on Pitcairn Island (40%) or because they felt the weather and sea conditions were too changeable (13.3%). There was however interest in land-based whale watching, seabird tours, kayaking and glass-bottom boat tours if they were available. Respondents noted that seeing nature and being outdoors was the most important factor for their enjoyment of a nature-based tourism experience.

Activity 4.5 Hold consultation meetings with Pitcairn Tourism and the local community to agree objectives for Strategy and Action Plan for nature-based tourism in the MPA The community workshop held on 20th September 2023, investigated opportunities for marine nature-based tourism. The workshop was attended by 13 stakeholders from the local community including members of the Island Council. The first session focussed on understanding the current situation and what nature-based tourism activities linked to the MPA are currently being offered to visitors. It also aimed to gain an understanding of what opportunities there are for the development of new nature-based tourism activities and what the community hopes these will achieve. The participants discussed that the Pitcairn Islands is such a special place for nature-based tourism activities because of its remote location, the islands' natural environment and its history, culture and people. A list of nature-based tourism activities that are currently offered to visitors was developed and the participants noted that these provide a range of economic, social and cultural benefits to the local community. They hope that the development of new nature-based tourism activities will provide additional economic benefits creating a sustainable economy for the island, will enrich the tourism experience for both tourists and locals and will raise awareness and recognition of the Pitcairn Islands on a global scale. The workshop participants then prioritised the current and new nature-based tourism activities. The second session focussed on starting to develop an action plan for the top 3 nature-based tourism activities. The workshop participants were split into groups to discuss what each of the activities would look like, whether there are any barriers stopping the activity be successful and what assistance (including training) would be needed to make the activity more successful.

Action 4.6 Prepare Strategy and Action Plan report and present to Pitcairn Tourism for approval.

The information gained from the community workshop and the questionnaires are now being used to draft the Strategy and Action Plan for nature-based tourism in the MPA. The draft will be presented to the ECNRD and Pitcairn Islands Tourism during Q2 of Year 3, followed by a public consultation before it is finalised and presented to the Island Council for approval during Q3.

3.2 Progress towards project Outputs

Output 1. Humpback whale population around the Pitcairn Islands documented, analysed and findings published, generating recommendations on standardised monitoring methods to inform UK Blue Belt and international commitments.

Indicator 1.1. Land and boat-based surveys were conducted between July and September 2023 to collect photos for identification and cataloguing of humpback whales in the near-shore waters. Best photographs of tail flukes were also added to a global catalogue of humpback whales IDs (Happy Whale: https://happywhale.com/). Humpback whale sightings were most Darwin Initiative Main Annual Report Template 2024

frequent in September. At present, 12 individuals have been identified through manual matching of dorsal fins and tail flukes. The three individuals assessed in the HappyWhale global database using AI image feature matching recognition were all previously unknown, which is significant. Of the 12 sightings, two mother-calf pairs were identified. Additionally, the presence of newborn calves verifies that Pitcairn is currently a birthing ground for humpback whales. This study presents the first photo ID catalogue for the Pitcairn Islands subpopulation of humpback whales. As for previous studies (Horswill and Jackson, 2012; Irving et al., 2018), the temporal and spatial distributions of the humpback whales around the island were also recorded. The most common group composition observed in 2023 was mother-calf pairs, which made up 18 of the total 30 sightings. This is a notable difference from the earlier study of Horswill and Jackson (2012) which found a higher proportion of singletons. Sightings across August-September were reported far less frequently by the local community than for previous years, particularly following a large storm during the second week of data collection.

Indicator 1.2. Approximately 670 hours of audio recordings were collected via passive acoustic monitoring during the 2023 expedition. Katherine McCoy attended a training course on cetacean vocalisations at the University of St Andrews in January 2024. Initial analysis of the 2023 audio files reveals sections of whale song, to be used in acoustic analysis of song structure and similarity with other neighbouring populations e.g. French Polynesia.

Indicator 1.3. Katherine McCoy successfully submitted and passed her PhD upgrade report in April 2024 and the protocol and methodologies for monitoring and identification of humpback whales through observation and photographic images is completed in draft form and currently being prepared as a manuscript.

Output 2. Citizen science programme established and populated with individual whale identifications.

Raising awareness of the online HappyWhale global database to the local community has resulted in some of the island residents collecting digital photographs of tail flukes and uploading these images to the database. This has currently resulted in 12 photographs from citizen science activities which are now securely stored on the database.

