



Darwin Initiative Annual Report

Important note:



To be completed with reference to the Reporting Guidance Notes for Project Leaders:
it is expected that this report will be about 10 pages in length, excluding annexes

Submission Deadline: 30 April 2014

1. Darwin Project Information

Project Reference	19-031
Project Title	Mapping St Helena's marine biodiversity to create a marine management plan
Host Country/ies	UK OT ST Helena
UK contract holder institution	Joint Nature Conservation Committee
Host country partner institutions	Nature Conservation Division, Environmental Management Department, St Helena.
Other partner institutions	
Darwin Grant Value	£164,150
Start/end dates of project	Apr 2012 – November 2014
Reporting period (eg Apr 2012 – Mar 2013) and number (eg Annual Report 1, 2, 3)	Apr 2013 – Mar 2014 Annual Report 2
Project Leader name	<i>Dr Tony Weighell</i>
Project website	https://www.facebook.com/sthenaconservation
Report authors, main contributors and date	Dr Judith Brown

2. Project Background



One of the most remote island's in the world, Saint Helena is situated in the South Atlantic Ocean 1200 miles from southern Africa and 1800 miles from South America. The island is 47 square miles and has a sub-tropical climate, which is extremely rich in biodiversity and, due to its geographical isolation, is home to over 500 endemic species. Much is known about the terrestrial environment however the marine environment is relatively poorly studied with a lack of species and habitat inventories. This project aims to redress these knowledge gaps providing detailed habitat and species mapping around the island providing the necessary data for the creation of a Marine Management Plan allowing decisions to be made to sustainably manage St Helena's unique marine environment.

3. Project Partnerships

Project partnerships:

Collaboration between JNCC (the UK lead institution), and the Environment Management Directorate (EMD) of St Helena Government (host country partner) was strengthened this year with attendance of the project manager at a JNCC MPA workshop in UK. During the time in the UK the Project manager spent time with the project lead as well as other members of JNCC gaining help and advice on many areas including use and operating of Marine Recorder. JNCC have also funded a GIS centre based in the Falklands and this project manager visited St Helena and provided training to St Helena staff. Effective communication continued between the lead and host organisations with regular email and telephone communications. The Project manager has continued to spend much time training local staff from the marine team of EMD.

Other collaborators:

The Project manager continues to work with numerous taxonomists in various locations worldwide who have agreed to assist with the project in identifying samples collected here (these include Drs Schroedl & Padula, University of Munich; Prof Meyer, University of Carolina; Dr Nishi, Japan; Dr de Grave, Oxford Museum of Natural History; Dr Lorenz, Germany; Mr Swinnen, Belgium; Dr Reimer, University of the Ryukyus; Dr Ramos, Universidad de Alicante; Ms Riverea Universidad Nacional Autónoma de México; Dr Goodwin, Natural History Museum of Northern Ireland; Dr. Björn Berning, Upper Austrian State Museum, Dr Galea, Hydrozoan Research Laboratory, France).

The Darwin project part funded the travel of one of the local marine section staff to attend an international conference on whale sharks in Atlanta Georgia. This facilitated the establishment of a great working relationship with many international scientists, as well as being given two satellite tags. The project manager and one of the marine section staff also participated in the Ascension marine biodiversity survey gaining experience, establishing working relationships with other scientists as well as being valuable additions to the survey team.

JNCC and the South Atlantic Environmental Research Institute have received funding for a GIS project and one of the GIS expert's employed will be based on St Helena giving training and direct assistance to this project. The post holder has been recruited and will start in June 2014.

On St Helena partnerships with the local dive groups and the fisheries association have gone from strength to strength with numerous stakeholder meetings. They have, and will continue to, input into Policy papers and the Marine Management Plan. The Project manager sits on the Fisheries Task Force group on island and inputs into all fishery related matters.

4. Project Progress

Considering the initial eight month delay in starting the project, there has been considerable progress during the last 12 months with all outputs on target to be delivered by the end of the project.

