



18-019



DARWIN200

Submit by Monday 30 November 2009

### DARWIN INITIATIVE APPLICATION FOR GRANT FOR ROUND 17: STAGE 2

Please read the Guidance Notes before completing this form. Where no word limits are given, the size of the box is a guide to the amount of information required. Information to be extracted to the database is highlighted blue.

**1. Name and address of organisation** (NB: Notification of results will be by post)

<b>Name:</b> David Barnes	<b>Address:</b> British Antarctic Survey, NERC, Madingley Rd, Cambridge, UK
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**2. Project title (not exceeding 10 words)**

Mapping benthic biodiversity of the South Georgia continental shelf and slope
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**3. Project dates, duration and total Darwin Initiative Grant requested**

<b>Proposed start date:</b> 1 Apr 2010		<b>Duration of project:</b> 24 months		<b>End date:</b> 30 Mar 2012	
<b>Darwin funding requested</b>	2010/11 £61,315	2011/12 £157,246	2012/2013 £	2013/14 £	<b>Total</b> £218,561

**4. Define the purpose of the project (extracted from logframe)**

To establish baseline data on the macro- and mega-benthic biodiversity of the South Georgia shelf and slope, identify key (endemic) species and biodiversity hotspots and utilise data to formulate management strategies for the conservation of biodiversity in the South Georgia Maritime Zone. The proposal will establish the status of benthic biodiversity of the continental shelf and slope waters around the island of South Georgia, make this data universally available and to use it to establish current threats, future loss and conservation strategy. The funding would be to take original samples (from shallows to deep sea), to identify existing collections, to catalogue and identify all species and to map these into a fully spatially referenced database. South Georgia's biodiversity is a key component of that for UK overseas territories due to the island's great age and isolation. Benthos probably constitutes about two thirds of all of species which occur at South Georgia and a much greater proportion of its endemics. This project would fulfil a key role of the Darwin Initiative in mapping biodiversity in an area which is suspected to be highly diverse, but very poorly studied and uniquely threatened by climate change (seas around South Georgia are amongst the fastest warming on the planet).

**5. Principals in project. Please provide a one page CV for each of these named individuals. You may copy and paste this table if you need to provide details of more than one overseas project partner.**

Details	Project Leader	Other UK personnel (working more than 50% of their time on project)	Main project partner and co-ordinator in host country/ies
<b>Surname</b>	Barnes	Hogg	Collins
<b>Forename (s)</b>	David	Oliver	Martin
<b>Post held</b>	Section Head	Research assistant	Senior Executive
<b>Institution (if different to above)</b>	British Antarctic Survey	British Antarctic Survey	Government of South Georgia & South Sandwich Islands
<b>Department</b>	Ecosystems	Ecosystems	
<b>Telephone</b>			
<b>Email</b>			

## 6. Has your organisation received funding under the Darwin Initiative before? No

Reference No	Project Leader	Title

## 7. IF YOU ANSWERED 'NO' TO QUESTION 6 describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)

**Aims (50 words)**

The Ecosystems programme of British Antarctic Survey aims to investigate, interpret and model patterns and processes underlying biodiversity, production and foodweb-interactions in the Arctic, Antarctica and the Southern Ocean. Ecosystems is examining the structure and function of ecosystems and quantifying responses of life to change, including recent rapid regional warming.

**Activities (50 words)**

The Ecosystems programme undertakes scientific cruises, as well as terrestrial and marine research from Antarctic (and Arctic) stations with a variety of international collaborators. Staff collect and analyse data, provide advice to organisations, including the UK government, publish their findings in leading international journals and undertake outreach across media.

**Achievements (50 words)**

Ecosystems' successes include many NERC and other grants won, recognised excellence in our advice (e.g. in CCAMLR). This year alone we have published several papers in highly ranked scientific journals which have attracted front-page news and website (e.g. BBC) articles. Lately we discovered significant CO2 sinks where ice-shelves have collapsed.

8. Please list all the institutions involved including the UK/collaborative (where there are partners in addition to the applicant organisation) and host country partners that will be involved, and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. This section should illustrate the capacity of host country partners to be involved in the project. Please provide written evidence of partnerships. Please copy/delete boxes for more or fewer partnerships.

