



## Darwin Plus: Final Report

To be completed with reference to the “Project Reporting Information Note”:  
(<https://darwinplus.org.uk/resources/information-notes/>).

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

**Submission Deadline: no later than 3 months after agreed end date.**

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### Darwin Plus Project Information

|                                   |   |
|-----------------------------------|---|
| Project reference                 | DPLUS143  |
| Project title                     | What goes thump at night: managing bird-strike in South Georgia   |
| Territory(ies)                    | South Georgia and South Sandwich Islands (SGSSI)  |
| Lead Organisation                 | Joint Nature Conservation Committee (JNCC)  |
| Project partner(s)                | Government of South Georgia and South Sandwich Islands (GSGSSI)<br>International Association of Antarctica Tour Operators (IAATO)<br>Argos Froyanes Ltd (AFL) |
| Darwin Plus Grant value           | £95,932   |
| Start/end date of project         | July 2021 / March 2024  |
| Project Leader name               | Dr Megan [REDACTED]   |
| Project website/Twitter/blog etc. | N/A   |
| Report author(s) and date         | Dr Megan [REDACTED], June 2024  |

## 1 Project Summary

The UK Overseas Territory (UKOT) of South Georgia and the South Sandwich Islands (SGSSI), and which lies in the remote and wild South Atlantic Ocean (Figure 1), has a rich environment which sustains globally important populations of seabirds. Despite conservation efforts, some of these populations are showing continuous, declining trends.

Population declines may be attributed to a range of factors from both within and outside SGSSI national boundaries, including bird-strike: *the collision of birds in flight with vessels resulting in physical injury or death*. For example, published reports document 900 birds striking a vessel in a single night [REDACTED]; Gregory, 2021<sup>2</sup>). It is thought that vessel lighting attracts birds towards a ship and poor visibility conditions, e.g. fog or snow, can exacerbate incidents of bird-strike.

<sup>1</sup> Black, A. (2005). Light induced seabird mortality on vessels operating in the South Ocean: incidents and mitigation measures. *Antarctic Science*, **17(1)**: 67-68.

<sup>2</sup> Gregory, S. (2021; pers. comms). Report submitted to GSGSSI in 2020 recorded 80 bird-strikes from one licenced vessel operating in the SGSSI Maritime Zone.

Basic bird-strike reporting protocols for SGSSI do exist, but data collection is not standardised, making robust analysis challenging. Consequently, factors leading to bird-strike events and the magnitude of the problem in SGSSI waters are poorly understood.

The Government of South Georgia & South Sandwich Islands (GSGSSI) is committed to protecting its globally important seabird populations, as evidenced through their MPA Management Plan, Biodiversity Action Plan, Wildlife and Protected Area Ordinance, and signatory status to international conventions, including the Agreement on the Conservation of Albatrosses and Petrels (ACAP). GSGSSI and its operational partners are also committed to working together to ensure measures are based on robust evidence, and are practical and fit-for-purpose.

Through a partnership between the Joint Nature Conservation Committee ([JNCC](#)), [GSGSSI](#), the International Association of Antarctica Tour Operators ([IAATO](#)), and the fishing company Argos Froyanes Limited ([AFL](#)), this 2.75-y Darwin Plus (DPLUS) funded project aimed to develop bird-strike reporting systems for use by all vessels (research, patrol, fishing, tourism) operating in the SGSSI Maritime Zone (MZ), with the overall aim to ensure practical, standardised data collection and robust analysis to inform management practices. In parallel, handling and care guidelines were to be revised to improve the survival of landed birds. By undertaking a review of factors that lead to bird-strikes, plus existing mitigation techniques to reduce strike rates, the project also aimed to provide a foundation for further research, allowing GSGSSI and its partners to implement best-practice, and share these techniques across other UKOTs and/or international regulators.

The project was delivered through the following five integrated Work Packages:

- **Work Package 1 (WP1): Literature review** – this entailed a critical review and assessment of bird-strike incidence and mitigation measures, not only from SGSSI but also other regions. This: i) aided development of reporting forms (Work Package 2) and bird-handling guidelines (Work Package 4); ii) helped to identify potential factors leading to bird-strikes that could be considered in future analyses of magnitude and cause; and iii) provided an indication of the effectiveness of existing mitigation techniques and which could then be used to aid future development and trials of mitigation measures in SGSSI (Work Package 5).
- **Work Package 2 (WP2): Development of bird-strike reporting forms** – building upon forms used by Project Partners (GSGSSI, 2020; IAATO, 2020 – see **Annex 6ai,ii**), standardised reporting forms were developed in consultation with stakeholders that captured information required to assess the magnitude and causes of bird-strike across the fleets that operate in SGSSI waters (patrol, research, fishing, tourism). Forms were tested for practicality and capability via field-trials conducted/coordinated by Project Partners aboard the breadth of vessels operating in the SGSSI MZ.
- **Work Package 3 (WP3): Data Management System** – a standardised data management system for collating and storing information from bird-strike reporting forms was to be identified or developed. It needed to be compatible with the system currently used by GSGSSI.
- **Work Package 4 (WP4): Development of bird-handling guidelines** – straightforward instructions for non-bird specialists on handling and caring for birds found on vessels were developed through review and adaptation of existing guidelines (see examples in **Annex 8a**), utilising technical expertise from within the project team and other key stakeholders. Guidelines were tested for a variety of aspects including clarity of understanding and use, and whether they capture sufficient examples of expected situations/conditions in which birds could be found. Testing was undertaken via field trials as in Work Package 2. Final guidelines were translated into the common languages used by crew/staff on vessels operating in the SGSSI MZ.
- **Work Package 5 (WP5): Future programme of work** – using information generated in WP1, and drawing upon data collected and analysed from WP2, a future programme of work to test/develop bird-strike mitigation measures was to be formulated, including identifying possible funding streams. However, as noted in **Section 3** of this report, it was agreed that this step was pre-emptive, and would be better undertaken once data had started to be returned on the reporting forms. However, a number of additional resources (e.g. presentations, videos) to raise

awareness of bird-strike issues and bird handling that could usefully be developed were identified.

DPLUS143 addressed priority actions in the GSGSSI ACAP Implementation Plan and now provides GSGSSI and partners the capability to collect standardised data on bird-strike. This will now also provide the opportunity for this information to be fed into wider studies of seabird population changes, assess effectiveness of mitigation techniques, and enhance conservation management decisions. The partnership was one which was highly experienced in seabird conservation, incidences of bird-strike that can occur across the breadth of vessels operating in the SGSSI MZ, and knowledge of GSGSSI's strategic direction, all of which has helped this project to deliver successfully. The team's links into relevant UKOT and international networks will augment the onward sharing of best practice regionally and globally.

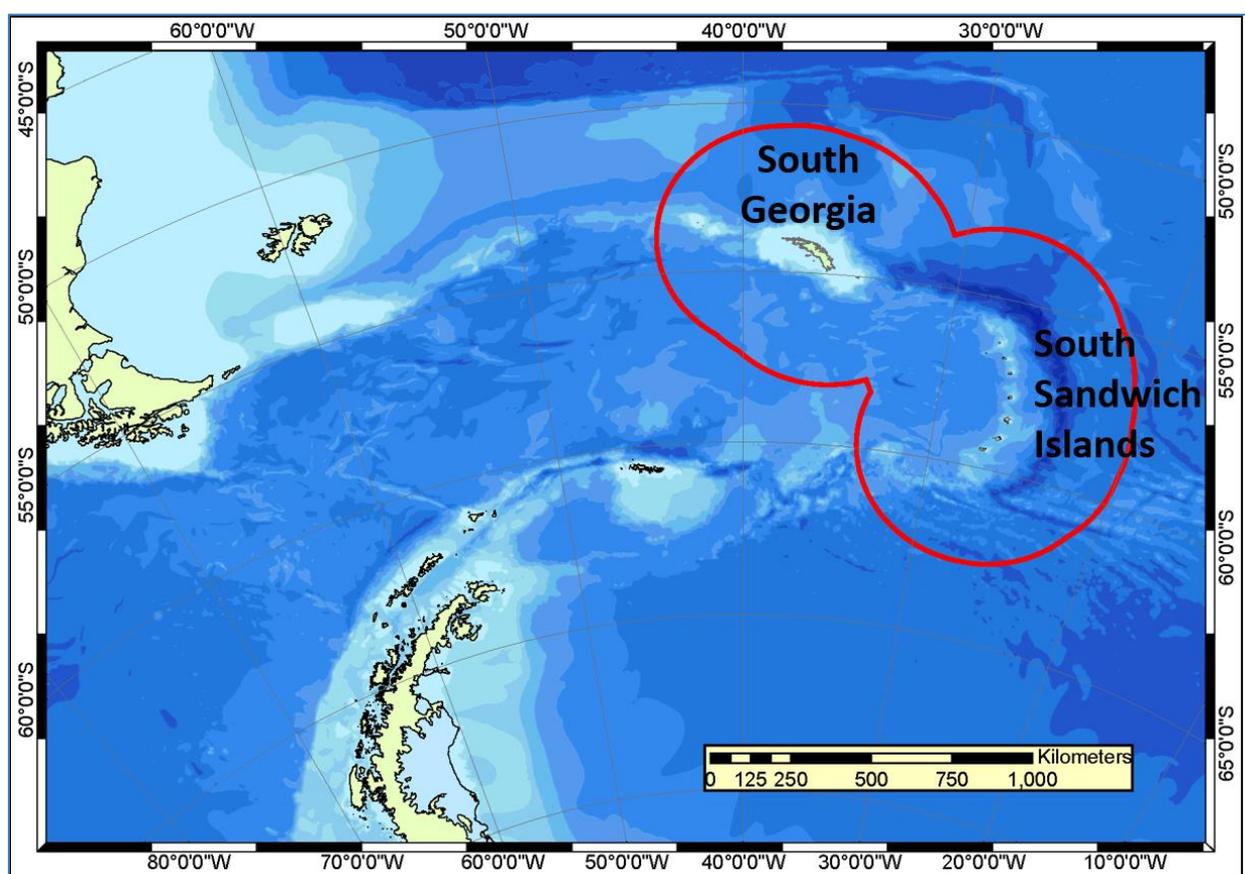


Figure 1. South Georgia and South Sandwich Islands.

## 2 Project Partnerships

### Background to development of project partnerships and project conception

JNCC is the public body that advises UK Government, the devolved administrations and UKOTs on nature conservation. JNCC has worked with GSGSSI for many years on a range of environmental conservation and management projects and has a formal MoU in place defining this partnership. One area that JNCC and GSGSSI work particularly closely on together is implementation of the ACAP. Taking into consideration the continued decline of a number of SGSSI ACAP-listed species, and following the successful reindeer and rodent eradications on South Georgia, which may lead to a step-change in the Island's population trajectories of other ACAP species, JNCC and GSGSSI felt it was timely to act upon one of the priority actions in the GSGSSI ACAP Implementation plan: *review information on incidents of bird-strike on vessels operating in SGSSI MZ and improve and standardise information collected*. Recognising that success would require input and buy-in from across different sectors, the project was conceived in partnership with the primary stakeholder sectors – government, tourism, fishing and research.