A citizen science phone app being developed through the Blue Belt Programme was impacted by procurement issues last financial year. It has however been included in the work plan for this FY24/25. CEFAS (Blue Belt) are finalising the contract with a supplier. Based on the tender process timeline it is anticipated that the app could be ready for testing in August this year.

Output 3. Marine megafauna database established for Pitcairn Islands, with data contributing to relevant national and international databases documenting individual humpback whales, GENBANK (DNA sequence data) and whale-songs.

Biopsy sampling of the humpback whales is by nature opportunistic and does not always allow for large sample sizes and we were unable to collect samples during the 2023 season. However, using frozen biopsy samples collected by Dawson in 2018, mitochondrial DNA (mtDNA) sequences have now been obtained from two individuals of the Pitcairn humpback whale subpopulation, and sequenced by the Marine Mammal Institute at Oregon State University. These data, together with any further samples collected and processed in September 2024, will be used to construct a phylogeny of humpback whales across the southern Pacific ocean region, incorporating the Pitcairn mtDNA to establish population structure and Pitcairn's connectivity.

Output 4. Visitors to the Pitcairn Islands are aware of the importance of humpback whales and know how to behave responsibly and Strategy and Action Plan for nature-based tourism in the MPA produced to inform future development of activities.

Good progress has been made towards this output.

Indicator 4.1: Although no island residents have yet received training, scoping work has been undertaken with the local community through a workshop and household questionnaire to understand their interest in establishing new marine nature-based tourism activities and their training needs. Four individuals showed an interest in developing new marine nature-based tourism activities. Discussions with the Pitcairn Islands Travel Coordinator highlighted that there is a need for training for local tour guides to be able to speak about the MPA and the community's relationship with the marine environment. This will inform the provision of training in Q1 and Q2 of Year 3.

Indicator 4.2: Work has started on raising awareness of the importance of humpback whales with visitors through initial collection of underwater footage and the development of a poster which is displayed on the Silver Supporter. The initial footage will be built on during Q2 of Year 3 in order to develop short films about the project which will be shown on TV, press, online (Government of Pitcairn Islands / Pitcairn Islands Tourism, Pitcairn Environment Group websites).

Indicator 4.3: Discussions have been held with the Pitcairn Islands Travel Coordinator and the On-island Service Provider around enhancing the current materials that are shared with cruise ship passengers, which will be taken forwards in Year 3. It was noted that the On-island Service Provide currently delivers a lecture to cruise ships which is very poplar and includes information about the MPA; however, there is room to enhance this particularly through the inclusion of some short underwater film clips. A visitor questionnaire has also provided baseline information on the level of awareness of visitors of the importance of the Pitcairn Islands for humpback whales, their interest in participating in marine nature-based tourism activities and the barriers that are currently preventing them from doing so. This highlights that 85% of visitors were aware of the importance of the Pitcairn Islands for humpback whales.

Indicator 4.4: All of the information collected to date is now being used to draft the Strategy and Action Plan for nature-based tourism in the MPA. This will clearly set out how new marine nature-based tourism activities can be developed in the Pitcairn Islands encouraging more visitors and enhancing economic benefits to the whole island community whilst minimising impacts to the marine environment.

3.3 Progress towards the project Outcome

Project Outcome. Baseline populations of humpback whales established, and conservation management strengthened at local to international scales to support Convention on Migratory Species commitments and increase nature-based tourism opportunities.

Indicator 0.3 100% of whale watching activities (including expedition cruise ships) are fully compliant with the whale watching code of conduct by end of Q2 Year 3.

Currently 33.33% of households in the Pitcairn Islands gain some level of income from marine nature-based tourism activities, with five individuals providing boat-based whale watching tours to visitors. These individuals received training in implementing the Code of Conduct prior to the project starting and there is no evidence of non-compliance to date. The community questionnaires have highlighted a further 4 individuals who are interested in developing new marine nature-based tourism activities and relevant training will be provided during Q2 of Year 3. The household questionnaire however highlighted concerns that economic benefits from the MPA are not distributed equitably throughout the local community (44% of respondents felt that they were not), citing constraints such as age and lack of access to a boat. Similarly, the community workshop highlighted a desire to focus more on land-based whale watching to ensure that economic benefits are distributed equitably throughout the local community. One of the top 3 nature-based tourism activities identified during the workshop was the installation of a coastal walkway (boardwalk) around the island to enhance the land-based experience and appreciation of the ocean. This walkway could incorporate a whale watching platform and a series of interpretation boards highlighting important habitats and species that can be seen

from different points along the trail. Given this slight shift in emphasis, this indicator is no longer felt to be adequate for measuring the intended Outcome.