<b>Lead UK institution and website where available:</b> British Antarctic Survey, <a href="http://www.antarctica.ac.uk">www.antarctica.ac.uk</a>	<b>Details (including roles and responsibilities and capacity to engage with the project):</b> The roles of BAS staff involved with this project are: Dr David Barnes (scientific supervision, financial responsibility, lead the scientific cruise, identify benthos, some data analysis) Oliver Hogg (undertake data searches, data input and analyses) Mark Belchier (provide fisheries information and context)
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<b>Lead host country Partner and website where available:</b> Government of South Georgia and the South Sandwich Islands <a href="http://www.sgisland.gs">www.sgisland.gs</a>	<b>Details (including roles and responsibilities and capacity to engage with the project):</b> The Government of South Georgia and South Sandwich Islands (GSGSSI) are based in Stanley. The Governor of the Falklands (HE Alan Huckle) is also the Commissioner for South Georgia, with the Senior Executive (Dr Martin Collins) responsible for the day to day running of the Territory including allocation of fishing licenses, environmental management and scientific research. Dr Collins is an experienced marine biologist and will be responsible for co-ordinating work in the Falklands and South Georgia.
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<b>Partner Name and website where available: Shallow Marine Surveys Group, Falkland Islands. www.smsg-falklands.org</b>	<b>Details (including roles and responsibilities and capacity to engage with the project): The Shallow Marine Surveys Group (SMSG) will be responsible for the design and implementation of the South Georgia shallow marine dive survey during Phase 2. SMSG will provide the personnel and equipment for the surveys. The team will be led by Dr Paul Brickle is an experienced marine ecologist based in the Falkland Islands. Dr Brickle manages SMSG and also works for the Falkland Islands Government Fisheries Department.</b>
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9a. Have you consulted stakeholders not already mentioned above? If yes, please give details:	✓ <input type="checkbox"/> Yes <input type="checkbox"/> No
A recent workshop in Cambridge discussed GSGSSI plans to develop marine protected areas. Many stakeholders (fishing industry, scientists, NGO) were present at the meeting and the issue of benthic biodiversity was considered a priority in developing plans for MPAs. South Georgia Heritage Trust have also been consulted.	
9b. Do you intend to consult other stakeholders? yes, please give details:	✓ <input type="checkbox"/> Yes <input type="checkbox"/> No
Stakeholders will be kept informed of progress with the project. The GSGSSI website provides an important medium for those with interests in South Georgia and quarterly reports will be posted on the web-site.	
9c. Have you had any (other) contact with the government not already stated? If yes, please give details:	✓ <input type="checkbox"/> Yes <input type="checkbox"/> No
The South Georgia Government funded the initial three months of this project. This has established a strong working protocol of record entry and validation as well as the GIS platform for data to be entered into. This has achieved consolidation of several diverse (seabed and water-column) data sets already as well as novel records from the grey literature.	
9d. Is any liaison proposed with the CBD/CMS/CITES focal point in the host country? No If yes, please give details:	✓ <input type="checkbox"/> Yes <input type="checkbox"/> No
The focal point for the conventions is the GSGSSI office in Stanley, which is involved in the project proposal. SGSSI has not yet signed the CBD, but it is the intention of GSGSSI to do so in the near future and discussions are in place with the FCO to do so.	
9e. Will your project support any work in the UK Overseas Territories? If yes, please give brief details stating which Territory/ies will be involved.	✓ <input type="checkbox"/> Yes <input type="checkbox"/> No
Yes South Georgia (field research) and Falkland Islands (outreach)	

## PROJECT DETAILS

### 10. Please provide a Concept note (Max 1,000 words) (repeat from Stage 1, with changes highlighted)

In 2002 the Strategic Plan of the CBD adopted the target: *"to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth"*. The problem is that at many key locations the biodiversity remains unquantified so its loss cannot be measured let alone reduced. South Georgia is, by any measure, one of those key locations because from what little we do know shows the seabed around it has high macro- and mega-benthic biodiversity, very high endemism, many species at range limits, species are unusually thermally sensitive and it is one of the fastest warming seas. Unlike at most other locations, its very high endemism means that any species loss is also loss at global level. It has been identified by a recent study as one of the very few key locations around Antarctica to monitor the response of life to regional warming.

The South Georgia Maritime Zone (SGMZ) also supports fisheries for Patagonian toothfish, mackerel icefish and Antarctic krill, which are managed in an ecosystem context. The toothfish long-line fishery does interact with the benthos, with a small benthic by-catch being taken and with weighted long-lines that have the capacity to damage vulnerable benthic species. Understanding the diversity, abundance and distribution of the benthos is thus a key component in developing sustainable management strategies for the SGMZ. Data on the benthic biodiversity will enable sensitive areas to be identified and subsequently protected in legislation (e.g. Marine Protected Areas).

Considerable data exists, from historic to modern expeditions and collections, but very little is collated into one place, georeferenced into databases or checked taxonomically. The data is probably also very patchy in quality and quantity. This project brings together a team of biodiversity and mapping experts to identify all existing records and specimens, catalogue these and map them onto South Georgia continental shelf and slope locations. Placement into ArcGIS and the South Georgia dedicated display version, SGGIS, would enable visualisation of sample effort and biodiversity hotspots, the correlation of these to topographic and other physical data and key areas and taxa to sample to 'fill in the gaps'. Identified material, once checked by taxonomists, will be held in the Natural History Museum, London.