As such, DPLUS143 was led by JNCC (research representative) in partnership with GSGSSI (government representative), IAATO (tourism representative) and AFL (fishing representative). JNCC were responsible

for project management and technical development of products; GSGSSI will be ultimately responsible for overseeing distribution and regulated use of primary project products (bird-strike reporting forms and bird-handling guidelines) to key stakeholders – i.e. all research, patrol, fishing and tourism vessels operating in SGSSI MZ. The networks of AFL and IAATO will be some of the dominant users (i.e. crew and expedition staff) of the final products. These partners will therefore help facilitate the future uptake of project products. During the life of the project, all partners facilitated the engagement of vessels from the different fleets operating in SGSSI MZ to trial bird-strike reporting forms and bird-handling guidelines. Partners also promoted opportunities for participation in the project, as well as its outcomes, through their networks using a range of communication tools – e.g. meetings, email circulation lists, newsletters, social media and websites.

The Project Partners were involved with all aspects of project design and execution, and together with relevant stakeholders have engaged and/or been kept informed of project progress during the life of the project as follows:

### Project Partners

A Project Management Group (PMG), which was comprised of representatives from each of the Project Partners (JNCC, GSGSSI, IAATO, AFL) was established. The PMG monitored and steered the project, ensuring it aligned with the project proposal, and that the project was delivered on time and within budget. The PMG also considered and advised on the overall project management plan, including supporting documents such as the Monitoring and Evaluation Plan, Risk Register and Issues Log, and reviewed and approved all primary project outputs prior to external release. The PMG also helped to highlight synergies between this project and other, related projects which they had or were involved with to align and maximise outputs of each. Online (Microsoft TEAMS) meetings and/or email correspondence between PMG members have been used throughout the project to discuss progress, and share and review project outputs.

### Project Stakeholders

The primary role of other stakeholders in this project was to: i) provide input to the design of the bird-strike reporting forms and bird-handling guidelines; ii) provide feedback on the suitability/ease of use of the forms and guidelines through field-trials; and iii) help raise awareness and encourage uptake of the forms in other regulated maritime zones/operations. Early in Year 2 (Y2) of the project, stakeholders were consulted, via a workshop, to provide input into the design of the bird-strike reporting forms and bird-handling guidelines; in Year 2 (Y2) and Year 3 (Y3), stakeholders then participated in the trials of the Beta versions (**see more details in Section 3**).

### Strengths of Partnerships

The following are seen as particular strengths of the partnerships forged under this project, and which has resulted in the project being largely successful:

- *In-territory Partner*: Having GSGSSI as a lead partner on the project has proved invaluable for: i) ensuring the direction of the project and the outputs will be of true value and relevance to the GSGSSI; and ii) early identification of other relevant partners and stakeholders, both for project concept and for ongoing engagement and buy-in to the project.
- *Working with known partners*: All the Project Partners have worked with either one or all of the other partners in the past. These strong, established relationships have resulted in good cooperation and ensured a high level of enthusiasm for the project was maintained throughout.

### Future of Partnerships

It is anticipated that relationships between the main Project Partners will be maintained beyond this project. JNCC, IAATO and AFL already work closely with GSGSSI in a range of separate areas (e.g. research and conservation, tourism, fisheries, biosecurity etc). In addition, the Partners have expressed interest in continuing to work together on follow-on activities from this particular project.

## 3 Project Achievements

### 3.1 Outputs

**Output 1. GSGSSI and key stakeholders have informed overview of the incidence and causes of bird-strike, and the effectiveness of existing mitigation measures to reduce strike rates used in regions/areas outside of SGSSI.**

Overall, this output was achieved. Even though it has become evident that there is not a large body of work which specifically addresses or reports on bird-strike which has occurred in either the SGSSI or other regions, the literature review and SWOT analysis undertaken as part of this project (**Indicator 1.1; Annex 5a**) has provided an important foundation in terms of information on where and how bird-strike can occur. This helped to inform subsequent project deliverables under Output 2 (development of bird-strike reporting forms) and Output 4 (development of bird-handling guidelines); and could be used to help shape a future programme of work, by either GSGSSI or other regulatory bodies, that aims to develop and trial different bird-strike mitigation measures. Elements of the review have now also been incorporated into the Information Document detailing all project outputs that has been prepared and submitted to the upcoming (August 2024) ACAP Advisory Committee and Working Group Meetings (**Indicator 1.1, 2.5, 4.5; Annex 5b**). This will also serve to help inform the wider networks of the Project Partners about the general incidence and causes of bird-strike, as well as about the reporting format GSGSSI now has in place as a result of this project (see Output 2), the latter of which will, in time, help lead to a more robust understanding of bird-strike events in SGSSI waters.

**Output 2. Standardised bird-strike reporting forms that capture all essential information to enable monitoring and assessment of bird-strike in SGSSI MZ developed and presented to GSGSSI for implementation across fleets operating in SGSSI MZ.**

Overall, this output was achieved. As outlined in **Section 1**, basic bird-strike reporting forms were in existence prior to this project commencing, but data collection was not standardised, making robust analysis challenging. Consequently, factors leading to bird-strike events and the magnitude of the problem in SGSSI waters are poorly understood. Consultation and input from stakeholders and end-users (via a workshop; **Indicator 2.1; Annex 6b**) proved instrumental in the development of the 'beta-version' of the reporting forms (**Indicator 2.2; Annex 6c**). The beta-version of the form was trialled by expedition staff and/or crew on 16 vessels to further inform their development and ensure they were fit-for-purpose (**Indicator 2.3; Annex 6d**). Feedback in the 10 responses received from trial participants was used to prepare a final version of the reporting form (**Indicator 2.4; Annex 6e**). The bird-strike reporting form was signed off by the PMG, and formally delivered to GSGSSI (**Indicator 2.4; Annex 6f**). The reporting form was completed and delivered in time for GSGSSI to include it in their operational update for tourist vessels operating in the SGSSI MZ in the 2023-24 austral summer, therefore meaning that the form has already been in use. The Project Leader attended (virtually) the operational update meeting in case there were any questions about the reporting forms from operators. Since then, GSGSSI has (e.g. for fishing vessels) or will continue to instruct all vessels (via relevant operational updates) that the form developed by DPLUS143 is the standard to be used for reporting any and all bird-strike events that might occur while they are operating in the SGSSI MZ (**Indicator 2.4**).

Note, 1) Given that the operational language for reporting on vessels is English, the PMG agreed, together with other stakeholders (as expressed at the workshop), that the bird-strike reporting form did not need to be translated into other languages, as originally proposed (**Indicator 2.4**). However, stakeholders and the PMG did agree that it would be useful to translate the bird-handling guidelines into a number of languages so it was more accessible to crew/staff of different nationalities (see Output 4); and 2) In April 2023 the Project Leader prepared a summary sheet and poster outlining the DPLUS project which was presented at a JNCC event showcasing the range of work it undertakes in the UKOTs to the UKOT Association (**Annex 6gi,ii**), and in June 2023 presented an overview of the project and its outputs at the GSGSSI Marine Protected Area (MPA) 5-Year Review Science Symposium (**Annex 6giii** – see highlighted sections on p10, 28, and 44 of document). This Symposium, attended by a large number of participants involved with MPA practices and Southern Ocean research and governance was an ideal opportunity to showcase and share the work of DPLUS143. Participation at both of these events therefore partially fulfilled **Indicator 2.5**. The project team were then aiming to hold an online forum (via a webinar) to

further showcase the reporting form (and bird-handling guidelines) with other UKOTs/regulatory bodies in late February 2024 (**Indicator 2.5**), however this ended up not being possible. Nevertheless, the webinar presentation had been prepared (**Annex 6h**), and the project team remain committed to holding this webinar in the future – provisionally in September 2024, ahead of the austral summer tourist and research season.

### **Output 3. Standardised data input and storage facilities and guidelines for data returned in bird-strike reporting forms, and which integrates with the existing national information management system of GSGSSI, is developed.**

Overall, this output was achieved. Prior to this project commencing, GSGSSI utilised the [UK Polar Data Centre](#) to curate and manage their environmental data, including that which had been returned on bird-strikes on the pre-existing forms. Throughout the stages of development of the reporting form, and prior to the trials being undertaken, discussions were held with the Head of the UK Polar Data Centre to identify aspects which needed to be considered in the design of the new reporting form to ensure conformity with the capabilities of the Data Centre to continue to receive and curate bird-strike data (**Indicator 3.1; Annex 7a**). An informative 2-way session on data flow was also included at the stakeholder workshop to enhance understanding of: i) end-users as to how bird-strike data is curated and managed; and ii) data managers as to how end-users may wish to access/use data in the future (**Annex 6b**). Testing of the existing data management system used by GSGSSI to store and manage bird-strike data (i.e. the UK Polar Data Centre) was undertaken with both dummy and real data returned from the trials of the bird-strike reporting forms (**Indicator 3.2; Annex 6d**). The Head of the Data Centre confirmed there were no issues with uploading and storing data returned in the new forms. Therefore, given that the existing system was functional, the PMG agreed there was no need to develop a ‘bird-strike’ specific set of data management guidelines for GSGSSI (**Indicator 3.3**); however, for clarity, it was thought beneficial to add details of where/how the bird-strike data will be handled post-submission to the top of the bird-strike reporting forms (**Annex 6e**).

### **Output 4. Easy-to-follow guidelines for non-bird specialists showing how to handle and care for birds that may be injured after striking and landing on vessels developed and presented to GSGSSI for circulation across fleets operating in SGSSI MZ.**

Overall, this output was achieved. Similar to Output 2, and as also outlined in **Section 1**, basic bird-handling guidelines were in existence prior to this project commencing, but it was felt they could be adapted for easier use by non-bird specialists. As for Output 2, consultation and input from stakeholders and end-users (via a workshop; **Indicator 4.1; Annex 6b**) proved instrumental in the development of the ‘beta-version’ of the bird-strike handling guidelines (**Indicator 4.2; Annex 8b**). (Note, the Project Partners worked with a professional graphic design company – [Mindfully Wired Communications](#) – to design the beta- and final versions of the bird-handling guidelines). The beta-version of the guidelines were trialled by expedition staff and/or crew on 16 vessels to further inform their development and ensure they were fit-for-purpose (**Indicator 4.3; Annex 6d**). The guidelines were also shared with the British Antarctic Survey (BAS) Senior Laboratory Manager and team who were developing Standard Operating Procedures for their staff and research vessel crew on how to handle birds w.r.t. sampling for the H5N1 strain of Highly Pathogenic Avian Influenza (HPAI) and/or care/release of birds that might strike-vessels (see further notes below and in **Section 13** on impact of HPAI on this project) to ensure consistency of advice between documents. Feedback in the 10 responses received from trial participants and from BAS was used to prepare a final version of the bird-handling guidelines (**Indicator 4.4; Annex 8c**). The English version of the bird-handling guidelines was signed off by the PMG, and formally delivered to GSGSSI at the same time as the reporting form (**Indicator 4.4; Annex 6f**).

