EXECUTIVE COUNCIL

PUBLIC

Title of Report: Marine Spatial Planning Framework

Paper No: 235/15

Date: 16th December 2015

Report of: MSP project Manager/Director of SAERI

1.0 Purpose

1.1 To demonstrate the importance, benefits and cost-saving of establishing now a Marine Spatial Planning (MSP) process in the Falkland Islands (with regard to a sustainable economy, marine safety and environmental management) that will fulfil one of the Islands Plan actions.

1.2 To update Executive Council about MSP as initiated by the 2-year Darwin Plus-funded project led by the South Atlantic Environmental Research Institute (SAERI), and the stakeholder engagement and support for MSP.

1.3 To inform members about the recommended framework and indicative resources needed to implement MSP in the Falkland Islands in the long-term, developed as part of the Darwin-Plus project.

2.0 Recommendations

2.1 Executive Council is recommended to acknowledge the importance of implementing an MSP process for the long-term sustainable and safe management of the coastal and marine environments of the Falkland Islands and that such a process is grounded in objective and sound science.

2.2 Executive Council is recommended to agree to support, in principle, the implementation of an MSP framework in the Falkland Islands, and the creation of an MSP Plan, according to the framework and details provided in this paper and with the addition of a finer scale delivery and financial plan.

2.3 Executive Council is recommended to refer the request for funding to the 2016/17 Budget Select Committee.

2.4 Executive Council is recommended to make this paper and all appendices attached public.
3.0 Additional Budgetary Implications

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<tr>
<th></th>
<th>2016/17</th>
<th>2017/18</th>
<th>Annual recurring afterwards</th>
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<tr>
<td>Operating budget</td>
<td>£50,000</td>
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4.0 Background

4.1. The Members of the Legislative Assembly stated in their Islands Plan 2014-2018 that they will “implement appropriate […] marine spatial planning frameworks to ensure the preservation and management of […] marine environments of the Falkland Islands”.

4.2. A Marine Spatial Plan (Plan) is a strategic coordinated plan for regulating, managing and protecting the marine environment that addresses the multiple, cumulative and potentially conflicting uses of the sea, current and future, typically with a 20-25 year vision. Marine Spatial Planning is the science-grounded process needed to produce and maintain an efficient Plan in the long-term. The process involves understanding and mapping wildlife and human activities, spatial analyses of risks, and stakeholder engagement. The process is stakeholder-driven. MSP implementation will demonstrate governmental commitment to ensure safety at sea and to establish environmental stewardship, which is important in the current geopolitical context.

4.3. The GDP of the Falkland Islands is highly dependent on the marine environment, currently via commercial fisheries and tourism. Ensuring this environment is sustainably managed will be critical to the economic future of the Islands. Many cultural values of Falkland Islanders are also dependent on the marine and coastal environments (see figure below). Non-commitment to MSP will increase risks of damage to the environment and to economic and cultural values. MSP will demonstrate that FIG has followed best-practice to limit risks and protect the environment, in case a disaster occurs.
4.4. MSP is a forward-looking process that will ensure long-term sustainable economic development while protecting the core marine values (economic, cultural and environmental) of the Falkland Islands. It produces recommendations that are evidence-based and grounded in scientific data.

4.5. MSP, in concept, is not new to the Falklands, where the Fisheries Department has lead the way in establishing various levels of spatial protection for commercially-important species, including zoning implemented through fishing licenses. The Mineral Resources Department has also led the way in establishing spatial management measures by creating license blocks to contain oil exploration. Implementing MSP will now give FIG the overarching framework to coordinately manage all marine activities, current and future.

4.6. Darwin Plus (a UK-Government grant scheme for environmental scientific research in the UKOTs) has funded a research project called ‘Marine Spatial Planning for the Falkland Islands’ for 2 years (July 2014-2016). The grant was awarded to SAERI with the aim to provide the initial sets of tools and recommendations for implementation of an MSP framework in the Falklands. More details on the project can be found on the webpage: http://south-atlantic-research.org/research/current-research/marine-spatial-planning. FIG now has the opportunity to use the momentum provided by this external funding to facilitate the implementation of MSP and ensure a coordinated approach to sustainable management of the marine activities in the Falklands.

4.7. The MSP benefits and framework paper was submitted to the Environment Committee in August 2015 and a presentation given in October 2015. A further draft of this report was circulated via e-mail in November with the addition of budget implications as requested. In response to this draft report, two members indicated broad support for the Marine Spatial Planning process and one member (FIFCA) raised concerns (as at 04/12/15). FIFCA’s comments included concerns over budget and human resources needed to service MSP, that that our marine environment does not contain the complexity of conflicts that other nations may face and that current marine management practices within the Falkland Islands are sufficient. The Environment Planning Department (EPD) indicated strong support for the project but, noting that the Environment Committee had not voted on the matter by the time this report was submitted, they therefore requested that the report be modified. The recommendations have been amended accordingly.

5.0 Benefits provided by the Darwin-Plus Marine Spatial Planning Project

5.1. An important part of MSP is mapping how humans and wildlife use and value the marine environment to identify areas of overlap indicating potential conflicts and opportunities, now and in the future (see examples of mapping in Appendix 3). Mapping also requires the production of new critical datasets previously inexistent such as shipping data (see Appendix 4a). Analyses of the data have already provided important tools for FIG and stakeholders (Appendix 4c) and will provide many more benefits in the future, for example a Berkeley Sound marine zoning scheme (Appendix 5a) and shipping exclusion zones to reduce the risks of catastrophic oil spills in vulnerable areas (Appendix 5b).