The proposed project will have two phases, a data collation phase 1 April 2010- 31 March 2011 (year 1), followed by a planning and fieldwork phase 1 April 2011-31 March 2012 (Year 2) to address the primary objectives. Following employment of a biodiversity and biogeographic scientist, our proposed strategy is:

#### Phase 1.

1. Collation and verification of existing sample collections from BAS cruises and GSGSSI trawl surveys. Verified material transferred to the NHM in London. Problematic material/putative new species sent to taxonomic experts.

2. Development of a georeferenced database of the South Georgia benthic fauna. This will be the first time this will have been achieved for any polar location or British overseas territory. Work on this has begun, with a three month project at BAS, funded by GSGSSI.

#### Phase 2.

1. Utilise database to identify key areas (e.g. hotspots, data-poor regions, fishery interaction areas) for field-based work.

2. Undertake field work on RRS James Clark Ross (offshore) and FPV Pharos (inshore) in key areas identified above.

3. Develop outreach for multiple audiences. These will include work with the Census of Marine Life to construct a webpage link for South Georgia Biodiversity and produce two powerpoint lesson-plans on South Georgia biodiversity (one on measuring and understanding biodiversity and the second on its value to society and threats to it) for primary and second schools in the Falkland Islands and other British overseas territories.

The South Georgia government has already funded a three month post, starting August 2009, to search for the location of key sources of information for all the major taxa, to contact taxonomists around the world and to request as much of this information as possible.

BAS will co-ordinate the project, undertake the data collation and sampling of the shelf and slope. The SMSG group will be responsible for the planning and implementation of shallow surveys (<20 m) in inshore waters of South Georgia.

GSGSSI will provide time on the FPV Pharos SG to support the inshore dive surveys and make lab space and accommodation available at King Edward Point. GSGSSI will also provide links to stakeholders (e.g. fishing industry, South Georgia Heritage Trust).

The main research questions addressed by the research proposed are;

- 1) How important is South Georgia as a source of regional (and global) biodiversity?
- 2) How important is South Georgia in terms of rare, endemic and range-edge species?
- 3) How is South Georgia's biodiversity structured across realms, space and taxa?

- 4) Can we identify particular areas around South Georgia which are anomalously rich, vulnerable, or otherwise important to protect.
- 5) Can we identify priority areas or taxa to investigate due to paucity of knowledge
- 6) Can we use across realm, habitat and taxa data to design a more holistic approach to protected area designation and minimise future impacts.

**11a. Is this a new initiative or a development of existing work (funded through any source)?**

**Please give details:**

This is a massive ramp-up of an initiative started in August of 2009, funded by the South Georgia government. Initial funding has transferred marine biodiversity data for the South Georgia region from various electronic sources and established a working protocol for data entry and validation.

**11b. Are you aware of any other individuals/organisations/Darwin Initiative projects carrying out similar work?**  Yes  No

**If yes, please give details explaining similarities and differences, and explaining how your work will be additional to this work and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits:**

No

**12. Please indicate which of the following biodiversity conventions your project will contribute to: -**

At least one must be selected.

- Only indicate the conventions that your project is directly contributing to.

- No additional significance will be ascribed for projects that report contributions to more than one convention

Convention on Biological Diversity (CBD)  Yes  No

CITES  Yes  No

Convention on Migratory Species (CMS)  Yes  No

**What problem is this project addressing and how was it identified? (150 words)**

Where should effort and resources in identifying and conserving biodiversity be aimed? We argue that the focus should be where many species are: unique (local and regional endemics), rich, edge of range (important as indicators of global processes), vulnerable and meaningful (lack of alien species interference, habitat destruction and pollution means that quantifying and conserving biodiversity today is likely to have continued value in decades to come). Rising awareness (e.g. through tourism) and recent studies have shown South Georgia meets these criteria and have identified how little we know about its seabed biodiversity (which dominates richness and especially endemics). Even what is known is scattered across the globe in different institutes, journals and languages. Furthermore new physical science has revealed how threatened surface waters are from multiple impacts of climate change. By establishing what species occur there and where they occur we can assess vulnerability and best conservation practice.

**What will change as a result of this project? (150 words)**

Few islands in the world (e.g. Galapagos) are perceived to be of key biodiversity status. On scientific criteria South Georgia should be outstanding and by the end of this project, the tens of thousands of people each year that visit it will understand this. Scientists and conservationists anywhere on Earth will be able to access and visualise (in 3D) biodiversity across realms and taxa and link these up to physical variables giving them the tools to analyse and model from species to ecosystems. More importantly still, because the South Georgia and UK governments will have access to similar information, it should be easier to turn hard science into policy and strong conservation practice. Unlike most localities there is a very strong knowledge of physical variables; terrestrial fauna and flora, native and alien; megafauna and zooplankton; the missing ecosystem piece is the benthos and putting all this together.