A proposed new outcome indicator is: At least 50% of households in the Pitcairn Islands are gaining income from marine nature-based tourism and benefits are equitably distributed.

3.4 Monitoring of assumptions

All assumptions hold true, with specific minor revisions below:

Assumption 1.2 Weather conditions and boat availability allow for successful sampling, using at least one of the range of methods proposed.

The 2023 campaign was severely limited due to poor weather conditions experienced during visit to the island. As a contingency, we will be collating earlier (2022) underwater sound recordings and two 2018 biopsy samples for subsequent analysis should the 2024 campaign be data limiting as a result of weather conditions.

Assumption 0.3 / 4.1 Tourists return to Pitcairn following Covid-19 pandemic
The Pitcairn Islands border was re-opened to visitors on the 31st March 2022 with the regular passenger shipping link with French Polynesia resuming on 5th July the same year. Tourists have returned to the Pitcairn Islands since the border reopened: During project partner visits, tourists from Estonia and......visited the Pitcairn Islands on the Silver Supporter. The Pitcairn Islands Tourism website listed 11 cruise ships that were scheduled to visit the island in 2024 with a further 15 so far scheduled to visit in 2025 to 2026. Therefore, this assumption holds true.

Assumption 4.2 Promotional films and media drive an increase in tourists participating in nature-based tourism activities on Pitcairn

As the promotional films have not yet been developed, this assumption cannot yet be tested. As a baseline, nine responses in the visitor questionnaire listed marine nature-based tourism activities that visitors had participated in during their stay. Follow-up questionnaires during Q2 of Year 3 will assess whether this has increased.

3.5 Impact: achievement of positive impact on biodiversity and poverty reduction

Impact: Scientific understanding of humpback whale population connectivity in the South Pacific is improved, strengthening local and regional conservation efforts and bringing economic benefits to the Pitcairn community through nature-based tourism

The aim of the project is to respond to community interest and enthusiasm to nurture environmental tourism activities through whale watching on Pitcairn, while building an understanding of the importance of the newly established marine reserve for marine megafauna in the nearshore areas around the Pitcairn Islands. In the short-term, the project will address gaps in scientific understanding of the status of humpback whales around the Pitcairn Islands and the connectivity between these humpback whales and those in French Polynesia and the Easter Islands. This will address specific actions in the Oceania Humpback Whale Recovery Plan.

The Pitcairn Islands are extremely remote but benefit from some tourism, primarily day visits from cruise ships focused on Pitcairn's celebrated history. Fledgling wildlife tourism focuses on terrestrial endemic species and Pitcairn's enormous pristine marine reserve (designated 2016), but needs encouragement and technical to truly benefit the tiny community. To date, the project activities have undertaken scoping through community workshops and questionnaires to understand what nature-based tourism activities linked to the MPA are currently being offered to visitors, what opportunities there are for the development of new nature-based tourism activities, what the community hopes these will achieve and what can be done to ensure that Darwin Initiative Main Annual Report Template 2024

these activities are successful. This will inform development of the Strategy and Action Plan for nature-based tourism in the MPA which will be used to encourage more visitors to come to the Pitcairn Islands. These new marine nature-based tourism activities will enhance economic benefits to the whole island community whilst minimising impacts to the marine environment.

4. Project support to the Conventions, Treaties or Agreements

This project supports the Government of Pitcairn Islands' commitments under the Convention on the Conservation of Migratory Species of Wild Animals and associated Memorandum of Understanding for the Conservation of Cetaceans and their Habitats in the Pacific Islands Region, which aims to conserve all cetaceans and facilitate the exchange of scientific information necessary to coordinate conservation measures.

The project will help towards achievement of indicator K3 'Status of endemic and globally threatened species in the UK Overseas Territories' in the 25 Year Environment Plan through action to recover threatened or iconic species and prevention of human-induced extinction or loss of threatened species.

The project directly supports the Government of Pitcairn Islands Marine Protected Area Management Plan 2021 to 2026, Management Strategy 4 'The local community is obtaining economic benefit from the MPA and these benefits are distributed equitably' which includes specific aims to develop and promote new eco-tourism activities. The results of the project to date were used to inform a Protected Area Management Effectiveness (PAME) evaluation which was completed by the Government of Pitcairn Islands in September 2023 and demonstrates progress towards achieving the MPA objectives. This highlighted some further actions required to improve management in relation to livelihood benefits to the local community from the MPA. These included promoting the Pitcairn Islands' MPA globally through branding that focuses on the island's biodiversity and identifying benefits of the MPA for the wider community (not just certain individuals). These actions will be addressed by the project activities during Year 3.