4.1 Progress in carrying out project activities

Output 1 : Establishment of a marine database

The reference database and marine bibliography folder have continued to be populated with data (including links to PDF's) and 221 papers found and entered to date. All historical data records have been checked taxonomically and 634 species entered onto a database including 71 algae, 195 molluscs, 42 echinoderms, 156 fish, 19 cnidaria, 33 Bryozoa, 69 Foramanifera and 45 crustaceans. There were 712 geo-referenced records at 133 sites.

Output 2. An electronic folder containing marine benthic data including, marine fauna, flora and habitats

Ongoing training of all three members of the EMD marine team in species identification and surveying. 150 surveys have been conducted to allow for both spatial and seasonal coverage around the island.

All marine data from the project is located within one folder with subfolders for the separate areas (e.g. artificial reefs, budget, survey forms, marine science papers, MPA information, sand extraction, species of St Helena, whale sharks etc.).

Output 3. Generation of a series of GIS maps of the distribution and extent of both St Helena shallow marine resources and commercial usage of these resources.

A GIS specialist has been on island and provided training for all 4 members of the marine team (plus 16 other environmental staff on island). All of the team can now create maps and have started to analyse the survey data and produce GIS maps of habitat locations, seabird colony locations and marine species locations/densities.

Output 4iii. A list of sites that would benefit from artificial reefs, including one for lobster fisheries.

It is currently felt that there is no need for additional artificial reefs. So far half of the artificial reef/wreck sites have been surveyed. A Protection of Wrecks ordinance has been drafted and initial meetings with stakeholders held.

Output 4iv. A marine conservation/ promotional communication strategy. Presentations, workshops and leaflets and media coverage. Raised awareness in schools

Numerous public talks, newspaper/newsletter articles and radio interviews have been conducted by the Darwin marine biodiversity project to date. This year Marine Awareness week focussed on habitats and uses of the marine environment and gave the whole community an opportunity to learn about marine life and marine conservation. Several high school students have been for work experience and as part of the Conservation team, and working with this project, an apprentice scheme has been established with one person recruited and a second place being advertised.

A communications strategy for the whole of the Environment department (including the marine section) has been produced see Appendix 8.

4.2 Progress towards project outputs

The year has seen continued progress towards the project outputs with particular emphasis on gathering the baseline survey data, working with stakeholders to work towards policies and a marine management plan and a large amount of staff training to ensure continuation of the project after the funding expires. There has been substantial interest in the project from the local population and school children – indicated by an increased number of children volunteering for work experience with the marine team during their holidays. 150 dive surveys have been conducted with a further 95 sample collection dives. Over 9500 marine photographic images of species and habitats have been taken, catalogued and keyworded and these will be used in publicity, education and in creation of the marine identification book for the general public.

The Project manager has input into meetings and a workshop on a new piece of legislation which is being produced to protect species and habitats, including the marine environment, on St Helena. The output from this project (the Marine management plan) will form an integral part of this environmental protection legislation.

4.3 Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Year 1 Total	Total planned during the project
5	Number of people to receive at least one year of training	3 local marine team	2
6A	Number of people to receive other forms of education/training	7 (high school work experience), 7 divers took part in underwater surveys, all school children on island received assembly talks	10

		and participated in marine awareness week	
6B	Number of training weeks to be provided	Training of marine section staff is ongoing and continuous from project manager	10
7	Number of training materials to be produced for use by host country	3 (folder containing species ID information and showing preservation methods for specimens; GIS training folder including How to's; marine species ID guide for marine section staff use).	3
9	Number species/ habitat management plans to be produced		1
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	1 (first draft printed for local use, to be updated as more species added, taxonomy validated); work on identification book is underway with about a third of the text written.	2
11A	Number of papers to be published in peer reviewed journal		1
11B	Number of papers to be submitted to peer reviewed journal	2 (submitted)	1
12A	Number of computer based databases to be established	1	1
12B	Number of computer based databases to be enhanced	1	1
13A	Number of species reference collections to be	1 (to be added)	1

	established	to)	
13B	Number of species reference collections to be enhanced	1	1
14A	Number of conferences/workshop/ seminars to be organised	2 (Marine Awareness Week x 2)	3
14B	Number of conferences/workshop/ seminars to be attended	2 (attendance at MPA workshop in UK and International Whale shark conference)	1
15A	Number of national press releases in host country	15	12
15B	Number of local press releases in host country	15	12
15C	Number of national press releases in UK		1
16A	Number of newsletters to be produced	12 (monthly newsletter goes in both papers)	8
17A	Number of dissemination networks to be established	2 (WIKI site, facebook page)	1
17B	Number of dissemination networks to be enhanced	1 (SHG website)	2
19A	Number of national radio interviews in host country	21	12
19C	Number of local radio interviews in host country	21	12
22	Number of permanent field plots established during the project and continued after funding has ceased		20