**Why is the project important for the conservation of biodiversity? (150 words)**

Biodiversity of islands typically increases with age and size, and the number of unique species increases with isolation. South Georgia is the oldest and biggest of isolated islands in the Southern Ocean, but even considering these a recent study has revealed it may have anomalously high biodiversity – most of which lives on the seabed. This alone would make South Georgia globally important as a locality to quantify biodiversity at, but in addition it is one of the only large islands in the world with no known established marine aliens. Furthermore South Georgia must be considered a highly vulnerable marine ecosystem as there are the multiple threats of bycatch from long line fisheries, aliens arriving on tourist shipping and most significantly it is in one of the fastest warming regions. To make effective management plans and design protected areas the status and distribution of its biodiversity needs to be known.

**How does this relate to one or more of the biodiversity conventions? (150 words)**

The work of the project is central to the objectives of the CBD, particularly articles 7 (identification and monitoring) and 8 (In-situ conservation). There can be very few islands in the world for which quantifying biodiversity could be argued to be more important. Very high endemism at South Georgia means that any loss of species would be a loss of global biodiversity, and being Antarctic means the species are unusually sensitive. South Georgia is already established as an internationally important area for many migratory megafauna such as sea birds and seals (showing the links to CMS). Work is needed to establish which of the ~67% of fauna, that comprise the benthos, are also important migrants. Finally molecular ecological studies over the last decade have revealed that South Georgia is a key region for gene flow of Antarctic Peninsula species.

**13. How will the results of the project be disseminated; how will the project be advertised as a Darwin project and in what ways will the Darwin name and logo be used? (max 200 words)**

The major portal of the project will be the globally available website, which would display the Darwin logo. Besides continued updates and linkages within this website our results would be disseminated to the science community in 1) a series of high impact peer review papers and the press releases for these and 2) conference presentations, all of which would acknowledge Darwin support. For a more general audience we will plan a number of lesson modules for Falkland Island and UK schools, a short two page briefing document and a lecture to be made available to Antarctic tourist ships. We will produce a detailed report on benthic biodiversity for GSGSSI. BAS and GSGSSI will make all data available to international biodiversity experts and scrutiny through addition to open access databases, such as SCARMarBIN.

**14. What will be the long term benefits of the project in the host country or region and have you identified any potential problems to achieving these benefits? (max 200 words)**

The host region, South Georgia, the Falkland Islands and the GSGSSI, will benefit from the provision of a high quality dataset on the benthic macro-fauna, currently their weakest area of biological data. The results should enable them to meet CBD requirements in establishment of biodiversity baselines and associated planning on how to minimise future loss. The work will contribute significantly to the understanding and long-term management of the South Georgia marine environment. This is particularly important and timely as the GSGSSI is currently reviewing data with a view to implementing a series of Marine Protected Areas around South Georgia. Data collected in this project will help inform the location and levels of protection necessary in different parts of the SGMZ.

The Falkland Islands SMSG group will gain crucial contextual biodiversity information for comparison with Falkland Island work from both their shallow SCUBA studies and BAS deeper continental shelf samples. They will also gain from taxonomic knowledge transfer and from outreach projects targeting both SG and FI tourism and education. We see no significant barrier to achieving these benefits.

**15. State whether or not the project will reach a stable and sustainable end point. If the project is not discrete, but is part of a progressive approach, give details of the exit strategy and show how relevant activities will be continued to secure the benefits from the project. Where individuals receive advanced training, for example, what will happen should that individual leave? (Max 200 words)**

The project will reach a stable endpoint; once the literature data has been entered for each taxon (which is easily achievable within the research period), the South Georgia GIS can be queried to show: a) areas of data paucity or poor quality, b) taxa in which data is infrequent or of poor quality, and c) species accumulation curves with sampling to show how effectively we have sampled estimated total biodiversity by taxon and area. From this point the main aim will be to sample to 'fill the biggest gaps' that the SG GIS analysis reveals. As species-accumulation curves start to approach asymptote for areas and taxa so stability is also approached. Even if biodiversity has been massively underestimated and no species-per-sample curves approach asymptote, hotspots of both endemism and richness should be apparent enabling conservation effort to be focussed proportionately and geographically. As the biodiversity appears to be considerable, it is unlikely that all areas and taxa will have been recorded by the end of the project but the project leaves behind an updatable data-base, which can be re-analysed and queried at any point.

**16. If your project includes training and development, please indicate how you will assess the training needs in relation to the overall purpose of the project. Who are the target groups? How will the training be delivered? What skills and knowledge do you expect the beneficiaries to obtain. How will you measure training effectiveness. (max 300 words)**

You should address each of these points.