Based on the insights from PMG and feedback from the stakeholder workshop about the most common composition of nationalities and languages spoken by expedition staff and ships’ crews which operate in the SGSSI MZ, it was decided that it would be most beneficial to translate the bird-handling guidelines into the following six languages: (Simplified) Chinese, (Spain) Spanish, German, (France) French, Korean and Tagalog. A professional translation company ([dictata2us](#)) was contracted to undertake the translations and convert the bird-handling guidelines into each of the chosen languages (**Indicator 4.4, Annex 8d**). Note, to maximise the applicability and utility of the bird-handling guidelines beyond just

vessels operating in the SGSSI MZ, two (English) versions were actually created – one which has specific reference to SGSSI and GSGSSI protocols/contact points (i.e. those presented in **Annex 8c**); and one which is more ‘generic’ – i.e. specific references to SGSSI/GSGSSI have been removed/replaced with generic text (presented in **Annex 8e**). As such, the Project Partners can share these ‘generic’ guidelines with their networks which operate outside of the SGSSI MZ, but who would also benefit from having the guidelines to build capacity of crew/staff who may need to handle birds which have struck vessels.

As was noted in the Y2 half-yearly and annual reports – and see **Section 13** of this report for more details – the potential for HPAI H5N1 (which had resulted in the deaths of hundreds of thousands of seabirds in the Northern Hemisphere, Atlantic, Pacific Ocean, Southern Africa and South America) to reach SGSSI in the 2022-23 austral summer (when trials of the handling guidelines) were going to take place meant that specific protocols were put in place by GSGSSI with respect to handling birds to help prevent spread or transmission between birds, humans and sites. As such, in-depth ‘hands-on’ trials of the bird-handling guidelines were not possible. Instead, participants in the trial, were only able to review and comment without necessarily putting proposed procedures into practice. However, feedback received in this way was still very useful for finalising the guidelines. Further, and as was noted in the Y3 Half-yearly report, although the final version of the bird-handling guidelines developed by DPLUS143 contain a caveat that they only apply outside of outbreaks of HPAI, given the likelihood that HPAI was going to reach SGSSI in the 2023-24 austral summer (it did) – and when the handling guidelines were going to be rolled out - a decision was taken by the PMG to not include the new guidelines in any of the 2023-24 operational updates. This is because GSGSSI and IAATO once again had specific protocols in place for the 2023-24 season regarding bird-handling if HPAI was present, and we did not want to cause any confusion amongst operators by presenting the guidelines developed by this project and which might have been taken as conflicting with those protocols. Given the ongoing presence of HPAI H5N1 in South Georgia, GSGSSI will take a decision as to when/how the guidelines will be shared with operators, once there is a greater understanding of how HPAI will be managed within the Territory.

As outlined under Output 2, in April 2023 the Project Leader prepared a summary sheet and poster outlining the DPLUS project which was presented at a JNCC event showcasing the range of work it undertakes in the UKOTs to the UKOT Association (**Annex 6gi,ii**), and in June 2023 presented an overview of the project and its outputs at the GSGSSI Marine Protected Area (MPA) 5-Year Review Science Symposium (**Annex 6giii** – see highlighted sections on p10, 28, and 44 of document). This Symposium, attended by a large number of participants involved with MPA practices and Southern Ocean research and governance was an ideal opportunity to showcase and share the work of DPLUS143. Participation at both of these events therefore partially fulfilled **Indicator 4.5**. The project team were then aiming to hold an online forum (via a webinar) to further showcase the bird-handling guidelines (and reporting form) with other UKOTs/regulatory bodies in late February 2024 (**Indicator 4.5**), however this ended up not being possible. Nevertheless, the webinar presentation had been prepared (**Annex 6h**), and the project team remain committed to holding this webinar in the future – provisionally in September 2024, ahead of the austral summer tourist and research season.

#### **Output 5. Strategic programme of prioritised research to advance use and/or development of mitigation measures to reduce bird-strike in SGSSI MZ, including identification of resourcing options, is formulated.**

Overall, this output was partially achieved, albeit not as initially intended. At project conception it was thought it may be possible to develop a programme of work to advance the use and/or development of *mitigation measures* to reduce bird-strike in the SGSSI MZ. However, by project end, discussion amongst the PMG concluded that it would be premature to try and formulate a future programme of work focussed on bird-strike mitigation measures (**Indicator 5.1 and 5.2**) given that a good set of data, spanning several years, from the new reporting forms will first be required to shape such a programme. (The new reporting forms should ensure robust data on the magnitude, timing, location, operational, and environmental conditions when bird-strike occurs is collected and can then be used to develop/test potential mitigation measures if necessary). Therefore such a prioritised programme of work was not devised as originally envisioned. Instead, the PMG held initial discussions on what other tools could usefully be developed to enhance awareness of bird-strike issues and the importance of reporting (it is suspected that under reporting occurs, particular for fear of retribution/penalties if they report bird-

strike events have occurred – even though no penalties would be imposed by GSGSSI), as well as building capacity of expedition team/crews to safely handle birds. In regards to the former, ideas which may be explored include providing incentives to vessels who do report, and highlight, through some simple messaging (e.g. posters which can be put up on vessels), the impact different pressures (including bird-strike) can have on vulnerable seabird populations. In regard to the latter, ideas which were tabled by the PMG include developing some training materials (e.g. videos) or in-person courses which can be run for expedition staff/crew to demonstrate the bird-handling techniques depicted in the guidelines. All Project Partners have expressed an interest to continue working on these ideas post-project and to secure revenue to support their development.

### 3.2 Outcome

The project has largely achieved its stated outcome of: *‘Practical tools and guidelines for long-term monitoring of bird-strike in SGSSI, enhanced survival of landed birds, and the foundation of a strategic research programme to manage and reduce bird-strike’*.

Whilst there were existing forms for reporting bird-strike in SGSSI and some bird-handling guidelines prior to this project commencing, it was recognised that these tools could be enhanced to improve long-term monitoring and assessment of the impact of bird-strike on SGSSI seabird populations, and increase the likelihood of survival of landed birds. The project utilised the expertise of the project team and engaged with stakeholders who included a range of practitioners and end-users of bird-strike reporting forms and bird-handling guidelines (i.e. seabird ecologists, seabird/fisheries observers and operators, ships’ crew, expedition leaders and data managers) to both help design and test the new reporting forms and guidelines (**Indicator 0.1, 0.2, 0.3; Annexes 6b,c,d; 7a; 8c**). This input resulted in the delivery to GSGSSI of:

- a) Bird-strike reporting forms (**Indicator 0.1, Annex 6e**) which: i) contain data fields which are considered necessary to enable robust analysis of bird-strike events; and ii) are in format to ensure they are practical for use in real-world situations. In tandem with established data management systems (see b, below), SGSSI now have the tools to monitor and assess bird-strike events which occur on vessels operating in the SGSSI MZ. As noted in **Section 3.1, Output 2**, given that the operational language for reporting on vessels is English, it was agreed that the bird-strike reporting form did not need to be translated into other languages, as had been originally proposed;
- b) Confirmation that data returned in the new reporting forms can be incorporated into the existing GSGSSI data management system (**Indicator 02, Annex 6d**). The design and testing phases of the reporting form also included consideration of requirements from a data management perspective (**Indicator 02, Annex 7a**). The project team worked closely with the Head of the UK Polar Data Centre, who is responsible for managing GSGSSI’s environmental data on their behalf, to ensure the new forms were compatible with the existing system for: i) submission and collation of data; ii) access for onward analysis; and iii) archiving, while at the same time retaining features which made them as easy and practical for people reporting bird-strike to complete (a feedback point emphasised by end-users). Testing of returned data from the reporting form trials concluded that the new forms were fully compatible with the existing data management system and so there was no need develop a ‘bird-strike’ specific set of data management guidelines for GSGSSI (**Indicator 0.2**); however, for clarity, details of where/how the bird-strike data will be handled post-submission was added to the top of the bird-strike reporting forms (**Annex 6e**).
- c) Bird-handling guidelines (**Indicator 0.3, Annex 8c**) which show clear step-by-step instructions for how to handle, care-for and release seabirds which may strike and land on a vessel. Instructions show handling and care techniques for seabirds of different size categories, equipment required and health and safety considerations (for both the human handler and the seabird). These guidelines (once circulated – see further detail below) should now enhance the chances of survival for any birds which strike vessels in the SGSSI MZ. As well as English, the bird-handling guidelines were translated into the following six languages (**Annex 8d**): (Simplified) Chinese, (Spain) Spanish, German, (France) French, Korean and Tagalog. Selection was based on feedback

from the Project Partners and stakeholders as those languages which are most commonly spoken by expedition staff and ships' crews which operate in the SGSSI MZ.

Since delivery of the reporting forms to GSGSSI, GSGSSI have added the new reporting forms to the operational updates for all vessels operating in the SGSSI MZ, instructing that these should now be used for reporting any and all bird-strike events. As noted in **Section 3.1, Output 3**, circulating the bird-handling guidelines has been temporarily put on hold due to the outbreak of HPAI H5N1 and GSGSSI issuing specific protocols with respect to handling any seabirds.

Overall, the new reporting forms should now result in the collection of robust data that can be used to monitor and assess factors leading to bird-strike events and the magnitude of the problem in the SGSSI MZ. If, in time, it is revealed that bird-strike is a substantial problem, data could also be used to help design and test mitigation measures, and adapt conservation management plans accordingly. However, as it will take several years to build up a data-set to undertake such an assessment, establishing a strategic programme of work to manage and reduce bird-strike (**Indicator 0.4**) is considered pre-emptive at this stage. Therefore the project did not attempt this element, but rather considered other actions which could be taken, post-project, to enhance awareness of bird-strike issues and the importance of reporting, as well as how to further building capacity of expedition team/crews to safely handle birds (**see Section 3.1, Output 5**). All Project Partners have expressed an interest to continue working on these ideas post-project and to secure revenue to support their development.

### 3.3 Monitoring of assumptions

A number of important Risks and Assumptions were identified for this project and included in the project logframe (**see Annex 2**). All assumptions were monitored throughout the course of the project. Unless otherwise noted below, all identified risks and assumptions remained true throughout the project.

#### **Assumption 2.4 and 4.4:** There are incidences of bird-strike during the trial periods.

*Comments:* The assumption that there would be bird-strike events encountered during the trial periods was included so that the reporting forms and bird-handling guidelines could be tested (by trial participants) under real conditions. To counter the fact that no bird-strike events might occur during the trial period, participants were encouraged to submit 'dummy' data (i.e. complete the form as if they had had a real bird-strike event) so they could feedback on what worked/didn't work on the form and what they liked/didn't like etc. Only two participating vessels had actual bird-strike events during the trial period, but other participants did submit 'dummy' data and reported this was still a useful way to explore and feedback on the features of the beta-version of the reporting forms.

As noted in **Section 3.1, Output 4** and **Section 13**, due to the possibility of HPAI being present in seabirds during the trial period, and specific protocols from SGSSI in regard to handling seabirds, participants in the trial would not have been able to use the beta-version of the bird-handling guidelines even if there had been a real bird-strike event. Instead, participants were encouraged to review and comment without necessarily putting proposed procedures into actual practice. In this way useful feedback was still received which was used to finalise the guidelines.