Table 2 Publications

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Journal	<i>Cyphoma eludens</i> n. sp. - spectacular new Ovulid from the Atlantic Ocean (Gastropoda: Ovulidae) Lorenz, F and Brown, J. 2014	Conchylia Magazine	Paper submitted	£0
Journal	Evidence that St Helena island is an important multi-use habitat for whale		Paper submitted	£0

	sharks, <i>Rhincodontypus</i> , with the first description of mating in this species Clingham, E; Brown, J; Henry, L, Beard, A; Dove, ADM			
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4.4 Progress towards the project purpose and outcomes

Huge progress has been made towards the listed purpose and outcomes of the project and to date there have been no issues raised with achieving these goals. Two policy papers (regulations for Underwater Blasting and Interactions with whale sharks, cetaceans and devil rays) have been successfully approved by council and these will form part of the Marine Management Plan (to be produced at the end of the project) which will form legal documentation to ensure the protection and future management of the St Helena marine environment. Further stakeholder meetings have been held and drafts of regulations for three other areas (sportsfishing, protection of wrecks and dive tourism) have been produced and will shortly be ready to take to public consultation. The project has greatly inputted into the Environmental Protection Ordinance which is currently being legally drafted. Much work has also been done with the local Fisheries Task Force Group on ensuring fishing on the islands is sustainable. A mammoth amount of public awareness has been done including numerous newspaper articles, radio interviews and public talks. A second marine awareness week was held this year with a total reach (including a fishing festival) of over 1200 people.

4.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

Continued biodiversity surveys have so far identified for St Helena at least 70 new species records and also some potential new species (at least 8 although awaiting confirmation from taxonomic experts). 150 quantitative surveys have been completed over two seasons and will provide baseline data on habitats and species including vital information on types, location and extent of different habitats and species around St Helena. Policy papers and legislation (some already approved and some in draft) will ensure regulations for marine tourism, fishing and other marine resource use are done in a sustainable and well managed way. A large amount of publicity was done this year regarding the seasonal visiting of whale sharks which resulted in a substantial (2 trips in 2013 to 50+ trips in 2014) increase in tourist trips. All vessels agreed to abide by the whale shark, cetacean and devil ray guidelines even though at that stage they were not in place. That policy has now been approved by Councillors.

5. Monitoring, evaluation and lessons

Monthly team meetings are held within the Environmental Management Division at which an update of the project is given including outputs achieved and targets for next month. Regular phone and email correspondence with the JNCC project lead in UK keep him up to date with how the project is progressing. The project manager also has a yearly staff appraisal which examines the project outputs to date and the effectiveness of the project manager. During this meeting targets to be monitored at 6

month intervals are also set. Achievements are measured against the project outputs. Targets have been set for the final phase of the project (eg presenting a draft of the Marine Management Plan at a fisheries/MPA workshop) so as to ensure final outputs are achieved by project completion.

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

Details given to reviewers comments in half year report.

7. Other comments on progress not covered elsewhere

The output 4iii. A list of sites that would benefit from artificial reefs, including one for lobster fisheries has been refined from the original logframe as from the habitat work conducted so far it is more appropriate to protect the current artificial reefs through legislation, as due to the large amount of natural habitat it is better not to create any new reefs (especially not from old cars) but to look at protecting the current areas and the lobster species through the marine management plan.

The project does not face any risks or potential for failing.