There are several training needs which will include staff at BAS, South Georgia and the Falkland Islands in terms of accessing and, in some cases, inputting information into the South Georgia GIS. There will also be some limited taxonomic training of fisheries observers at South Georgia and the Falkland Islands and some training of secondary school teachers on how to access the SG GIS and use it in education in schools. The latter training will be delivered in the last six months of the project by visits to schools in passing through the Falkland Islands. The taxonomic training will be done during the James Clark Ross sampling visit to South Georgia and before and after this by remote communication through the GSGSSI. These various beneficiaries should enable the skills to be able to confidently view and handle the SG GIS and to understand how to interpret responses of the data-base to queries. Other beneficiaries should gain insight into recognising and identifying native biodiversity and the knowledge of how best to preserve specimens such that they are identifiable to species level by specialists and where those specialists reside. The effectiveness of information transfer will be monitored by questionnaires and through a publicised help section on the online database.

**LOGICAL FRAMEWORK**

17. Please enter the details of your project onto the matrix using the note at Annex 3 of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes. (Use no smaller than Arial 10 pt)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<b>Goal:</b> Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.			
Project Sub-Goal: Determine the benthic biodiversity of the South Georgia shelf and slope.	Accessible and searchable data on the abundance and distribution of hundreds of benthic species around South Georgia.	Visualisation of data in databases and quality control by all species presence being linked to original report of data.	
<b>Purpose:</b> To establish baseline data on the macro- and mega-benthic biodiversity of the South Georgia shelf and slope, identify key (endemic) species and biodiversity hotspots and utilise data to formulate management strategies for the conservation of biodiversity in the South Georgia Maritime Zone.	The project will provide the first detailed study of benthic biodiversity on the South Georgia shelf and slope	South Georgia Govt will legislate to protect areas of high biodiversity or hotspots of important endemics.	
<b>Outputs</b> 1. Baseline georeferenced database of South Georgia benthos, hosted by BAS/GSHSSI, available to researchers and can be database supplemented by future work.	Data from variety of sources incorporated into Arc GIS system for analysis and available externally for viewing on the SGGIS.	(a) Data visualised on SGGIS (see: <a href="http://www.sggis.gov.gs">www.sggis.gov.gs</a> ).and SCARMarBIN (b) Direct provision of data to a variety of sources from secondary schools to international taxonomic specialists and climate change modellers	<b>None envisaged</b>
2. Collation and verification of existing sample collections (BAS cruises; GSGSSI trawl surveys).	BAS/GSGSSI collections identified and catalogued.	(a) Catalogued specimens donated to NHM and available to taxonomists and as reference material (b) Provision of genetic samples for CO1 (Census of Marine Life bar coding project) and other phylogenetic analysis.	Willingness of taxonomic experts to engage. Expertise in BAS on mollusca, bryozoa, Links already to NHM (polychaetes), NUI Galway (octopods), ZSL (corals), University of Glasgow (brachiopods), Hamburg University (Acari, Isopods, tanaids), University of Seville (hydroids), Université de Bourgogne (echinoids), University of Montevideo (flatworms), Royal Belgian Institute of Natural Sciences (Amphipods).



3. Identification of key regions (hotspots) and of key species (endemics; species at range edge).	Hotspots and coldspots identified and mapped . Field sites identified.	(a) Scientific paper(s) on the biodiversity of South Georgia (b) outreach (talks, posters) to fishing industry (through annual GSGSSI meetings), tourists (cruise ships, museum), and other stakeholders (e.g. FCO, SGHT).	Data is of sufficient quality and distribution to meaningfully assign hotspots of richness or of endemics (rather than simply sample representing effort)
4. Long-term management strategy for conservation of South Georgia biodiversity. Advice for areas and methods for monitoring and protection of key locations, habitats and species.	Provision of rapid assessments of geographic status on all suspected endemics, edge or range and regionally rare species. The data and it's interpretation from outputs 1), 2) and 3) will be used to formulate management strategies.	(a) Incorporation into South Georgia Management Plan (b) Formulation of protected areas in SGMZ to protect key areas/species. (c) Short report on likely impact of current and projected use of South Georgia waters given findings in 1), 2) and 3).	New genetic studies support the validity of endemics and distributions. No 'freak' events prevent the JCR scientific cruise from proceeding.
5. Development of expertise in identifying benthos, thus aiding future assessment of wider impacts of fisheries and recognition of alien species arrival or spread.	Training skills transfer to fisheries observers (unknown persons but <10). Within the team in identification of bryozoans and molluscs (from BAS), in fish (from GSGSSI), in shallows benthos (from SMSG) and from expert taxonomists in other taxa. Also training in sample design and strategy, IT approaches to georeferenced data visualisation and use.	(a) Identification workshop held in Stanley, FI. (b) Publication (web-based) of a guide to South Georgia benthos	Identification error rate is small.
6. Outreach at different levels	SG biodiversity database. Hard and electronic copy of a biodiversity guide to SG marine fauna. Online lectures for tourist operators.	Accessiing SG biodiversity database through web interface. Downloading of educational material.	Lack of 'glitches' in web software.
<b>Activities</b> (details in workplan)  1.1 Literature search 1.2 Verification of records 1.3 Data input 2.1 Identification of samples 2.2 Search for taxonomists 2.3 Sending samples away			