#### **Assumption 5.1:** Future programme of work is required.

*Comments:* This assumption needed to hold true in order to generate a need to formulate a future programme of prioritised work to advance the use and/or development of mitigation measures to reduce bird-strike in the SGSSI MZ. As noted in **Section 3.1, Output 5**, it was concluded that until more data is collected on bird-strike events (now possible with the new reporting forms) it was still too early to know how big a problem bird-strike might be in the SGSSI MZ, and hence too early to design a programme of work to address it (if that was necessary). As an alternative to this activity, ideas were put forward as what the most useful next steps could be in terms of raising awareness of bird-strike, the importance of reporting against it, and building further capacity in ship staff/crew to handle, care for and safely release birds which might have struck a vessel.

## 4 Contribution to Darwin Plus Programme Objectives

### 4.1 Project support to environmental and/or climate outcomes in the UKOTs

As evidenced through its range of strategies, legislation and signatory status to a number of international conventions, GSGSSI is committed to protecting its natural environments and managing its resources in a responsible and sustainable way. The tools developed under this project (i.e. bird-strike reporting forms and bird-handling guidelines) will help to support GSGSSI's commitments by now enabling monitoring of an impact that has the potential to have detrimental effects on SGSSI's already threatened seabird populations, enhancing survival of landed birds, being able to (in time) assess effectiveness of mitigation techniques, and ultimately advance associated conservation management decisions. Without these tools, it has not previously been possible to achieve these things in a comprehensive and robust way.

More specifically, this project has or will help to meet the following **key priorities and national commitments** of GSGSSI:

- **SGSSI ACAP Implementation Plan:** actions in the Implementation Plan which called for a review the information on incidents of bird-strike on vessels operating in SGSSI Maritime Zones (MZ); improving and standardising the information on bird-strike that is collected; and obliging all vessels to complete these reports has now been addressed.
- **Protect Sustain Inspire: SGSSI Stewardship Framework 2021-2025:** specifically, the Key Priority of Marine Protection (Set exceptional standards for management of our marine environment, underpinned by robust science); under the Guiding Value of Environmental Protection (To safeguard the long-term protection of SGSSI, we must first understand the changes to the environment that may result from any activities, and Develop best practice that can sustain long-term environmental recovery and protection).
- **National Biodiversity Action Plan:** specifically, Objective 2 (increasing SGSSI environmental global outreach through knowledge sharing with stakeholders); Objective 3 (meeting obligations set by multi-lateral environmental agreements); and Objective 5 (establishing scientific baselines).
- **Environment Charter:** specifically guiding principles 5 (to aim for solutions which benefit both the environment and development), 7 (to safeguard and restore native species, habitats and landscape features), and 8 (to encourage activities and technologies that benefit the environment).
- **SGSSI Marine Protected Area Research and Monitoring Plan:** in the first 5-year review of the SGSSI, bird-strike was identified as one of the ten 'potential changes and threats to the SGSSI ecosystem. It was therefore included as a monitoring need in the SGSSI MPA Research & Monitoring Plan under Theme 8 (Impact of Fisheries – interaction with higher predators, and Theme 10 (Other Human Impacts).

It will also help GSGSSI and the UK support the following **key international commitments**:

- **ACAP:** specifically, Article II (Parties shall take measures to achieve and maintain a favourable conservation status for albatrosses and petrels), Article III Conservation Measures c,d,e,g, and elements of Annex 2 (ACAP Action Plan).
- **Convention on Biological Diversity:** specifically, the following Kunming-Montreal Global Biodiversity Targets: 1 (Reducing biodiversity loss), 10 (Sustainable Fisheries), 21 (Knowledge Exchange and Data Accessibility).
- **Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR):** specifically, Article II, Article IX, and Conservation Measures 25 (Minimization of incidental mortality), and 31-01 (Regulation of fishing around South Georgia).
- **Antarctic Treaty System's Protocol on Environmental Protection to the Antarctic Treaty:** specifically, Article II (Protection of the Antarctic environment and dependent and associated ecosystems) and III (Environmental Principles).

## 4.2 Gender Equality and Social Inclusion (GESI)

|  |     |
|--|-----|
| Please quantify the proportion of women on the Project Board <sup>3</sup> .  | 63% |
| 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 <sup>4</sup> . | 75% |

| GESI Scale               | Description  | Put X where you think your project is on the scale |
|--------------------------|--|--|
| <b>Not yet sensitive</b> | The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach   |  |
| <b>Sensitive</b>         | 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. | X  |
| <b>Empowering</b>        | 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  |  |
| <b>Transformative</b>    | The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change   |  |

The core project team working on development and delivery of this project had a gender ratio of 63% women and 37% men. While gender ratios of expedition or research staff on tourist/research vessels were relatively balanced, crews of all vessels that partook in the trials of the reporting forms and guidelines were predominantly male. However, the stakeholder event planned by the project and the trials were designed to ensure gender inequality was not increased – i.e. participation was open to anyone regardless of gender. At the workshop held in Y2, there was a ratio of 50:50 females:males attending (13 of each). During the design phase, consideration was also given to ensure that reporting forms/guidelines produced did not promote gender bias – for example, techniques used to report and handle birds safely are those that can be performed by either sex; and a request was made to the graphic designers of the bird-handling guidelines to include depictions of both men and women handling the seabirds.

In regard to social inclusion, the project team were mindful of being as inclusive as possible, ensuring the workshop was accessible regardless of gender, age ability, race, religion or sexual orientation; and trials and design of reporting forms/guidelines was made with all vessel types and their operation in mind. Further, the guidelines were translated into six of the most common languages used by crew/staff aboard these vessels.

<sup>3</sup> 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.

<sup>4</sup> 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.

## 5 Monitoring and evaluation

It was necessary to make a small number of changes to the original project timeline in Y1 of the project as the Project Leader needed to take leave and/or was working on particularly disparate time zones from the rest of the team for a period due to compassionate reasons. This impacted on the level of 'face-to-face' (virtual) communications, subsequently affecting project kick-off and forward planning. These changes were captured and approved in one formal Change Request (CR21-125) submitted and approved at the end of Y1. However, once the Project Leader was back at work full-time, and in their usual place of residence, the project was able to progress along the revised timeline.

In regard to monitoring and evaluating the project over its life, this was a shared responsibility of the PMG. The PMG took responsibility for overseeing the activities necessary to meet the timelines, reviewing the project implementation plan, and advising on and approving any adjustments required. This was achieved through PMG meetings and regular email correspondence. Three tools were developed for the project to assist the PMG to effectively monitor and govern the project: a Monitoring and Evaluation Plan, Risk Register, and Issues Log. The Project Leader provided regular updates on each, plus financials, at PMG meetings. The PMG, which was comprised of representatives from each project partners (JNCC, GSGSSI, IAATO, AFL) was therefore jointly responsible for monitoring and steering the project, ensuring it aligned with the project proposal, and that the project was delivered on time and within budget. The PMG also reviewed and approved all primary project outputs prior to external release.

Overall, the Monitoring & Evaluation system that was put in place for DPLUS143 was useful; however, the most effective means for monitoring progress and making necessary change was having good routes of communication between the Project Partners, and discussing any issues as they arose.

## 6 Lessons learnt

Based on the experience of implementing this project, the following aspects would be recommended approaches for other projects where relevant:

- *In-territory Partner:* Having GSGSSI as a lead partner on the project has proved invaluable for: i) ensuring the direction of the project and the outputs will be of true value and relevance to the GSGSSI; and ii) early identification of other relevant partners and stakeholders, both for project concept and for ongoing engagement and buy-in to the project.
- *Working with known partners:* All the Project Partners have worked with either one or all of the other partners in the past. These strong, established relationships have resulted in good cooperation and ensured a high level of enthusiasm for the project was maintained throughout. Good communication, prompt responses and regular engagement with all the Project Partners facilitated good progress with project activities.
- *Advisory groups:* stakeholders were engaged to provide expert advice on development of the main project outputs (bird-strike reporting forms and bird-handling guidelines). This was very valuable in terms of ensuring outputs were of value and relevance to end-users, and it is hoped, generating long-term buy-in to the use of products and tools.

Fortunately, the project did not face any substantial challenges; however, for future projects/proposals, it is still recommended that realistic time-frames and resources required to get a project up and running, including development of project management and communication tools are carefully considered and incorporated into project plans accordingly.

## 7 Actions taken in response to Annual Report reviews

N/A – no outstanding issues/comments to respond to.

## 8 Sustainability and Legacy

The project has been promoted through: 1) the consultation workshop to help design the reporting forms and handling guidelines; 2) participation of vessels in the trials; 3) the Project Leader being invited by Project Partner IAATO, to give a (virtual) presentation on the project at the IAATO field-staff conference

to promote the work, and to invite additional IAATO members to take part in the trials; 4) presenting the project outputs at the GSGSSI MPA Review Science Symposium; and 5) Project Partners keeping their networks updated on project progress.

Although all project staff will now focus on other projects, the project will have sustained legacy through a variety of means, including:

- Development of stand-alone and finite products (i.e. the bird-strike reporting forms, bird-handling guidelines, data management system) that can be used long-term to facilitate standardised and on-going monitoring of bird-strike and facilitate improved chances of survival of landed birds across the array of vessels operating in the SGSSI MZ.
- GSGSSI, being responsible for regulating all activities within the Territory and having the capacity to introduce legislation, policy or guidelines as required based on the results of the long-term outcomes of this study.
- Beyond the life of the project, AFL committing to promoting uptake and use of reporting forms and bird-handling guidelines and to encourage their industry networks to implement them globally. IAATO have incorporated the tools into its field operations manual as required by GSGSSI and/or agreed by members, thereby also ensuring longevity. IAATO are also committed to sharing outputs with its industry partners.
- Reporting forms and bird-handling guidelines will need revisions to ensure on-going effectiveness. One avenue already identified to regulate this is to incorporate it into the revision time-table of the GSGSSI ACAP Implementation Plan, coordinated by JNCC.
- Both the reporting forms and guidelines being readily adaptable for use in other UKOTs or by other regulatory bodies.

## 9 Darwin Plus Identity

There is a good understanding of the Darwin Plus initiative within the community of organisations whose work is focussed on SGSSI, with a range of projects having been funded by it over the years.

Within the PMG, the project was referred to by the Darwin Plus Project Code (DPLUS143), ensuring that the Darwin Plus identity was always at the forefront when the project was discussed. The Darwin Plus logo has been included along with all Project Partner logos on all project outputs, including the literature review, workshop materials (invite, presentations etc.), workshop report, trial instructions, the final versions of the reporting form and bird-handling guidelines, and project posters/summary sheets (see **Section 3.1** and material provided in **Annexes 5-8**). In spoken presentations (e.g. at the workshop, IAATO field-staff conference, GSGSSI Operational Update to IAATO members, SGSSI MPA Science Symposium), it was highlighted that the project was funded by Darwin Plus, which together through the use of the logo on other material, has meant it has clearly been recognised as a distinct Darwin Plus funded project.