8. Sustainability

The main legacy of this project is the three marine section staff who have received a large quantity of training in all aspects of the project from survey methodology, species identification, use of scientific equipment, GIS, to stakeholder engagement work. Detailed electronic folders containing all St Helena relevant marine papers plus databases are also in place. A large amount of public awareness through numerous newspaper articles, radio interviews, public talks, meetings with stakeholders and councillors and two Marine Awareness Weeks have been conducted and a communications strategy for the St Helena Government Environmental Management Division has been produced (Annex 8). Also alongside this project JNCC have funded a GIS post for St Helena that will assist with some elements of the mapping work. This person will be in place from June 2014 for 18 months so will be in post after the completion of this project and be available to help with continuation of the mapping work. There has been much interest in this project from external taxonomic and scientific experts and strong partnerships formed and EMD marine team will continue to work with these experts after the life of the project.

9. Dissemination

Thirty talks/ presentations have been given to date with a wide diversity of audiences from councillors, to the local community to the school children. Also 17 newspaper articles and 21 radio interviews have been conducted. Public engagement is a priority for St Helena Government so this will continue for the duration of the project and afterwards.

10. Project Expenditure

Due to the 8 month delay in start to the project Darwin agreed an extension to the project so it will run until November 2014. Finances were agreed to be carried over to be consistent with this. There was also an agreed change in project spend to match with several items being no longer necessary and some taxonomy work gifted in kind and some items funded from alternate sources. Darwin finance approved a full spend to date as JNCC transferred the full amount to the host country (St Helena). A Spot Audit was also carried out during the last Financial Year.

11. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

I agree for LTS and the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

Cyphoma eludans, the elusive ovulid shell, beautifully camouflaged on the large black fan coral found under ledges and in caves, is one of several of St Helena's many amazing marine organisms which haven't been described before now. Seaslugs, flatworms, sponges and potentially even a fish species are amongst those with taxonomists to be potentially described for the very first time. Another 70 species have also only just been recorded in St Helena for the first time. But as well as the magical minibeasts of the marine world, even the charismatic megafauna are providing new information. For example until now only the Genus was known of the devil rays, *Mobula tarapacana*; and the whale sharks we have observed pregnant females and deployed satellite tags to track for the first time where these magnificent fish migrate to when they leave St Helena.

But observing and recording the spectacular marine life is not enough, it is imperative that we protect the marine environment for future generations to enjoy. Two policy papers have been approved by Government to do just that – one to ensure that marine tourism of whale sharks, cetaceans and devils rays is conducted in a sensitive way and the other to protect the cetacean life from potential damage from any construction works involving blasting in or near the marine environment. To achieve one of these one of the local staff members was sent to present data at an international conference and work with international researchers, this in itself was a huge personal achievement for the individual as well as achieving much publicity for St Helena Island, the Government and its proactive approach and this Darwin funded project .

Photographs available for use by Darwin: Huge number of high quality marine underwater images (plants, fish and invertebrates) including endemic species, new records and new species. Images of seabirds and seabird research also available. Also images from awareness raising activities including Marine Awareness Week. For use please contact Judith-brown@enrd.gov.sh

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2013-2014

Project summary	Measurable Indicators	Progress and Achievements April 2013 - March 2014	Actions required/planned for next period
<p>Goal: <i>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.</i></p> <p>Sub-Goal: To provide a marine management plan for St Helena's shallow marine resources</p>			
<p>Purpose St Helena's marine environment is better managed and therefore more capable of supporting sustainable tourism and enhanced livelihood potential for St Helena</p>	<p>A management plan for St Helena's marine environment is published and accepted for implementation by end of project.</p> <p>Awareness within local population of the importance of a well managed marine environment is increased by end of project.</p> <p>Local dive businesses show evidence from Darwin project in conducting sustainable dive tourism in the marine environment by end of project.</p>	<p>Two policy papers have been produced and passed through public consultation and councillors. These will form the basis of sections of management plan.</p> <p>A huge amount of public awareness has been conducted during the last year. Initial awareness survey showed public knew most about St Helena's terrestrial environment but due this projects large amount of publicity the public are learning a lot about marine environment.</p> <p>Discussions with dive businesses' show great enthusiasm for sustainable management. Both operators</p>	<p><i>Workshops on Marine management to be organised nearer to the end of project</i></p> <p><i>Awareness survey to be redone near end of project.</i></p> <p><i>Dive sustainably leaflet to be produced.</i></p>