5. Project support for multidimensional poverty reduction

Although the Pitcairn Islands are not included on the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) list, the UK Government provides Official Development Assistance to the Government of Pitcairn Islands to support the provision of public services to meet the reasonable assistance needs of the community, given that self-sufficiency is currently not a viable option.

The expected beneficiaries are the local community living in the Pitcairn Islands which was 47 people in August 2023. Due to the remoteness, residents have very limited employment opportunities. In the recent community questionnaire, 89% of respondents noted that employment in the Government of Pitcairn Islands provided their household's primary source of income; other forms of income included tourism-based activities such as the sale of curios, island tours and the provision of marine related recreational activities. One of the main aims of this project is to enhance economic benefits to the Pitcairn Island community through marine nature-based tourism. It is expected that households will benefit from the development of new activities linked to the MPA and associated marine wildlife (including the humpback whales) and that those benefits will be distributed equitably throughout the community.

To date, the project activities have developed an understanding of what opportunities there are for the development of new nature-based tourism activities, what the community hopes these will achieve and what can be done to ensure that these activities are successful. This will inform development of the Strategy and Action Plan for nature-based tourism in the MPA which will be used to encourage more visitors to come to the Pitcairn Islands, enhancing economic benefits to the whole island community.

6. Gender Equality and Social Inclusion (GESI)

The core project team is equally balanced with regard to gender. King's College London's Equality, Diversity & Inclusion Policy statement outlines the university's commitment to equality and diversity in all its activities and areas of work. All King's students, staff, affiliates and suppliers are responsible for meeting these commitments to value diversity and create an inclusive environment. The Department of Geography at King's College London has been awarded a Bronze Athena SWAN award in recognition and celebration of the department's practices towards the advancement of gender equality in higher education.

Please quantify the proportion of women on the Project Board ¹ .	50% of the principal project partners
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women ² .	50%. The core project team is equally balanced with regard to gender

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	х
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

- The community workshop was attended by roughly equal numbers of men and women (6 women and 7 men), giving women an equal opportunity to feed into the discussions.
- One of the community concerns was linked to unequitable distribution of benefits from
 marine nature-based tourism due to lack of access to a boat and it's mainly the men
 who have boats. Hence, by focussing more on land-based whale watching, the project
 is now ensuring that economic benefits linked to the MPA are more equitable for women
 as well as older people.
- This exercise highlighted the importance of undertaking community consultation through different means individual questionnaires as well as whole community consultations.

¹ A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

² Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

7. Monitoring and evaluation

There had been no significant changes to the monitoring and evaluation plan. All of our indicators were selected on the basis that they were SMART (specific, measurable, achievable, relevant and time-bound).

8. Lessons learnt

On the whole, there are no significant changes to our plans or schedules except for adjustment to the timing of activities.

9. Actions taken in response to previous reviews (if applicable)

The main points of the previous review were in the details and provision of evidence as the project progressed. Hopefully, having achieved several major advancements this year, these have now been reported in this report with associated data for confirmation.

10. Risk Management

We experienced severe bad weather conditions during our expedition visit to the islands in July 2023 and as a result, our waterborne survey time and hydrophone deployments were curtailed. In addition, a major storm event with gale-force winds resulted in a two-week absence of the existing humpback whales that were present when we arrived. As a result of this, we have rescheduled our visit time in 2024 to September, which is later in the season when we anticipate more stable weather conditions. As a contingency for any lack of data collection in the future, we have arranged with CEFAS for the availability of GoPro underwater camera footage of surveys conducted in 2022 where several hours of whale vocalisations were recorded around all the Pitcairn Islands. These will be converted to audio files and analysed for whale song to meet the delivery of project output 1 – song data analysed and compared to regional song data. Otherwise, there are no changes to existing risk or assumptions.

10. Sustainability and legacy

Reported elsewhere. We have had ongoing discussions with the Pitcairn Island Tourist Board and the Division of Natural Resources and Conservation, Pitcairn Island Government and have introduced our project and planned outputs and outcomes to the new Deputy Governor of Pitcairn Islands, Alasdair Hamilton (British Consulate General, Auckland, NZ) as well as the recently recruited Pitcairn Island Administrator, Lindsy Thompson, who has taken up her position on Pitcairn Island in April 2024.