## 10 Risk Management

One risk that arose in the last 12-months, and which was flagged in the Y3 Half-yearly report, was confirmation that the H5N1 strain of HPAI was confirmed in seabirds (and marine mammals) in South Georgia in the 2023-24 austral summer (see further details in **Section 13**). As this strain of 'bird-flu' can be passed to humans, and where there is only a 50% chance of survival if it is contracted, GSGSSI put guidelines in place as to where/how birds could be handled. Initially this impacted on how participants were able to trial the beta version of the bird-handling guidelines (which took place prior to HPAI being confirmed in SGSSI), and then the roll out of the finalised bird-handling guidelines; the latter being postponed until GSGSSI take a decision as to when/how the guidelines will be shared with operators, once there is a greater understanding of how the ongoing HPAI situation will be managed within the Territory. This risk was added to the Risk Register.

## 11 Safeguarding

|   |  |
|---|--|
| Has your Safeguarding Policy been updated in the past 12 months?  | Yes  |
| Have any concerns been investigated in the past 12 months   | No   |
| Does your project have a Safeguarding focal point?  | Yes, the head of HR at JNCC is the Safeguarding lead with support from HR Business Partners.<br><i>Email:</i> [REDACTED] |
| Has the focal point attended any formal training in the last 12 months?   | No   |
| What proportion (and number) of project staff have received formal training on Safeguarding?  | Past: 0%<br><br>Planned: 0%; however training can be arranged for anyone that requires it.                               |
| <p>Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses.</p> <p>The JNCC safeguarding policy has recently (2023) been updated, taking onboard feedback from colleagues. To keep it in line with important priorities as they become clear in safeguarding, the policy is reviewed annually. Any safeguarding issues that are identified will be dealt with in a confidential and speedy manner. An overview of the JNCC policy is also undertaken by the JNCC Audit and Risk Assurance Committee (ARAC) board regularly and changes are made where necessary to keep it current and at the heart of every project.</p> |  |
| <p>Please describe any community sensitisation that has taken place over the lifetime of the project; include topics covered and number of participants.</p> <p>N/A</p>   |  |
| <p>Have there been any concerns around Health, Safety and Security of your staff over the lifetime of the project? If yes, please outline how this was resolved.</p> <p>No</p>  |  |

## 12 Finance and administration

### 12.1 Project expenditure

| Project spend (indicative) since last Annual Report | 2023/24 Grant (£) | 2023/24 Total actual Darwin Plus Costs (£) | Variance % | Comments (please explain significant variances)   |
|---|-------------------|--|------------|---|
| Staff costs   | [REDACTED]        | [REDACTED]                                 | [REDACTED] | Less staff than anticipated was required.   |
| Consultancy costs                                   | [REDACTED]        | [REDACTED]                                 | [REDACTED] |   |
| Overhead Costs                                      | [REDACTED]        | [REDACTED]                                 | [REDACTED] | As Overhead charge-out rates are related to staff hours, variance in this budget line related to the lower than expected staff time required. |
| Travel and subsistence                              | [REDACTED]        | [REDACTED]                                 | [REDACTED] |   |
| Operating Costs                                     | [REDACTED]        | [REDACTED]                                 | [REDACTED] | These were to cover meeting costs – which did not end up being  |

| Project spend (indicative) since last Annual Report | 2023/24 Grant (£) | 2023/24 Total actual Darwin Plus Costs (£) | Variance % | Comments (please explain significant variances)  |
|---|-------------------|--|------------|--|
|   |                   |  |            | required.  |
| Capital items                                       |                   |  |            |  |
| Others  |                   |  |            | Graphic design and translation costs of the bird-handling guidelines were less than anticipated. |
| <b>TOTAL</b>  | 35,156.00         | 29,206.20                                  |            |  |

Less staff time ended up being required than originally anticipated, hence an underspend in the Staff Costs and Overheads budget lines. A small amount of funds had been ear-marked to cover any meeting costs in Y3 of the project (e.g. venue costs, catering) but all meetings were held on-line and so no costs were incurred, hence an underspend in the Operating Costs budget line.

| Staff employed (Name and position)   | Cost (£)         |
|--|------------------|
| Megan Tierney - JNCC; Senior ACAP and South Atlantic OT Advisor (Project Leader)     |                  |
| Matt Parsons - JNCC; Senior International Migratory Birds Advisor (Technical Lead)   |                  |
| Hannah Wheatley - JNCC; International Biodiversity Advisor (Technical Support Staff) |                  |
| Hannah Wheatley - JNCC; International Biodiversity Advisor (Technical Support Staff) |                  |
| <b>TOTAL</b>   | <b>15,016.75</b> |

| Consultancy – description and breakdown of costs | Other items – cost (£) |
|--|------------------------|
| N/A  | 0.00                   |
| <b>TOTAL</b>                                     | <b>0.00</b>            |

| Capital items – description | Capital items – cost (£) |
|-----------------------------|--------------------------|
| N/A                         | 0.00                     |
| <b>TOTAL</b>                | <b>0.00</b>              |

| Other items – description | Other items – cost (£) |
|---------------------------|------------------------|
|---------------------------|------------------------|

|  |  |                 |
|--|--|-----------------|
| Graphic design of bird-handling guidelines                 |  |                 |
| Translation of bird-handling guidelines into six languages |  |                 |
| <b>TOTAL</b>   |  | <b>8,182.75</b> |

## 12.2 Additional funds or in-kind contributions secured

| <b>Matched funding leveraged by the partners to deliver the project</b>  | <b>Total (£)</b>  |
|--|-------------------|
| 2021-22: All partners contributed matched funding to cover in-kind staff time (including overheads) and operating costs (e.g. meeting costs).            |                   |
| 2022-23: All partners contributed matched funding to cover in-kind staff time (including overheads) and operating costs (e.g. meeting costs, ship time). |                   |
| 2023-24: All partners contributed matched funding to cover in-kind staff time (including overheads) and operating costs (e.g. meeting costs, ship time). |                   |
| <b>TOTAL</b>   | <b>100,573.19</b> |

| <b>Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project</b> | <b>Total (£)</b> |
|---|------------------|
| N/A   | 0.00             |
|   |                  |
|   |                  |
|   |                  |
| <b>TOTAL</b>  | <b>0.00</b>      |

## 12.3 Value for Money

DPLUS143 involved a core team of 10 people whose expertise spanned multiple disciplines and sectors—research, policy and governance, tourism and fishing. Collectively this team has provided a thorough summary of the current state of knowledge on the incidence and causes of bird-strike, advanced the capability of GSGSSI to collect standardised, robust data to monitor and assess factors leading to bird-strike events and the magnitude of the problem in the SGSSI MZ, and produced guidelines on the safe handling and care for birds, which will help to enhance their chances of their survival when found on deck after striking a vessel.

The opportunity to bring such a team together and enable it to have such focussed effort on these priority challenges as identified by GSGSSI, the volume of work produced (**evidenced in Section 3.1 and 3.2**) from a grant <£100,000, and the enhanced capacity of the Project Partners and other key stakeholders to use and implement the tools developed by the project (**see Annexes 6 and 8**), represents, we believe, good value for money. Further, the lasting legacy of this project – i.e. the capability for long-term monitoring of an issue (i.e. bird-strike) with the potential to add further pressure on already vulnerable seabird populations, and the opportunity this presents to adapt conservation management plans based on robust data, also represents good value for money. The bird-strike reporting forms and the bird-handling guidelines are also readily adaptable for use in other UKOTs or by other regulatory bodies where bird-strike is suspected or know to be a potential issue. Indeed, the bird-handling guidelines have already been adapted for more ‘generic’ use as an added output of this project (**Annex 8f**). This potential for ‘double

use' also represents good value for money, and would likely result in substantial savings for any Territory/regulatory body which may adapt these forms for their own use as they would not need to start from scratch.

Special mention also needs to be made of the substantial (see Section 12.2) matched funding provided by the Project Partners, which included in-kind staff time and ship time (necessary for trialing the reporting forms and handling guidelines). Provision of the in-kind staff and ship-time, in particular, represented a significant cost-saving to the project – the amount needed for this project would ordinarily have made it prohibitive to execute the project if funds had of been requested from funding bodies. Having access to these vessels as research platforms without cost also reflected the commitment of Partners to the project.

### **13 Other comments on progress not covered elsewhere**

As noted in Section 3 and Section 10 an additional risk (outside the control of the project) was identified during the project. The DPLUS Team will no doubt be aware of the current outbreak of the H5N1 strain of Highly Pathogenic Avian Influenza (HPAI), initially in the Northern Hemisphere, the south of Africa and around the Atlantic and Pacific Oceans which has caused high mortality in wild seabird and marine mammal populations. It was expected that this outbreak could spread to Southern Ocean seabird/marine mammal populations in the 2022-23 and/or in the 2023-24 austral summers. In readiness for this, GSGSSI developed a set of guidance on HPAI risk and response in the Territory. The guidance described what enhanced biosecurity procedures would be put in place, signs to be vigilant for, how to report these to the GSGSSI and what action the government would take on receiving that report – see full details in the [GSGSSI Biosecurity Handbook](#). The guidelines cover actions/response to a bird-strike event. As it may not be possible to determine if a bird has signs of HPAI or not, the version of the guidelines available at the time this project was being conducted, stated that a precautionary approach should be adopted, including releasing live birds as soon as practical in order to minimise time personnel are in contact/exposed – as opposed to more standard practice of potentially housing a bird for a period of time to allow recovery and then release at a time when there would be minimal risk of predation.

Given these revised protocols, in the event of a bird-strike event occurring on vessels during the 2022-23 season, when in-depth ('hands-on') trials of the bird-handling guidelines were planned to be conducted, it was not going to be possible/permissible for people to handle birds. Although HPAI was not detected in SGSSI in 2022-23, participants in the trial, were therefore only able to review and comment on the guidelines without necessarily putting proposed procedures into practice.

In 2023-24 when the Project Partners, including GSGSSI would have liked to have rolled out the finalised bird-handling guidelines to vessels operating in the SGSSI MZ, HPAI had been confirmed in bird and marine mammal populations in South Georgia. Therefor rollout was postponed, as GSGSSI and IAATO once again had specific protocols in place for the 2023-24 season regarding bird-handling if HPAI was present, and we did not want to cause any confusion amongst operators by presenting the guidelines developed by this project and which might have been taken as conflicting with those protocols. Given the ongoing presence of HPAI H5N1 in South Georgia, GSGSSI will take a decision as to when/how the guidelines will be shared with operators, once there is a greater understanding of how the ongoing HPAI situation will be managed within the Territory.

### **14 OPTIONAL: Outstanding achievements of your project (300-400 words maximum). This section may be used for publicity purposes.**

*I agree for the Biodiversity Challenge Funds Secretariat to publish the content of this section.*

South Georgia and the South Sandwich Islands (SGSSI) which lie in the remote and wild South Atlantic Ocean have a rich environment which sustains globally important populations of seabirds. Despite conservation efforts, some of these populations are showing continuous, declining trends. Population declines may be attributed to a range of factors from both within and outside SGSSI national boundaries, including bird-strike: *the collision of birds in flight with vessels resulting in physical injury or death*. It is thought that vessel lighting can attract birds towards a ship and in foggy or snowy conditions, the chances of bird-strike can increase.