	<p>Increased level of visitor awareness of marine management issues (as incorporated into MMP) amongst visiting tourists. Evidence of tourists keen to return to St Helena or recommend St Helena as a dive destination.</p> <p>Surveys conducted to examine the benefit of different types of artificial reef both through a literature review and dive surveys.</p> <p>A marine life guide to St Helena is published which also includes a dive site guide</p>	<p>partaking in marine surveys</p> <p>Successful litter clear-ups (shoreline and underwater).</p> <p>Questionnaire to tourists on reasons to visit St Helena now includes marine tourism questions</p> <p>Baseline dive surveys on wrecks/artificial reef conducted</p> <p>First draft of marine guide produced for use in surveys and local staff training</p>	<p><i>Information leaflets produced for tourism on importance of marine environment.</i></p> <p><i>Guide book to be written and published</i></p>
<p>Output 1. Establishment of a marine database that contains all existing known material on the marine resources of St Helena</p>	<p>The database is fully populated with all existing material within 12 months of project start up.</p> <p>Data mining, of all existing marine records within 12 months of project start up and referenced and stored in a standardised electronic format.</p> <p>Meetings with stakeholders to research available data regarding sea users.</p>	<p>Reference database established with 221 papers found and entered (including links to PDF's).</p> <p>Historical data records have been checked taxonomically 634 species entered onto a database including 71 algae, 195 molluscs, 42 echinoderms, 156 fish, 19 cnidaria, 33 Bryozoa, 69 Foramanifera and 45 crustaceans. There were 712 geo-referenced records at 133 sites.</p> <p>Questionnaire issued to local community (with 130 completed) regarding how people use the local marine environment. Meetings</p>	

	<p>Data management systems is functioning and can receive, store and retrieve all existing and new data.</p>	<p>with local fishermen on areas used and which species targeted.</p> <p>System established for recording all metadata and sharing with other research organisations. Training in importance of data collection and storage. Survey data entered in set format. JNCC Marine Recorder system loaded on Project manager and local EMD staff computer</p>
<p>Output 2. An electronic folder containing marine benthic data including, marine fauna, flora and habitats</p>	<p>Recruitment of volunteers/ expert at project commencement</p> <p>Training of staff/locals in identification and specimen collection. Construction of field survey forms and data storage templates designed, to be compatible with GIS software</p> <p>60 surveys undertaken and data collated</p> <p>Datasheets containing marine data located in one folder.</p>	<p>Project manager recruited (22nd November 2012) and paid divers and volunteers recruited.</p> <p>Local marine team have received training in specimen collection and identification, field surveys, use of scientific equipment, data collection. Field survey forms produced and data storage systems established and are compatible with GIS.</p> <p>Training surveys undertaken and 150 surveys conducted</p> <p>Marine data all located within one folder</p>
<p>Output 3. Generation of a series of GIS maps of the distribution and extent of both St Helena shallow marine resources and commercial usage of these resources.</p>	<p>Maps of the extent and distribution of marine resources are produced. A list of maps will be made available.</p> <p>Training for up to 3 marine staff in GIS to sufficient level of competency to use data systems available within 18 months of project startup.</p>	<p>Work has started on the production of maps. GIS maps of distribution and density of marine species and seabirds are underway.</p> <p>Project manager, 3 marine section staff (plus 16 other staff from Environment and GIS departments) trained in GIS (see Appendix 4 for certificates of attendance).</p>

	Staff will be capable of undertaking mapping exercises with limited outside support by end of project. Less reliance on off-island support for GIS mapping.	Each staff member has produced a map for an area of the marine section work (see appendix 5 for an example).
Output 4iii. A list of sites that would benefit from artificial reefs, including one for lobster fisheries.	List of candidate sites.	Currently drafting Ordinance to protect existing artificial reefs (wrecks sites) and form regulations on construction of new artificial reefs. It is felt that there is enough natural habitat for lobsters and that creation of artificial reefs (especially from old cars) is not necessary.
Output 4iv. A marine conservation/ promotional communication strategy. Presentations, workshops and leaflets and media coverage. Raised awareness in schools	Stakeholder workshops undertaken regularly through the project with groups including fishers, tourism groups, wider community, government, industry School children in St Helena show greater understanding and awareness of marine environment with measurable increase from start to end of project.	A communications strategy for St Helena Government has been produced. Numerous stakeholder meetings undertaken. Spider diagrams of children's knowledge of marine environment undertaken. Large amount of work undertaken to raise awareness in children including assemblies, work experience, Marine Awareness week.

Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: 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.			
Sub-Goal:			

<p>To provide a marine management plan for St Helena's shallow marine resources.</p>			
<p>Purpose</p> <p>St Helena's marine environment is better managed and therefore more capable of supporting sustainable tourism and enhanced livelihood potential for St Helena</p>	<p>A management plan for St Helena's marine environment is published and accepted for implementation by end of project.</p> <p>Awareness within local population of the importance of a well managed marine environment is increased by end of project.</p> <p>Local dive businesses show evidence from Darwin project in conducting sustainable dive tourism in the marine environment by end of project.</p> <p>Increased level of visitor awareness of marine management issues (as incorporated into MMP) amongst visiting tourists. Evidence of tourists keen to return to St Helena or</p>	<p>Minutes of Govt. meetings show management plan is approved and sanctioned for use.</p> <p>Awareness survey results from start to end of project show improved awareness – at least a 30% increase in number of people aware.</p> <p>Minutes from meeting on sustainable use of the marine environment. Published "Dive Responsibly" leaflet embodies key recommendations from MMP.</p> <p>Awareness surveys of visitors to the island to establish level of awareness prior to and at end of project show increased awareness of marine issues. Surveys show an increased number of tourists keen to</p>	<p>Staff are available are capable and willing to be trained.</p> <p>There are species of conservation importance e.g. endemic species</p> <p>Throughout the project sufficient information has been collated to produce a report.</p> <p>There is an appetite for marine conservation amongst stakeholders</p>

	<p>recommend St Helena as a dive destination.</p> <p>Increased level of awareness of marine management issues (as incorporated into MMP) amongst tour operators and the value of such in promoting sustainable tourism</p> <p>Surveys conducted to examine the benefit of different types of artificial reef both through a literature review and dive surveys.</p> <p>A marine life guide to St Helena is published which also includes a dive site guide</p> <p>Establish long –term monitoring sites.</p>	<p>return to St Helena or recommend as dive destination.</p> <p>Survey of tour operators promoting St Helena tourism to establish level of awareness concerning nature and value of effective marine management in the context of promoting sustainable tourism.</p> <p>Fish survey data analysed and report on comparison of fish numbers (including commercial species) between areas near and on artificial reefs produced</p> <p>Book published highlighting vast diversity of the St Helena marine life and also importance of good marine management</p> <p>Set dive sites established for long-term monitoring of increases in fish numbers.</p>	
<p>Outputs</p> <p>1. Establishment of a marine database that contains all existing known material on the marine resources of St Helena</p>	<p>The database is fully populated with all existing material within 12 months of project start up.</p> <p>Data mining, of all existing</p>	<p>Copy of database available</p> <p>Dedicated file containing bibliography. Commercial data</p>	<p>Data/location of data is accessible (via various routes)</p> <p>Stakeholders provide data/ location of data</p>

	<p>marine records within 12 months of project start up and referenced and stored in a standardised electronic format.</p> <p>Meetings with stakeholders to research available data regarding sea users.</p> <p>Data management systems is functioning and can receive, store and retrieve all existing and new data.</p>	<p>collated /purchased (receipts for purchased commercial data)</p> <p>E-mail/ meeting appointments with stakeholders.</p> <p>The data management system is routinely utilized for data management staff trained and are competent and confident in all aspects of data management system.</p>	<p>Stakeholders will regularly attend meetings.</p> <p>Project manager has sufficient data management experience. Marine recorder can be adapted to St. Helena.</p>
<p>2. An electronic folder containing marine benthic data including, marine fauna, flora and habitats</p>	<p>Recruitment of volunteers/ expert at project commencement</p> <p>Training of staff/locals in identification and specimen collection. Construction of field survey forms and data storage templates designed, to be compatible with GIS software</p> <p>60 surveys undertaken and data collated</p> <p>Datasheets containing marine data located in one folder.</p>	<p>Volunteers/ contractors in place Contract for volunteers / expert.</p> <p>Interested parties obtain certificate of attendance at course. Survey forms laminated and ready to use and data templates compatible with GIS.</p> <p>Completed surveys forms and data stored in a standardised format</p> <p>Referenced data sheets within folder, completed and accessible within marines</p>	<p>Volunteers or an expert can be recruited to undertake works at start of project. Initial preparation undertaken.</p> <p>Marine conservation staff and personnel are interested in attending course.</p> <p>Surveys will be undertaken during non-rainy season.</p>