11. Darwin Initiative identity

All project presentations, web sites and publications utilise the Darwin Initiative logo and/or highlight acknowledgements of the Darwin Initiative financial support. Given the earlier Darwin Initiative projects in Pitcairn awarded to Terry Dawson (Nos. EIDCF003 and 20-006) (2010-2012 and 2014-2017 respectively), the Darwin Initiative is well known by all members of the island community, and the wider Pitcairn stakeholder groups.

At present, the project information is hosted on the following webpage:

https://www.kcl.ac.uk/research/humpback-whales-of-the-pitcairn-islands

12. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	Yes /No
Have any concerns been reported in the past 12 months	Yes /No
Does your project have a Safeguarding focal point?	Yes/No [If yes, please provide their name and email] The project is included in the King's College London Safeguarding policies, see https://www.kcl.ac.uk/kghp/safeguarding.contact:
Has the focal point attended any formal training in the last 12 months?	Yes/No [If yes, please provide date and details of training]
What proportion (and number) of project staff have received formal training on Safeguarding?	Past: 0% [and number] Planned: 0% [and number]
Has there been any lessons learnt or challenges on Please ensure no sensitive data is included within re	Safeguarding in the past 12 months?
N/A	
Does the project have any developments or activitie coming 12 months? If so please specify. No	
Please describe any community sensitisation that has include topics covered and number of participants.	as taken place over the past 12 months;
No	
Have there been any concerns around Health, Safe past year? If yes, please outline how this was resolv	
No	

13. Project expenditure (Draft costings)

Table 1: Project expenditure during the reporting period (1 April 2023 – 31 March 2024)

Project spend (indicative) since last Annual Report	2023/24 Grant (£)	2023/24 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL	46,947	46,947		

Table 2: Project mobilised or matched funding during the reporting period (1 April 2023 – 31 March 2024)

	Secured to date	Expected by end of project	Sources
Matched funding leveraged by the partners to deliver the project (£)			NERC
Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the			King's College London
project (£)			Marine Management Organisation, Blue Belt Programme.

11. Other comments on progress not covered elsewhere

12. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds to edit and use the following for various promotional purposes.



Photo: Whale fluke image taken at Pitcairn Island, July 2023 by Katherine McCoy and uploaded to the HappyWhale database.



Photo: Community workshop on Pitcairn Island, September 2023 (Photo by Emily Hardman)

Annex 1: Report of progress and achievements against logframe for Financial Year 2023-2024

Project summary	Progress and Achievements April 2023 - March 2024	Actions required/planned for next period		
Impact Scientific understanding of humpback whale population connectivity in the South Pacific is improved, strengthening local and regional conservation efforts and bringing economic benefits to the Pitcairn community through nature-based tourism	Opportunities for the development of new nature-based tourism activities have been identified through community consultations.			
Outcome Baseline populations of humpback whales established, as on Migratory Species commitments and encourage environmentally		nal scales to support Convention		
Outcome indicator 0.1. At least 20 Genetic and whale-song analyses provide understanding of connectivity and relatedness of Pitcairn's whales to other humpback populations by the end of Q2 Year 3.	Currently two genetic (DNA) samples have been processed and awaiting analysis and 670 hours of hydrophone recordings have been collected awaiting analysis	Further collection of hydrophone recordings and biopsy samples will be conducted in September 2024 and subsequently analysed.		
Outcome indicator 0.2. Citizen science programme is actively	12 photos have been uploaded to the HappyWhale database	Ongoing.		
contributing sightings data to regional datasets improving understanding of the population status trends by end of Q2 Year 3.	by the island community. The citizen Science phone app have been developed and is currently ready for testing.	The app will be ready for testing in August 2024.		
Outcome indicator 0.3 100% of whale watching activities (including expedition cruise ships) are fully compliant with the whale watching code of conduct by end of Q2 Year 3	Community consultations highlighted a desire to focus more on land-based whale watching to ensure that economic benefits are distributed equitably throughout the local community.	It is proposed that Outcome indicator 0.3 is revised to reflect the shift in emphasis to land-based whale watching activities.		
	Output 1. Humpback whale population around the Pitcairn Islands documented, analysed and findings published, generating recommendations on standardised monitoring methods to inform UK Blue Belt and international commitments.			
Output indicator 1.1. 20+ Humpback and other species' distribution, abundance data from drone and genetic surveys compiled by Q2 Year 3.	12 individual whales have been identified and their distributions around Pitcairn Island have been recorded.	Photo surveys will continue in September 2024.		
Output indicator 1.2, 16+ Genetic and song data from Pitcairn's humpbacks analysed and compared to existing regional song and DNA data by Q2 Year 3	Currently two genetic (DNA) samples have been processed and awaiting analysis and 670 hours of hydrophone recordings have been collected awaiting analysis	Genetic and hydrophone surveys will continue in September 2024.		
Output indicator 1.3 Report of consolidated methodologies for monitoring humpback and other species of whales in UKOTs	Draft report of methodologies for monitoring humpback whales have been completed as part of PhD upgrade.	A manuscript is being prepared for publication by Q3, 2024		