- 3.1 Using database
- 3.2 Identifying hotspots
- 3.3 Identifying coldspots
- 3.4 Prioritising areas
- 3.5 First scientific paper
- 4.1 deep cruise planning
- 4.2 shallow cruise planning
- 4.3 scientific cruises
- 4.4 Observer training
- 4.5 Sorting of samples
- 4.6 Management strategies drafted
- 5.1 Data analysis
- 5.2 Writing papers
- 5.3 Conferences
- 5.4 Press release
- 6.1 Biodiversity data goes live
- 6.2 Lesson planning
- 6.3 Biodiversity guide
- 6.4 Lecture preparation
- 6.5 Liaison with stakeholders

**Monitoring activities:**

- Indicator 1 Provision of (literature) data in the South Georgia GIS database
- Indicator 2 Provision of specimens in key institutions
- Indicator 3 Hotspot & coldspot information provided to stakeholders, submission of scientific paper
- Indicator 4 Scientific cruises and specimens from these
- Indicator 5 Provision of 'route map' for biodiversity conservation and protected area planning
- Indicator 6 Workshop, biodiversity guide, lecture for tourist ships, management strategies document

18. Provide a project implementation timetable that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project.

Activity	Months	Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.1 Literature search for georeferenced data	5	•	•										
1.2 Verification of georeferenced species data	3		•	•									
1.3 Input of georeferenced data into the South Georgia GIS	5		•	•									
2.1 Identification of location of unidentified samples from South Georgia	2			•									
2.2 Identification of taxonomists willing to undertake identification of new material	2			•									
2.3 Getting existing samples identified to species level and barcoded	4			•	•								
3.1 Querying the database to investigate the status of data by taxa and area	>1				•								
3.2 Identification of hotspots of endemism and richness (from 3.1)	>1				•								
3.3 Identification of 'coldspots' which have been poorly sampled	>1				•								
3.4 Prioritising hotspots for conservation and coldspots for scientific cruise to sample	2				•	•							
3.5 Drafting and submission of preliminary paper on biodiversity priorities	2				•	•							
4.1 Planning of scientific cruise by RRS James Clarke Ross to South Georgia	3					•	•						
4.2 Planning of scientific sampling by SCUBA using Pharos at South Georgia	2					•	•						
4.3 Undertaking of scientific cruises	1							•					
4.4 Training of fisheries observers	1							•					
4.5 Sorting of sampled material and sending to expert taxonomists	1							•	•				
5.1 Data analysis for scientific paper on across realms biodiversity of South Georgia	4							•	•				
5.2 Writing of 2/3 scientific papers on South Georgia's biodiversity	4							•	•				
5.3 Presentation at international and national conferences on South Georgia's biodiversity	<1								•				
5.4 Submission of papers and press release of findings	<1								•				
6.1 Opening marine biodiversity data in SG GIS to multi-level access	<1								•				
6.2 Preparation of lesson plans for Falkland and UK schools	<1								•				
6.3 Preparation of a marine biodiversity guide to South Georgia's marine environment	1								•				
6.4 Preparation of lecture plans for tourism ships, visiting South Georgia	<1								•				
6.5 Workshop with fisheries community and stakeholders about project successes	<1								•				

19. Please indicate which of the following Standard Measures you are likely to report against. You will not necessarily plan to cover all these Standard Measures in your project. Separate guidance on Standard Measures can be found at [http://darwin.defra.gov.uk/resources/reporting/standard\\_measures/](http://darwin.defra.gov.uk/resources/reporting/standard_measures/)