To date, the actual factors leading to bird-strike events and the magnitude of the problem in SGSSI waters has been poorly understood. This has primarily been due to a lack of standardised data collection which has made robust analysis challenging.

Committed to protecting its globally important seabird populations, the Government of South Georgia & South Sandwich Islands (GSGSSI) and its operational partners are also committed to working together to ensure conservation measures to manage any potential pressures are based on robust evidence, as well as being practical and fit-for-purpose.

Through a partnership between the Joint Nature Conservation Committee ([JNCC](#)), [GSGSSI](#), the International Association of Antarctica Tour Operators ([IAATO](#)), and the fishing company Argos Froyanes Limited ([AFL](#)), the DPLUS143 project has developed a bird-strike reporting system for use by all vessels (research, patrol, fishing, tourism) operating in the SGSSI Maritime Zone (MZ), which will ensure practical, standardised data collection and robust analysis to both monitor bird-strike events and, ultimately, inform management practices to help mitigate bird-strike issues if required. In parallel, existing handling and care guidelines have been redesigned with easy-to-follow instructions for non-bird specialists which should help improve the survival of landed birds.

DPLUS143 addressed priority actions in the GSGSSI Agreement on the Conservation of Albatrosses and Petrels (ACAP) Implementation Plan and now provides GSGSSI and its partners the capability to collect standardised data on bird-strike. This will now also provide the opportunity for this information to be fed into wider studies of seabird population changes, assess effectiveness of mitigation techniques, and enhance conservation management decisions. The partnership was one which was highly experienced in seabird conservation, incidences of bird-strike that can occur across the breadth of vessels operating in the SGSSI MZ, and knowledge of GSGSSI’s strategic direction, all of which has helped this project to deliver successfully. The team’s links into relevant UKOT and international networks will augment the onward sharing of best practice regionally and globally.

| <b>File Type<br/>(Image /<br/>Video /<br/>Graphic)</b> | <b>File Name or File Location</b>   | <b>Caption,<br/>country<br/>and credit</b>   | <b>Online<br/>accounts<br/>to be<br/>tagged<br/>(leave<br/>blank if<br/>none)</b> | <b>Consent of<br/>subjects<br/>received<br/>(delete as<br/>necessary)</b> |
|--|---|--|---|---|
| Graphic<br>(excel<br>spreadsheet)                      | <p><b>File name:</b><br/>DPLUS143_FR_Section13_Graphic01.xlsx</p> <p><b>File location:</b> Zipped folder submitted with FR.</p> <p><b>Folder name:</b><br/>DPLUS143_FR_Section13_Graphics</p> | <p><b>Caption:</b><br/>GSGSSI Bird-strike Reporting Form</p> <p><b>Country:</b><br/>South Georgia &amp; South Sandwich Islands</p> <p><b>Credit:</b><br/>DPLUS143 Project Team</p> |   | N/A   |
| Graphic (pdf)  | <p><b>File name:</b><br/>DPLUS143_FR_Section13_Graphic02.pdf</p> <p><b>File location:</b> Zipped folder submitted with FR.</p>  | <p><b>Caption:</b><br/>GSGSSI Bird-handling Guidelines</p>   |   | N/A   |

| File Type<br>(Image /<br>Video /<br>Graphic) | File Name or File Location                            | Caption,<br>country<br>and credit  | Online<br>accounts<br>to be<br>tagged<br>(leave<br>blank if<br>none) | Consent of<br>subjects<br>received<br>(delete as<br>necessary) |
|--|---|--|--|--|
|  | <b>Folder name:</b><br>DPLUS143_FR_Section13_Graphics | <b>Country:</b><br>South<br>Georgia &<br>South<br>Sandwich<br>Islands<br><br><b>Credit:</b><br>DPLUS143<br>Project<br>Team |  |  |

## Annex 1 Report of progress and achievements against logframe for the life of the project

| Project summary  | Progress and achievements  |
|--|--|
| <p><b>Impact</b></p> <p>Improved monitoring of the impact bird-strike has on seabird populations, influencing management decisions and mitigation to reduce bird-strike; enhanced survival through improved capabilities of crew members caring for landed birds.</p>  | <p>The tools developed under this project (i.e. bird-strike reporting forms and bird-handling guidelines) will help to support GSGSSI's commitment to protecting its natural environment by now: i) enabling monitoring of an impact that has the potential to put additional pressure on SGSSI's already threatened seabird populations; ii) enhancing survival of landed birds; and iii) being able to (in time) assess effectiveness of mitigation techniques, and ultimately advance associated conservation management decisions. With respect to bird-strike, it has not previously been possible to achieve these things in a comprehensive and robust way without these tools.</p> |
| <p><b>Outcome</b></p> <p>Practical tools and guidelines for long-term monitoring of bird-strike in SGSSI, enhanced survival of landed birds, and the foundation of a strategic research programme to manage and reduce bird-strike.</p>  |  |
| <p>Outcome indicator 0.1: Bird-strike reporting form that captures information required to assess magnitude and causes of bird-strike occurring on vessels operating in SGSSI Maritime Zones (MZ) is developed. Form available in at least five of the most common languages used by crew and staff on vessels operating in SGSSI MZ. (By Y3Q2).</p> | <p>Completed (barring form being available in languages other than English – see reason for this under Output Indicator 2.4). Evidence provided in Section 3.2 and Annex 6.</p>  |
| <p>Outcome indicator 0.2: Bird-strike reporting forms established, tested and integrated into GSGSSI national information management system based on process and procedures for collating/archiving bird-strike data. (By Y3Q3).</p>   | <p>Completed. Evidence provided in Evidence provided in Section 3.2 and Annexes 6 and 7.</p>   |
| <p>Outcome indicator 0.3: Bird-handling and care guidelines prepared for distribution by GSGSSI across the four different fleets that operate in SGSSI MZ. Guidelines available in at least five of the most common languages used by crew and staff on vessels operating in SGSSI MZ. (By Y3Q2).</p>  | <p>Completed. Evidence provided in Section 3.2 and Annexes 6 and 8.</p>  |

| Project summary   | Progress and achievements   |
|---|---|
| Outcome indicator 0.4: Prioritised programme of work outlining activities and next steps to enhance understanding of factors causing bird-strike in SGSSI MZ and measures that can be developed to mitigate threat is formulated and agreed. (By Y3Q4).   | Not Completed. See further explanatory detail in Section 3.2.   |
| <b>Output 1. GSGSSI and key stakeholders have informed overview of the incidence and causes of bird-strike, and the effectiveness of existing mitigation measures to reduce strike rates used in regions/areas outside of SGSSI.</b>  |   |
| Output indicator 1.1: Desk-based literature review of the incidence and causes of bird-strike, and an assessment of bird-strike mitigation measures in use in areas outside of SGSSI completed and delivered to Project partners and key stakeholders (by Y2Q1).                                    | Completed. Evidence provided in Section 3.1, Output 1 and Annexes 5a and 5b.  |
| <b>Output 2. Standardised bird-strike reporting forms that capture all essential information to enable monitoring and assessment of bird-strike in SGSSI MZ developed and presented to GSGSSI for implementation across fleets operating in SGSSI MZ.</b>   |   |
| Output indicator 2.1: Bird-strike reporting form and user guidelines – process for development of bird-strike reporting forms and user guidelines devised. (By Y2Q1).   | Completed. Evidence provided in Section 3.1, Output 2 and in Annex 6b.  |
| Output indicator 2.2: Bird-strike reporting form and user guidelines – beta-version of bird-strike reporting form and user guidelines agreed by project partners. (By Y2Q2).  | Completed. Evidence provided in Section 3.1, Output 2 and Annex 6c.   |
| Output indicator 2.3: Bird-strike reporting form and user guidelines – field trials of bird-strike reporting form and user guidelines completed on at least five vessels. (By Y2Q4).  | Completed. Evidence provided in Section 3.1, Output 2 and Annex 6d.   |
| Output indicator 2.4: Bird-strike reporting form and user guidelines – finalised bird-strike reporting form and user guidelines, translated into at least five of the most commonly used languages on vessels operating in SGSSI MZ, agreed by project partners and presented to GSGSSI. (By Y3Q2). | Completed. Evidence provided in Section 3.1, Output 2 and Annexes 6e and 6f. Note, as the operational language for reporting on vessels is English, the PMG agreed, together with other stakeholders (expressed at the workshop), that the bird-strike reporting form did not need to be translated into other languages. |

| Project summary   | Progress and achievements  |
|---|--|
| Output indicator 2.5: Finalised bird-strike reporting form and user guidelines shared with other UKOTs and key stakeholders via online forum, and promoted to at least one network of each project partner. (By Y3Q4).  | Partially completed. Project outputs shared at two events (JNCC/UKOTA event in April 2023 and the GSGSSI MPA 5-year Review Science Symposium in June 2023) – evidence provided in Section 3.1, Output 2 and Annexes 6g and 6h). Online forum (webinar) that had been planned for February 2024 did not go ahead, but presentation was prepared – evidence provided in Annex 6i. Project Partners remain committed to holding this webinar post-project – tentatively planned for September 2024. |
| <b>Output 3. Standardised data input and storage facilities and guidelines for data returned in bird-strike reporting forms, and which integrates with the existing national information management system of GSGSSI, is developed.</b>                       |  |
| Output indicator 3.1: Beta-version of data input and storage facilities and guidelines for bird-strike data devised and agreed with GSGSSI data manager. (By Y2Q3).   | Completed. Evidence provided in Section 3.1, Output 3 and Annex 7a.  |
| Output indicator 3.2: Data input and storage facilities and guidelines tested using all data returned in bird-strike reporting form trials. (By Y3Q1).  | Completed. Evidence provided in Section 3.1, Output 3 and Annex 6d.  |
| Output indicator 3.3: Finalised data input and storage facilities and guidelines agreed by project partners and presented to GSGSSI. (By Y3Q3).   | Completed. As the existing system (i.e. the UK Polar Data Centre) was functional, the PMG agreed there was no need to develop a ‘bird-strike’ specific set of data management guidelines for GSGSSI; however, for clarity, it was thought beneficial to add details of where/how the bird-strike data will be handled post-submission to the top of the bird-strike reporting forms (see Annex 6e).  |
| <b>Output 4. Easy-to-follow guidelines for non-bird specialists showing how to handle and care for birds that may be injured after striking and landing on vessels developed and presented to GSGSSI for circulation across fleets operating in SGSSI MZ.</b> |  |
| Output indicator 4.1: Bird-handling guidelines – process for development of bird-handling guidelines devised. (By Y2Q1).  | Completed. Evidence provided in Section 3.1, Output 4 and Annex 6b.  |
| Output indicator 4.2: Bird-handling guidelines – beta-version of bird-handling guidelines agreed by project partners. (By Y2Q2).  | Completed. Evidence provided in Section 3.1, Output 4 and Annex 8c.  |