		section.	
3. Generation of a series of GIS maps of the distribution and extent of both St Helena shallow marine resources and commercial usage of these resources.	<p>Maps of the extent and distribution of marine resources are produced. A list of maps will be made available.</p> <p>Training for up to 3 marine staff in GIS to sufficient level of competency to use data systems available within 18 months of project startup.</p> <p>Staff will be capable of undertaking mapping exercises with limited outside support by end of project. Less reliance on off-island support for GIS mapping.</p>	<p>Electronic maps to be published within project report (and potentially on website) and open source</p> <p>Certificates of attendance</p> <p>On island generation of maps and other outputs.</p>	<p>Permission is granted to publish maps on Government web site. Internet infrastructure is able to withstand large images</p> <p>Staff attend course</p>
4 i A report on proposed monitoring and management plans (using above outputs as a basis). Including the identification of current and potential future threats.	<p>Recommendations for management plans using evidence from outputs of surveys provided.</p>	<p>Stand-alone paper, protocols and project report.</p> <p>Marine management plans produced to include identification of local and sports fishing areas and identify requirements for marine Environmental Impact Assessments in particular the provision of mitigation measures under the 'polluter pays' principle.</p>	<p>St Helena will be provided with information on the range of management tools.</p> <p>Monitoring and management protocols will be fit for purpose.</p>

	Stakeholder discussions on best monitoring and management tools.	Guidance for divers and sea-users on sensitive biodiversity hotspots and recreational areas produced. Meeting agendas and meeting minutes including any agreements circulated.	
4 ii. A marine management plan published consisting of: species and habitats of high conservation importance; proposed monitoring and management plans; potential marine protected areas; sites that would benefit from artificial reefs' A list of potential marine protected areas A list of species and habitats of high conservation importance	List of candidate sites List of species and habitat including those of commercial and conservation importance 6 months after survey completion	Publication of report Published list of marine species of conservation importance to national and where applicable, international databanks	Outputs from point 4 i are achieved Correct interpretation and application of existing national and international criteria e.g. IUCN/ BAP
4 iii. A list of sites that would benefit from artificial reefs, including one for lobster fisheries.	List of candidate sites.	An artificial reef monitoring plan report with recommendations on use of artificial reefs for tourist purposes e.g. set up snorkel/ dive trail. Use drop down camera/ video for tourist information	There are sites that can be used for the location of artificial reefs for the benefit of lobster fisheries
4 iv. A marine conservation/promotional communication strategy. Presentations, workshops and leaflets and media coverage.	Stakeholder workshops undertaken regularly through the project with groups including fishers, tourism groups, wider community,	Workshop meeting minutes	Local and international media will be interested in publishing marine/project updates

<p>Raised awareness in schools</p> <p>Stakeholder engagement strategy developed and implemented to achieve agreement on proposed management strategy</p>	<p>government, industry</p> <p>Agreement reached on management strategies outlined by each stakeholder group by end of project. .</p> <p>Overall agreement reached on the management plan by end of project.</p> <p>School children in St Helena show greater understanding and awareness of marine environment with measurable increase from start to end of project.</p>	<p>Workshop meeting minutes Letter to Ministry of Environment endorsing management strategies from each stakeholder group</p> <p>Government Meeting Minutes – HANSARD or equivalent for St Helena.</p> <p>Management Plan published on St Helena Govt. website.</p> <p>Awareness survey undertaken at start and end of project. shows measurable increase in awareness in school children aged from 10-12.</p>	<p>Workshops will be well attended School children will be interested in learning about St Helena’s marine environment and participate in activities</p>
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