prepared by end of Year 1, improved through further data collection and consultation with relevant UKOTs and updated, published and disseminated by end of Year 2.		
Output 2. Citizen science programme established and populated w	ith individual whale identifications.	
Output indicator 2.1. Standardised methodology implemented with images and video data contributed by at least 10 citizen scientists, starting in Year 1 with community members and scientists, and with 24+ tourists by end of Year 2.	Database has been developed and implemented. The citizen Science phone app have been developed and is currently ready for testing	App to be tested in August 2024.
Output indicator 2.2. Analysis of image/video data identifies individual whales by end of Year 1 and continues to end of Year 2.	12 photos have been uploaded to the HappyWhale database by the island community.	Ongoing collection of photo-IDs will continue.
Output 3. Marine megafauna database established for Pitcairn Isla humpback whales, GENBANK (DNA sequence data) and whale-sor		databases documenting individual
Output indicator 3.1. Data management system in place and populated by end of Year 1.	A photo ID catalogue for the Pitcairn Islands subpopulation of humpback whales has now been developed and populated with indexed and cross-referenced photo images of individual whales observed at Pitcairn Island.	Ongoing collection of photo-IDs will continue.
Output indicator 3.2. 100% of personnel in the Government of the Pitcairn Islands - Environmental, Conservation & Natural Resources Division (GPI-ENRC) trained in database management and uploading data by end of Year 1.	A training course is scheduled for Q3, 2024 and 2+ personnel from GPI-ENRC identified for training.	To be undertaken in September 2024.
Output 4. Visitors to the Pitcairn Islands are aware of the important nature-based tourism in the MPA produced to inform future develop		Strategy and Action Plan for
Output indicator 4.1 20% of island residents (circa 4-8 people) trained as marine tour guides by end of Year 1	Scoping work has identified the local community's interest in establishing new marine nature-based tourism activities and their training needs.	Develop appropriate training materials to meet identified needs.
		Provide training to interested community members.
Output indicator 4.2 Four 1 to 3 minute and two 10-to-15-minute films produced about the project are filmed in Year 1 and shown	Some underwater footage has been collected and a poster about the MPA has been developed and displayed on the	Collect additional footage during Q2 of Year 3.
on TV, press, online (Pitcairn government and tourism, Pitcairn Environment Group websites) during Year 2	Silver Supporter.	Develop short films about the project which will be shown on TV, press, online (Government of Pitcairn Islands / Pitcairn Islands Tourism, Pitcairn Environment Group websites)

Output indicator 4.3 24 tourists on 2 x Explorers Voyages and 100+ passengers on 6 cruise ships aware of the importance of the Pitcairn Islands for humpback whales and the importance of responsible behaviour by end of Year 2	Discussions held with the Pitcairn Islands Travel Coordinator and the On-island Service Provider around enhancing the current materials that are shared with cruise ship passengers. A visitor questionnaire was conducted to provide baseline information on the level of awareness of visitors of the importance of the Pitcairn Islands for humpback whales.	Enhance the materials that are currently shared with cruise ships passengers e.g. through inclusion of short underwater film clips. Repeat the visitor questionnaire in Q2/Q3 of Year 3 to assess change over time.
Output indicator 4.4 Strategy and Action plan for nature-based tourism in the Pitcairn Islands MPA developed in collaboration with the Tourist Department and supported by local community by end of Year 2	All of the information collected to date is now being used to draft the Strategy and Action Plan for nature-based tourism in the MPA.	Share the draft with the ECNRD and Pitcairn Islands Tourism during Q2 of Year 3 Finalise and present to the Island Council for approval during Q3.