| Project summary   | Progress and achievements  |
|---|--|
| Output indicator 4.3: Bird-handling guidelines – field trials of bird-handling guidelines completed on at least five vessels. (By Y2Q4).  | Completed. Evidence provided in Section 3.1, Output 4 and Annex 6d.  |
| Output indicator 4.4: Bird-handling guidelines – finalised bird-handling guidelines, in a least five of the most commonly used languages on vessels operating in SGSSI MZ, agreed by project partners and presented to GSGSSI. (By Y3Q2). | Completed. Evidence provided in Section 3.1, Output 4 and Annexes 8d, 8e and 8f.   |
| Output indicator 4.5: Finalised bird-handling guidelines shared with other UKOTs and key stakeholders via online forum, and promoted to at least one network of each project partner. (By Y3Q4).  | Partially completed. Project outputs shared at two events (JNCC/UKOTA event in April 2023 and the GSGSSI MPA 5-year Review Symposium in June 2023) – evidence provided in Section 3.1, Output 4 and Annexes 6g and 6h). Online forum (webinar) that had been planned for February 2024 did not go ahead, but presentation was prepared – evidence provided in Annex 6i. Project Partners remain committed to holding this webinar post-project – tentatively planned for September 2024.   |
| <b>Output 5. Strategic programme of prioritised research to advance use and/or development of mitigation measures to reduce bird-strike in SGSSI MZ, including identification of resourcing options, is formulated.</b>                   |  |
| Output indicator 5.1: Consultation session held to formulate future programme of prioritised work to advance use and/or development of mitigation measures to reduce bird-strike in SGSSI MZ. (By Y3Q3).                                  | Not completed. PMG concluded that it would be pre-emptive to try and formulate a future programme of work focussed on bird-strike mitigation measures given that a good set of data, spanning several years, from the new reporting forms will first be required to shape such a programme – see further details in Section 3.1. Output 5.   |
| Output indicator 5.2: Programme concept and next steps presented to GSGSSI. (By Y3Q4).  | Partially completed. Although a future of programme of work to advance the use and/or development of <i>mitigation measures</i> to reduce bird-strike in the SGSSI MZ was not conceived (Indicator 5.1), the PMG did hold initial discussions on what other tools could usefully be developed to enhance awareness of bird-strike issues and the importance of reporting, as well as building capacity of expedition team/crews to safely handle birds – see further details in Section 3.1, Output 5. . All Project Partners have expressed an interest to continue working on these ideas post-project and to secure revenue to support their development. |

**Annex 2 Project’s full current logframe as presented in the application form (unless changes have been agreed). [This logframe is that agreed after submission of Change Request CR21-125]**

| Project Summary  | Measurable Indicators   | Means of Verification   | Important Assumptions  |
|--|---|---|--|
| <p><b>Impact:</b><br/> <b>Improved monitoring of the impact bird-strike has on seabird populations, influencing management decisions and mitigation to reduce bird-strike; enhanced survival through improved capabilities of crew members caring for landed birds.</b><br/>                     (Max 30 words) Current word count: 30</p> |   |   |  |
| <p><b>Outcome:</b><br/> <b>Practical tools and guidelines for long-term monitoring of bird-strike in SGSSI, enhanced survival of landed birds, and the foundation of a strategic research programme to manage and reduce bird-strike.</b><br/>                     (Max 30 words) Current word count: 29</p>                               | <p>0.1 Bird-strike reporting form that captures information required to assess magnitude and causes of bird-strike occurring on vessels operating in SGSSI Maritime Zones (MZ) is developed. Form available in at least five of the most common languages used by crew and staff on vessels operating in SGSSI MZ. (By Y3Q2).</p> | <p>0.1a Reports published detailing development, testing, and assessment of bird-strike reporting forms.<br/><br/>                     0.1b Finalised bird-strike reporting form with instructions for completion and submission, in multiple languages, presented to GSGSSI for distribution to all vessels operating in SGSSI MZ.</p> | <p>Project progresses as outlined in project time-table.<br/><br/>                     Staffing turn-over in lead and partner organisations enables project delivery.<br/><br/>                     Willingness of other stakeholders to engage in activities.</p> |
| <p>0.2 Bird-strike reporting forms established, tested and integrated into GSGSSI national information management system based on process and procedures for collating/archiving bird-strike data. (By Y3Q3).</p>  | <p>0.2a Reports published detailing development, testing, and assessment of data input and storage facilities and guidelines.<br/><br/>                     0.2b Guideline documents for data input, storage and use available upon request from GSGSSI.</p>  |   |  |
| <p>0.3 Bird-handling and care guidelines prepared for distribution by GSGSSI across the four different fleets that operate</p>   | <p>0.3a Reports published detailing development, testing, and assessment of bird-handling and care guidelines.</p>  |   |  |

| Project Summary  | Measurable Indicators   | Means of Verification   | Important Assumptions  |
|--|---|---|--|
|  | <p>in SGSSI MZ. Guidelines available in at least five of the most common languages used by crew and staff on vessels operating in SGSSI MZ. (By Y3Q2).</p>  | <p>0.3b Finalised bird-handling and care guidelines, in multiple languages, presented to GSGSSI for distribution to all vessels operating in SGSSI MZ.</p>  |  |
|  | <p>0.4 Prioritised programme of work outlining activities and next steps to enhance understanding of factors causing bird-strike in SGSSI MZ and measures that can be developed to mitigate threat is formulated and agreed. (By Y3Q4).</p>           | <p>0.4a Programme concept note published detailing prioritised activities and resourcing options.<br/>0.4b GSGSSI strategies and action plans demonstrate the intention to consider actions proposed in research project concept note.</p>  |  |
| <p><b>Output 1.</b><br/><b>GSGSSI and key stakeholders have informed overview of the incidence and causes of bird-strike, and the effectiveness of existing mitigation measures to reduce strike rates used in regions/areas outside of SGSSI.</b></p> | <p>1.1 Desk-based literature review of the incidence and causes of bird-strike, and an assessment of bird-strike mitigation measures in use in areas outside of SGSSI completed and delivered to Project partners and key stakeholders (by Y2Q1).</p> | <p>1.1a Literature review (incorporating assessment results) published and available on JNCC and GSGSSI websites.<br/>1.1b Literature review (incorporating assessment results) listed as an Information Document and available to participants at Partner and stakeholder network meetings – e.g. ACAP Working Group meetings, IAATO, COLTO and CCAMLR Scientific Committee annual meetings.</p> | <p>Information about the incidence of bird-strike rates and mitigation measures in use elsewhere is accessible and/or made available to the project.</p> |
| <p><b>Output 2.</b><br/><b>Standardised bird-strike reporting forms that capture all essential information to enable monitoring and assessment of bird-strike in SGSSI MZ developed and presented</b></p>  | <p>2.1 Bird-strike reporting form and user guidelines – process for development of bird-strike reporting forms and user guidelines devised. (By Y2Q1).</p>  | <p>2.1a Minutes of consultation session held between project partners and key stakeholders confirm agreed bird-strike reporting form development process.</p>   | <p>Agreement can be reached on development process.<br/>Other key stakeholders participate in discussions.</p>   |

| Project Summary   | Measurable Indicators  | Means of Verification   | Important Assumptions  |
|---|--|---|--|
| <p><b>to GSGSSI for implementation across fleets operating in SGSSI MZ.</b></p> | <p>2.2 Bird-strike reporting form and user guidelines – beta-version of bird-strike reporting form and user guidelines agreed by project partners. (By Y2Q2).</p>  | <p>2.2a Minutes of PMG meeting confirm beta-version of bird-strike reporting form is agreed.</p> <p>2.2b Beta-version of bird-strike reporting form in project file-structure.</p>  | <p>Willingness by vessel operators to undertake/participate in trials to test bird-strike reporting forms.</p> <p>There are incidences of bird-strike during the trial periods.</p> <p>In regard to engaging sufficient IAATO member volunteers to participate in the trials, there has been sufficient recovery from the impact of the global Covid-19 pandemic on the tourist industry and companies are operating in SGSSI. (In the 2020-21 tourist season, no IAATO member vessels were operating in SGSSI).</p> <p>In regard to engaging sufficient fishing company volunteers to participate in the trials, the ongoing Covid-19 pandemic does not interrupt fishing operations. (In the 2020 fishing season, Covid-19 did present operational challenges to GSGSSI and licensed fishing companies, but the fishing season did proceed).</p> <p>In regard to engaging sufficient patrol and research vessel volunteers to participate in the trials, the ongoing Covid-19 pandemic does not interrupt patrol and research operations. (In 2020, Covid-19 did present operational challenges to GSGSSI and the Ministry</p> |
|   | <p>2.3 Bird-strike reporting form and user guidelines – field trials of bird-strike reporting form and user guidelines completed on at least five vessels. (By Y2Q4).</p>  | <p>2.3a Photos of crew members or project staff as they participate in the trials – e.g. completing the forms, identifying landed birds, inspecting areas on the vessel where landed birds may be found.</p> <p>2.3b Report published summarising outcome of field trials; report includes list of changes/enhancements to be incorporated into final version of form.</p>  |  |
|   | <p>2.4 Bird-strike reporting form and user guidelines – finalised bird-strike reporting form and user guidelines, translated into at least five of the most commonly used languages on vessels operating in SGSSI MZ, agreed by project partners and presented to GSGSSI. (By Y3Q2).</p> | <p>2.4a Minutes of PMG meeting confirm final version of bird-strike reporting form is agreed.</p> <p>2.4b Final version of bird-strike reporting form (in multiple languages) in project file-structure.</p> <p>2.4c Email train confirming final version of bird-strike reporting form and recommendations for implementation sent to and received by GSGSSI.</p> <p>2.4d Requirement for vessels to fill in newly developed forms added to the GSGSSI Regulated Activities Permit</p> |  |

| Project Summary   | Measurable Indicators  | Means of Verification   | Important Assumptions  |
|---|--|---|--|
|   | <p>2.5 Finalised bird-strike reporting form and user guidelines shared with other UKOTs and key stakeholders via online forum, and promoted to at least one network of each project partner. (By Y3Q4).</p>  | <p>(RAP) permit process or fishing vessel licencing requirements.</p> <p>2.5a Presentation material in project file-structure and on partner websites, invite and attendance list to online forum, and record of forum question and answer session in project file structure.</p> <p>2.5b Report outlining new SGSSI bird-strike reporting form and recommendations for use listed as Information Document and available to participants at partner and stakeholder network meetings – e.g. ACAP Working Group meetings, IAATO, COLTO and CCAMLR Scientific Committee annual meetings.</p> <p>2.5c Social media and website content – e.g. tweets, videos, newsletters.</p> | <p>of Defence, but patrolling and research activities did proceed).</p> <p>Other UKOTs and key stakeholders participate in the online forum.</p> |
| <p><b>Output 3.</b><br/><b>Standardised data input and storage facilities and guidelines for data returned in bird-strike reporting forms, and which integrates with the existing national information management system of GSGSSI, is developed.</b></p> | <p>3.1 Beta-version of data input and storage facilities and guidelines for bird-strike data devised and agreed with GSGSSI data manager. (By Y2Q3).</p> <p>3.2 Data input and storage facilities and guidelines tested using all data returned in bird-</p> | <p>3.1a Minutes of consultation session held between PMG and GSGSSI data manager confirm key elements to take into consideration when designing data input forms and storage facilities.</p> <p>3.1b Beta-version of data input and storage facilities and guidelines set-up on GSGSSI data-management system.</p> <p>3.2a Report published summarising outcome of data management system tests; report includes list of</p>  | <p>Data from bird-strike reporting forms can be translated into a format compatible with the existing GSGSSI data management system.</p>         |