Standard Measure No	Description	Tick if Relevant
1A	Number of people to submit thesis for PhD qualification (in host country)	
1B	Number of people to attain PhD qualification (in host country)	
2	Number of people to attain Masters qualification (MSc, MPhil etc)	
3	Number of people to attain other qualifications (ie. Not outputs 1 or 2 above)	
4A	Number of undergraduate students to receive training	
4B	Number of training weeks to be provided	
4C	Number of postgraduate students to receive training	
4D	Number of training weeks to be provided	
5	Number of people to receive at least one year of training (which does not fall into categories 1-4 above)	
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)	✓
6B	Number of training weeks to be provided	
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country	✓
8	Number of weeks to be spent by UK project staff on project work in the host country	✓
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country	✓
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	✓
11A	Number of papers to be published in peer reviewed journals	✓
11B	Number of papers to be submitted to peer reviewed journals	✓
12A	Number of computer based databases to be <b>established</b> and handed over to host country	✓
12B	Number of computer based databases to be <b>enhanced</b> and handed over to host country	
13A	Number of species reference collections to be <b>established</b> and handed over to host country(ies)	
13B	Number of species reference collections to be <b>enhanced</b> and handed over to host country(ies)	✓
14A	Number of conferences/seminars/ workshops to be <b>organised</b> to present/disseminate findings	
14B	Number of conferences/seminars/ workshops <b>attended</b> at which findings from Darwin project work will be presented/ disseminated.	✓
15A	Number of national press releases in host country(ies)	
15B	Number of local press releases in host country(ies)	✓
15C	Number of national press releases in UK	✓
15D	Number of local press releases in UK	✓
16A	Number of newsletters to be produced	✓
16B	Estimated circulation of each newsletter in the host country(ies)	✓
16C	Estimated circulation of each newsletter in the UK	✓
17A	Number of dissemination networks to be <b>established</b>	
17B	Number of dissemination networks to be <b>enhanced/ extended</b>	
18A	Number of national TV programmes/features in host country(ies)	
18B	Number of national TV programmes/features in UK	
18C	Number of local TV programmes/features in host country(ies)	
18D	Number of local TV programmes/features in UK	✓
19A	Number of national radio interviews/features in host country(ies)	
19B	Number of national radio interviews/features in UK	
19C	Number of local radio interviews/features in host country(ies)	✓
19D	Number of local radio interviews/features in UK	✓
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)	✓
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased	
22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased	✓
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project	✓

**PROJECT BASED MONITORING AND EVALUATION**

**20. Describe, referring to the Indicators in the Logical Framework, how the progress of the project will be monitored and evaluated, including towards delivery of its outputs and in terms of achieving its overall purpose. This should be during the lifetime of the project and at its conclusion. Please include information on how host country partners will be included in the monitoring and evaluation.**

David Barnes will be responsible for monitoring the project progress. He will report to the major stakeholders (GSGSSI, FCO South Georgia Desk Officer) at 3 monthly intervals whether the activities described (section 18) have started and concluded on time. The first two checks (and thus reports) will be dominated by progress in literature searches. We will be able to compare progress against early stages of the project (funded by GSGSSI & BAS) on a curve of diminishing returns for effort. When new records from literature starts to approach asymptote we will transfer effort to mainly verifications and data input. Report 3 should conclude the completion of literature data input (Indicator 1), and that museums and institutes have been corresponded with to find existing unidentified specimens from South Georgia and that where possible these have been sent to taxonomists to attempt identifications (Indicator 2). This is a major stage in the project and is required to start the last quarter of the first year. The last report for year 1 will be to convey the results of the database queries, revealing hot and cold-spots of data and lead to a discussion by project workers and stakeholders on how the new information informs and changes conservation and protected area priorities. The same information will be used to draft the first paper, thus there should be plenty of evidence to support or refute progress towards indicator 3. The first report of year 2 should conclude that richness/endemism hotspots have been tested statistically (to show they don't simply reflect past effort), that coldspots have been identified and ranked in importance for the cruises to sample and that the first paper has been submitted. The next report will mainly concern the planning and preparation for the scientific cruises and be able to demonstrate completed risk assessments, cargo packing notes and most importantly cruise plan and sample design. The third report of year 2 will concern a very busy phase of the project, particularly the execution of both the RRS James Clarke Ross and Pharos cruises (Indicator 4). Although much material will still be in the process of identification, it will be very clear whether both of these cruises were successful by the location and nature of material retrieved. The last report would detail very many shorter activities and pull together these to reveal a 'route map' for the conservation of benthic biodiversity and suggest the more vulnerable or rich areas for protection (indicator 5). The report will detail the level of success from the host of outputs including the workshop, the biodiversity guide and the lecture for tourist ships – a key component to get absolutely right given that it may be viewed to tens of thousands of people each year (indicator 6).

**FUNDING AND BUDGET**

Please complete the separate Excel spreadsheet which will provide the Budget information for this application. Some of the questions below refer to the information in this spreadsheet.

**NB: Please state all costs by financial year (April to March). Use current prices – and include anticipated inflation, as appropriate up to 3% per annum. The Darwin Initiative will not be able to agree increases in grants to cover inflation on UK costs once grants are awarded.**

**21. How is your organisation currently funded? (max 100 words)**

**British Antarctic Survey is mostly funded by the UK government, through the Natural Environment Research Council (NERC). However researchers apply for grants and bring funding into the organisation from a wide range of national, European, and worldwide sources of money including NERC, AFI, EU Framework, Census of Marine Life and Census of Antarctic Marine Life. BAS also has some earned income through patents or commercialisation of science.**

22. Provide details of all confirmed funding sources identified in the Budget that will be put towards the costs of the project, including any income from other public bodies, private sponsorship, donations, trusts, fees or trading activity. Please include any additional unconfirmed funding the project will attract to carry out additional work during or beyond the project lifetime. Indicate those funding sources which are confirmed.

**Confirmed:**

The GSGSSI has funded a temporary research assistant to establish a South Georgia biodiversity database. BAS will fund two months more work on this.