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project Summary	SMART Indicators	Means of Verification	Important Assumptions		
	mpact: Scientific understanding of humpback whale population connectivity in the South Pacific is improved, strengthening local and regional				
conservation efforts and bringing ecc (Max 30 words)	pnomic benefits to the Pitcairn communi	ty through nature-based tourism.			
Outcome: Baseline populations of humpback whales established, and conservation management strengthened at local to international scales to support Convention on Migratory Species commitments and encourage environmentally responsible nature-based tourism. (Max 30 words)	0.1 At least 20 Genetic and whale-song analyses provide understanding of connectivity and relatedness of Pitcairn's whales to other humpback populations by the end of Q2 Year 3. 0.2 Citizen science programme is actively contributing sightings data to regional datasets improving understanding of the population status trends by end of Q2 Year 3. 0.3 100% of whale watching activities (including expedition cruise ships) are fully compliant with the whale watching code of conduct by end of Q2 Year 3	0.1 Genetic and song databases. 0.2 Published reports and papers. 0.3 Compliance spot checks by GPI and feedback from visitor questionnaires.	Whales continue to show same migration schedule in the Pitcairn Islands as they have since early 1990s. The supply ship runs to schedule during whale season over period of project. Tourists return to Pitcairn following Covid-19 pandemic.		
Outputs: 1. Humpback whale population around the Pitcairn Islands documented, analysed and findings published, generating recommendations on standardised monitoring methods to inform UK Blue Belt and international commitments.	1.1 20+ Humpback and other species' distribution, abundance data from drone and genetic surveys compiled by Q2 Year 3. 1.2 16+ Genetic and song data from Pitcairn's humpbacks analysed and compared to existing regional song and DNA data by Q2 Year 3. 1.3 Report of consolidated methodologies for monitoring humpback and other species of whales in UKOTs prepared by end of Year 1, improved through further data collection and consultation with relevant UKOTs and updated, published and disseminated by end of Year 2.	1.1 Maps of marine megafauna distribution and abundance around Pitcairn and the outer Islands. 1.2 Species lists and numbers of marine megafauna around Pitcairn and the outer islands. 1.3 Genetic data on GENBANK 1.4 Song profiles aligned with regional profiles. 1.5 Draft report, documented input across UKOTs, publication.	Berths available for visiting scientists Weather conditions and boat availability allow for successful sampling, using at least one of the range of methods proposed. Samples are successfully exported and analysed		

2. Citizen science programme established and populated with individual whale identifications.	2.1 Standardised methodology implemented with images and video data contributed by at least 10 citizen scientists, starting in Year 1 with community members and scientists, and with 24+ tourists by end of Year 2. 2.2 Analysis of image/video data identifies individual whales by end of Year 1 and continues to end of Year 2.	2.1 Number of image/video contributions. 2.2. Number of contributors and category (scientist, community member, tourist). 2.3. Number of whales with individual identification.	Citizen scientists can be successfully recruited from the island community. Sufficient images and video submissions to allow individual identification.
3. Marine megafauna database established for Pitcairn Islands, with data contributing to relevant national and international databases documenting individual humpback whales, GENBANK (DNA sequence data) and whale-songs.	3.1 Data management system in place and populated by end of Year 1. 3.2 100% of personnel in the Government of the Pitcairn Islands - Environmental, Conservation & Natural Resources Division (GPIENRC trained in database management and uploading data by end of Year 1.	3.1 Database.3.2 Names of trained island personnel.3.3 Number of data entered when scientists not on island.	Database uses universal, simple software packages that do not become obsolete and is compatible with other regional and international relevant databases.
4. Visitors to the Pitcairn Islands are aware of the importance of humpback whales and know how to behave responsibly and Strategy and Action Plan for nature-based tourism in the MPA produced to inform future development of activities.	4.1 20% of island residents (circa 4-8 people) trained as marine tour guides by end of Year 1 4.2 Four 1 to 3 minute and two 10-to-15-minute films produced about the project are filmed in Year 1 and shown on TV, press, online (Pitcairn government and tourism, Pitcairn Environment Group websites) during Year 2 4.3. 24 tourists on 2 x Explorers Voyages and 100+ passengers on 6 cruise ships aware of the importance of the Pitcairn Islands for humpback whales and the importance of responsible behaviour by end of Year 2.	4.1 Training logs and certificates 4.2 Films online and number of downloads/views, likes and shares. 4.3 Presentations by marine tour guides 4.4 Questionnaires with tourists demonstrate improved awareness 4.5 Strategy and Action plan for nature-based tourism in the Pitcairn MPA published.	Tourists return to Pitcairn following current border closures due to the Covid-19 pandemic Promotional films and media drive an increase in tourists participating in nature-based tourism activities on Pitcairn

4.4. Strategy and Action plan for	
nature-based tourism in the Pitcairn	
Islands MPA developed in	
collaboration with the Tourist	
Department and supported by local	
community by end of Year 2.	