| Project Summary  | Measurable Indicators   | Means of Verification   | Important Assumptions   |
|--|---|---|---|
|  | strike reporting form trials. (By Y3Q1).  | changes/enhancements to be incorporated into final version.   |   |
|  | 3.3 Finalised data input and storage facilities and guidelines agreed by project partners and presented to GSGSSI. (By Y3Q3). | 3.3a Data input and storage facilities for bird-strike reporting incorporated into GSGSSI data management system is live and ready to receive and archive data.<br><br>3.3b Data management guidelines.<br><br>3.3c Email train confirming final version of data input and storage facilities and guidelines for implementation sent to and received by GSGSSI. |   |
| <p><b>Output 4.</b></p> <p><b>Easy-to-follow guidelines for non-bird specialists showing how to handle and care for birds that may be injured after striking and landing on vessels developed and presented to GSGSSI for circulation across fleets operating in SGSSI MZ.</b></p> | 4.1 Bird-handling guidelines – process for development of bird-handling guidelines devised. (By Y2Q1).                        | 4.1a Minutes of consultation session held between PMG and key stakeholders confirmed agreed bird-handling guidelines development process.   | <p>Agreement can be reached on development process.</p> <p>Willingness by vessel operators to undertake/participate in trials to test bird-handling guidelines.</p> <p>There are incidences of bird-strike during the trial periods.</p> <p>In regard to engaging sufficient IAATO member volunteers to participate in the trials, there has been sufficient recovery from the impact of the global Covid-19 pandemic on the tourist industry and companies are operating in SGSSI. (In the 2020-21 tourist season, no IAATO member vessels were operating in SGSSI).</p> |
|  | 4.2 Bird-handling guidelines – beta-version of bird-handling guidelines agreed by project partners. (By Y2Q2).                | 4.2a Minutes of PMG meeting confirm beta-version of bird-handling guidelines are agreed.<br><br>4.2b Beta-version of bird-handling guidelines in project file-structure.  |   |
|  | 4.3 Bird-handling guidelines – field trials of bird-handling guidelines completed on at least five vessels. (By Y2Q4).        | 4.3a Photos of crew members or project staff as they participate in the trials.<br><br>4.3b Report published summarising outcome of field trials; report includes   |   |

| Project Summary  | Measurable Indicators  | Means of Verification   | Important Assumptions   |
|--|--|---|---|
|  |  | list of changes/enhancements to be incorporated into final version of guidelines. | <p>In regard to engaging sufficient fishing company volunteers to participate in the trials, the ongoing Covid-19 pandemic does not interrupt fishing operations. (In the 2020 fishing season, Covid-19 did present operational challenges to GSGSSI and licensed fishing companies, but the fishing season did proceed).</p> <p>In regard to engaging sufficient patrol and research vessel volunteers to participate in the trials, the ongoing Covid-19 pandemic does not interrupt patrol and research operations. (In 2020, Covid-19 did present operational challenges to GSGSSI and the Ministry of Defence, but patrolling and research activities did proceed).</p> <p>Other UKOTs and key stakeholders participate in the online forum.</p> |
| <p>4.4 Bird-handling guidelines – finalised bird-handling guidelines, in a least five of the most commonly used languages on vessels operating in SGSSI MZ, agreed by project partners and presented to GSGSSI. (By Y3Q2).</p> | <p>4.4a Minutes of PMG meeting confirm final version of bird-handling guidelines are agreed.</p> <p>4.4b Final version of bird-handling guidelines (in multiple languages) in project file-structure.</p> <p>4.4c Email train confirming final version of bird-handling guidelines and recommendations for implementation sent to and received by GSGSSI.</p>  |   |   |
| <p>4.5 Finalised bird-handling guidelines shared with other UKOTs and key stakeholders via online forum, and promoted to at least one network of each project partner. (By Y3Q4).</p>  | <p>4.5a Presentation material in project file-structure and on partner websites, invite and attendance list to online forum, and record of forum question and answer session in project file structure.</p> <p>4.5b Report outlining new SGSSI bird-handling guidelines and recommendations for use listed as Information Document and available to participants at partner and stakeholder network meetings – e.g. ACAP Working Group meetings, IAATO, COLTO and CCAMLR Scientific Committee annual meetings.</p> |   |   |

| Project Summary   | Measurable Indicators  | Means of Verification  | Important Assumptions  |
|---|--|--|--|
|   |  | 4.5c Social media and website content – e.g. tweets, videos, newsletters.  |  |
| <b>Output 5.</b><br><b>Strategic programme of prioritised research to advance use and/or development of mitigation measures to reduce bird-strike in SGSSI MZ, including identification of resourcing options, is formulated.</b>   | 5.1 Consultation session held to formulate future programme of prioritised work to advance use and/or development of mitigation measures to reduce bird-strike in SGSSI MZ. (By Y3Q3). | 5.1a Minutes of consultation session held between PMG and key stakeholders confirm agreed future programme of work for use/development of mitigation measures to reduce bird-strike.   | Future programme of work is required.<br><br>If first assumption is met, agreement can be reached on desired programme of work.<br><br>Commitment can be given from project partners to pursue future opportunities. |
|   | 5.2 Programme concept and next steps presented to GSGSSI. (By Y3Q4).   | 5.3a Programme concept note detailing prioritised activities and resource options in project file-structure.<br><br>5.3b Email train confirming programme concept and next steps sent to and received by GSGSSI.<br><br>5.3c GSGSSI strategies and action plans demonstrate the intention to consider actions proposed in research project concept note. |  |
| <p><b>Activities</b> (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)</p> <p>1.1 Critical review of existing literature (published and grey) on incidence of bird-strike in regions/areas outside of SGSSI MZ.</p> <p>1.2 Identification and assessment of effectiveness of bird-strike mitigation measures used in regions/areas outside of SGSSI via SWOT analysis.</p> <p>1.3 Prepare summary report and Information Documents detailing key findings of literature review and assessment of effectiveness of bird-strike mitigation measures for Project partners and partner networks and stakeholder meetings (e.g. ACAP Population and Conservation Status Working Group (PaCSWG) and Seabird Bycatch Working Group (SBWG); GSGSSI Stakeholder Meeting; IAATO Members meeting; Coalition of Legal Toothfish Operators (COLTO); CCAMLR Scientific Committee).</p> <p>2.1 Hold consultation session with project partners and key stakeholders to explore development process of the bird-strike reporting forms (e.g. format, essential components, field-trials, languages, timings etc.). (Consultation session on development process of bird-handling guidelines – Activity 4.1 – will be held at the same time).</p> <p>2.2 Develop beta-version of bird-strike reporting form.</p> <p>2.3 Field trials of bird-strike reporting forms on at least five vessels. (Field-trials of bird-handling guidelines – Activity 4.3 – will be conducted at the same time).</p> |  |  |  |

| Project Summary   | Measurable Indicators | Means of Verification | Important Assumptions |
|---|-----------------------|-----------------------|-----------------------|
| <p>2.4 Finalise bird-strike reporting form, based on feedback from field-trials; present to GSGSSI.</p> <p>2.5 Facilitate online forum with other UKOTs and key stakeholders to showcase and share bird-strike reporting forms. (Online forum to showcase bird-handling guidelines – Activity 4.5 – will be held at the same time).</p> <p>2.6 Prepare Information Document for partner networks and stakeholder meetings (e.g. ACAP PaCSWG and SBWG; GSGSSI Stakeholder Meeting; IAATO Annual meeting; COLTO; CCAMLR Scientific Committee).</p> <p>3.1 Consult with GSGSSI on the existing national data management system, and working with GSGSSI data manager, design beta-version of data input and storage procedures for bird-strike data.</p> <p>3.2 Test system and procedures using data returned from bird-strike reporting form trials.</p> <p>3.3 Finalise data management system and guidelines, based on feed-back from trials; present to GSGSSI.</p> <p>4.1 Consultation session with project partners and key stakeholders to explore development process of the bird-handling and care guidelines (e.g. review of current materials, format, essential components, field-trials, languages, timings etc.). (Consultation session on development process of bird-strike reporting forms – Activity 2.1 – will be held at the same time).</p> <p>4.2 Develop beta-version of bird-handling guidelines.</p> <p>4.3 Field trials of bird-handling guidelines on at least five vessels. (Field-trials of bird-strike reporting forms – Activity 2.3 – will be conducted at the same time).</p> <p>4.4 Finalise bird-handling guidelines, based on feedback from field-trials; present to GSGSSI.</p> <p>4.5 Facilitate an online forum with other UKOTs and key stakeholders to showcase and share bird-handling guidelines. (Online forum to showcase bird-strike reporting forms – Activity 2.5 – will be held at the same time).</p> <p>4.6 Prepare Information Document for partner networks and stakeholder meetings (e.g. ACAP PaCSWG and SBWG; GSGSSI Stakeholder Meeting; IAATO Annual meeting; COLTO; CCAMLR Scientific Committee). (Combine with Activity 1.3 and 2.5).</p> <p>5.1 Hold consultation session with project partners and key stakeholders to formulate future programme of prioritised work to advance use and/or development of mitigation measures to reduce bird-strike in SGSSI MZ.</p> <p>5.2 Based on outcomes of consultation session, develop programme concept and identify resourcing options and next steps. Devise a programme for development of additional resources (e.g. presentations, videos) to raise awareness of the collaborative work between project partner sectors.</p> |                       |                       |                       |

## **Annex 3 Standard Indicators**

It is our understanding that as DPLUS119 had already commenced when the Standard Indicators were introduced, it is not mandatory for this section to be completed.

## Checklist for submission

|   | Check |
|---|-------|
| Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the <b>correct template</b> (checking fund, type of report (i.e. Annual or Final), and year) and <b>deleted the blue guidance text</b> before submission?   | X     |
| <b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:BCF-Reports@niras.com">BCF-Reports@niras.com</a> putting the project number in the Subject line.  | X     |
| <b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:BCF-Reports@niras.com">BCF-Reports@niras.com</a> about the best way to deliver the report, putting the project number in the Subject line. All supporting material should be submitted in a way that can be accessed and downloaded as one complete package. | N/A   |
| If you are submitting photos for publicity purposes, <b>do these meet the outlined requirements (see section 14)?</b>   | N/A   |
| <b>Have you included means of verification?</b> You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.   | N/A   |
| Have you involved your partners in preparation of the report and named the main contributors  | X     |
| Have you completed the Project Expenditure table fully?   | X     |
| Do not include claim forms or other communications with this report.  |       |