**Matched and agreed funding for this proposal includes:**

8 days of research ship time of RRS James Clarke Ross (equivalent to £153,600 in ship time + £48,000 in fuel)

2 months (over 2 years) of Band 4 principal scientist (David K A Barnes) time at BAS

1 month (over 2 years) of Band 5 principal scientist time (Mark Belchier) time

10 days of FPV Pharos time (equivalent to £46,500 + £25,000 in fuel)

1 month of SMSG dive team (equivalent to £22,000)

**Unconfirmed:**

The South Georgia Heritage Trust have indicated that they are likely to contribute about £13k, which has been applied for.

23. Please give details of any further funding resources (confirmed or unconfirmed) sought from the host country partner (s) or others for this project that are not already detailed in the Budget or Question 22. This will include donations in kind or un-costed support eg accommodation. (max 50 words per box)

**Financial resources:**

**Funding in kind:**

21 days of accommodation and research time at King Edward Point fisheries laboratory for 4 researchers (equivalent to £2,500)

### FCO NOTIFICATIONS

Please check the box if you think that there are sensitivities that the Foreign and Commonwealth Office will need to be aware of should they want to publicise the project's success in the Darwin competition in the host country.

Please indicate whether you have contacted the local UK embassy or High Commission directly to discuss security issues (see Guidance Notes) and attach any advice you have received from them.

Yes (no written advice)

Yes, advice attached

No

**Not applicable as UK overseas territory**

### CERTIFICATION 2010/11

On behalf of the organisation of British Antarctic Survey, N.E.R.C.

I apply for a grant of £61.315 in respect of expenditure to be incurred in the financial year ending 31 March 2011 on the activities specified in the above application.

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful. (This form should be signed by an individual authorised by the lead UK institution to submit applications and sign contracts on their behalf.)

**I enclose a copy of the organisation's most recent audited accounts and annual report, CVs for project principals and letters of support.**

<b>Name (block capitals)</b>	David K A Barnes
<b>Position in the organisation</b>	Marine Ecologist

**Signed**

**Date:**

## Stage 2 Application - Checklist for submission

	Check
Have you provided actual start and end dates for your project?	✓
Have you provided your budget based on UK government financial years ie 1 April – 31 March?	✓
Have you checked that your budget is complete, correctly adds up and that you have included the correct final total on the top page of the application?	✓
Is the concept note within 1,000 words?	✓
Is the logframe no longer than 2 pages and have you highlighted any changes since Stage 1?	✓
Has your application been signed by a suitably authorised individual? (clear electronic or scanned signatures are acceptable in the email, but a wet signature should be provided in the hard copy version)	✓
Have you included a 1 page CV for the Project Leader, any other UK staff working 50%+ on this project, and for a main individual in each overseas partner organisation?	✓
Have you included a letter of support from the main overseas partner organisations?	✓
Have you checked with the FCO in the project country/ies and have you included any evidence of this?	✓
Have you included a copy of your most recent annual report and accounts? An electronic link to a website is acceptable.	✓
Have you read the Guidance Notes ?	✓

Once you have answered Yes to the questions above, please submit the application, not later than midnight GMT on **Monday 30 November 2009** to [Darwin-Applications@ltsi.co.uk](mailto:Darwin-Applications@ltsi.co.uk) using the application number (from your Stage 1 feedback letter) and the first few words of the project title **as the subject of your email**.

However, if you are e-mailing supporting documentation separately please include in the subject line an indication of the number of e-mails you are sending (eg whether the e-mail is 1 of 2, 2 of 3 etc). **In addition**, a signed hard copy of the application and any supporting documents not available electronically should be submitted to the Darwin Applications, c/o LTS International, Pentlands Science Park, Bush Loan, Penicuik EH26 0PL **postmarked** not later than **Tuesday 1 December 2009**.

DATA PROTECTION ACT 1998: Applicants for grant funding must agree to any disclosure or exchange of information supplied on the application form (including the content of a declaration or undertaking) which the Department considers necessary for the administration, evaluation, monitoring and publicising of the Darwin Initiative. Application form data will also be held by contractors dealing with Darwin Initiative monitoring and evaluation. It is the responsibility of applicants to ensure that personal data can be supplied to the Department for the uses described in this paragraph. A completed application form will be taken as an agreement by the applicant and the grant/award recipient also to the following:- putting certain details (ie name, contact details and location of project work) on the Darwin Initiative and Defra websites(details relating to financial awards will not be put on the websites if requested in writing by the grant/award recipient); using personal data for the Darwin Initiative postal circulation list; and sending data to Foreign and Commonwealth Office posts outside the United Kingdom, including posts outside the European Economic Area. Confidential information relating to the project or its results and any personal data may be released on request, including under the Environmental Information Regulations, the code of Practice on Access to Government Information and the Freedom of Information Act 2000.