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

- 1.1 Conduct surveys to determine the occurrence and spatial distribution of humpback whales and their nursery/calving grounds at all islands.
- 1.2 Conduct DNA and genetic sampling using standardised approaches
- 1.3 Establish genetic database and produce methodological report and publications
- 2.1 Development of standardised methods for photo-ID catalogue and conduct training for island community and visiting scientists
- 2.2 Establish online image database to enable citizen scientist to upload their photographs
- 3.1 Develop protocols to ensure all individual whale sightings and associated information is logged and recorded online and linked/updated to International scientific databases (GENBANK and the Antarctic Humpback Whale Catalogue).
- 3.2 Training workshops for staff in the Environmental, Conservation & Natural Resources Division, GPI.
- 4.1 Provide training for local Pitcairn islanders to enable them to work as marine tour guides
- 4.2 Produce films and share these with Pitcairn Islands Tourism for publication on TV and online
- 4.3 Assist the marine tour guides to develop presentations to give to tourists and passengers on cruise ships and Explorers Voyages
- 4.4 Carry out questionnaires with visitors to capture environmental awareness and understanding of responsible behaviour
- 4.5 Hold consultation meetings with Pitcairn Tourism and the local community to agree objectives for Strategy and Action Plan for nature-based tourism in the MPA
- 4.6 Prepare Strategy and Action Plan report and present to Pitcairn Tourism for approval.

Annex 3: Standard Indicators

Table 1 Project Standard Indicators

DPLUS Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DPLUS Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DPLUS-A01	4.1. 20% of island residents (circa 4-8 people) trained as marine tour guides by end of Year 1	Number of people from key national and local stakeholders completing structured and relevant training	People Proportion				20%		20%
DPLUS-A03	Technical support to generate a system and documentation for the assessment and provision of scientific permits (Not on the original project proposal)	Number of local/national organisations with improved capability and capacity as a result of project	Number of organisations	Organisation Type: Government of Pitcairn Island	1			1	1
DPLUS-A04	3.2. 100% of personnel in the Government of the Pitcairn Islands - Environmental, Conservation & Natural Resources Division (GPI-ENRC trained in database management and uploading data by end of Year 1	Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.	People	Gender; Age Group			2		2
DPLUS-B05	2.1. Whale identifications with images and video data contributed by at least 10 citizen scientists, starting in Year 1 with community members and scientists, and with 24+ tourists by end of Year 2.	Number of people with increased participation in local communities / local management organisations (citizen science programme)	People			10	24	5	34
DPLUS-C02	1.1. 20+ Humpback and other species' distribution, abundance data from drone and genetic surveys compiled by Q2 Year 3.	Number of new conservation or species stock assessments published	Number			12	8	12	20

Table 2 Publications

Title	Туре	Detail	Gender of	Nationality of	Publishers	Available from
	(e.g. journals, best practice manual, blog post, online videos, podcasts, CDs)	(authors, year)	Lead Author	Lead Author	(name, city)	(e.g. weblink or publisher if not available online)
Pitcairn Islands marine nature-based tourism opportunities - Community Workshop Report. MMO Project Report for Government of Pitcairn Islands, iv + 14 pp.	Workshop report	Hardman, E., 2023	Female	UK	Marine Management Organisation, Blue Belt Programme, Newcastle upon Tyne, UK.	Government Of The Pitcairn Islands, email: admin@pitcairn.gov.pn
The enigmatic humpback whales of the Pitcairn Islands, Proceedings of the 35th annual European Cetacean Society Conference, Catania (Sicily, Italy), April 10-12, 2024, CO-20, 382.	Conference Proceedings	McCoy, K., Genov, T., Dawson, T., Chadwick, M., Letessier, T. and Horswill, C.	Female	UK	European Cetacean Society Liège, Belgium	https://www.marecamp.com/ Abstract_book_35ECS_Marecamp_Final_200424.pdf

Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	√
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see Section 16)?	√
Have you involved your partners in preparation of the report and named the main contributors	√
Have you completed the Project Expenditure table fully?	√
Do not include claim forms or other communications with this report.	