5.2. The MSP project has led to the formation of a steering committee containing 7 local stakeholder representatives. This committee has met 9 times since August 2014 (see Appendix 2). The steering committee supports the implementation of MSP, at the exception of one stakeholder group. This committee has provided a platform for novel discussions and learning such as on overseas examples (e.g. Shetland Islands), maritime accidents, risks from general shipping traffic, importance of cultural values etc. There were also 4 workshops organised that all or some of the stakeholders attended, and 39 meetings with individual stakeholder representatives during the same period.
5.3. Stakeholder engagement has already led to some voluntary uptake of MSP recommendations (e.g. by the Royal Navy, see Appendix 4b) and gave the opportunity for data sharing within the Islands (the MSP project provided new data to other FIG Departments) and between the Islands and international experts.

5.4. By the end of the 2-year initial Darwin Plus funded project, a preliminary Geographic Information system (GIS) database and maps will be available to FIG and stakeholders, along with recommendations for priority management to inform future steps in the form of a ‘Policy paper’. A prototype public webGIS will also be available online to display and overlay these maps as a new innovative MSP tool.

6.0 Marine Spatial Planning framework for the Falkland Islands

6.1. In order to undertake such an MSP process in the Falklands, an implementation framework is proposed as below. This implementation framework is based on a successful example of MSP process in the Shetland Islands that has been developed there since 2004 (see Appendix 1 and consult the webpage for more details: http://www.nafc.uhi.ac.uk/research/msp/simsp/simsp).

This is the suggested structure for MSP implementation in the Falkland Islands:
The MSP Forum will be made of local stakeholder representatives, including those from the community and the government. It will lead the design of the Plan. The MSP Science team should be made of a managing scientist to coordinate the MSP Forum, report on its meetings, update the MSP website and prepare the Plan (as designed and approved by the Forum) and other scientists and research assistants to help fill data gaps or conduct focused analyses. The Plan is a document containing details of marine activities and areas of values and recommendations for management, and is accompanied by a public webGIS for ease of display and overlay of maps. The MSP Officer manages the Plan within FIG and its uptake, voluntary and official, by coordinating actions with stakeholders for the former, and by submitting policies for the later. The Marine Officer (or one of their staff) is the logical lead on MSP for FIG.

6.2. The Plan will provide a long-term overarching policy framework to guide marine management in the Falkland Islands in the next 25 years. The first Falkland Islands Marine Spatial Plan could be produced within 2 years, but management decisions, based on the results of the MSP project and further research and analyses, can be taken in the meantime. The Plan will require monitoring and updating at regular intervals.

6.3. There are 2 ways that the recommendations from the Plan can be implemented: voluntary and official. Voluntary implementation provides the opportunity for stakeholders to change their practices or design new rules (for instance in licenses) quickly and without administrative burden. The MSP Officer assists them in that step, and the MSP Science Team can provide further advice. Official implementation provides the opportunity to legislate recommendations, if particular management types require legislation or international recognition (for instance shipping exclusion zones or marine protected areas).

6.4. MSP will also provide a useful framework to help all marine users, investors and managers make informed decisions or plan more suitable proposals by having access to the Plan and the webGIS, including emergency services (for instance during events similar to the recent Le Boréal incident).

7.0. Financial Implications

7.1. The long-term implementation of the MSP framework in the Falkland Islands will require financial commitments from FIG. It is estimated that this commitment should start for 2 years with approximately £50,000 (2016/17) and £45,000 (2017/18). However, this is subject to consultation and refinement. The costs may be reduced in later years once MSP is established within FIG, but this needs to be examined in greater details during the establishment phase.

7.2. It is recommended that there is a full-time MSP Managing Scientist (continuation of the current MSP Project Manager post), coordinating the MSP Forum, managing the research needed for MSP, and preparing the Plan.

7.3. The Managing Scientist would also coordinate, write and apply for external grants and funding, in collaboration with international collaborators, to employ scientists and research assistants and conduct scientific research needed for MSP. This will be added value to the MSP process and bring money for needed science in the Falkland Islands.

8.0. Legal Implications

8.1. None
9.0. Human Resources Implications

9.1. Non-currently. The implementation of the MSP framework in the Falkland Islands as recommended in this paper may not require any new post. The Managing Scientist should ideally be working outside of FIG (as favoured by the MSP steering committee) or follow-on from an existing post within FIG. The Marine Officer, subject to agreements, would logically be in charge of the MSP Plan and of its application and delivery. Therefore there will be time required for this new duty. It is assumed that the existing post of Assistant Marine Officer in the Fisheries Department will be filled early in 2016. There is therefore scope to recruit someone with a background on the marine environment to be the MSP Officer for FIG as part of this new position. This option was discussed with the Director of Fisheries and the Marine Officer. Whether an individual with the technical marine industry competencies and some environmental experience and qualifications can be recruited remains to be seen (training in MSP could also be provided for a motivated individual).

10.0. Concluding remarks

10.1. The implementation of a long-term stakeholder-led MSP process and the production of a 25-year Falkland Islands Marine Spatial Plan will allow:

- Coordinated and sustainable long-term marine economic development
- Increased safety at sea
- Improved management of maritime and coastal accidents
- Design of effective protection measures to safeguard important marine resources, places and wildlife
- International recognition of FIG’s environmental stewardship

10.2. It is, now, the perfect timing for FIG to commit to a long-term Marine Spatial Plan because there are still currently limited pressures and risks, but marine activities are increasing, including in the context of preparedness for oil development and potential inshore oil transfers. Many other countries are implementing MSP only once environmental damages have already occurred or conflicts between activities already exist. It is then a much more costly and complicated task. FIG has now the opportunity to implement efficient MSP, currently in a simple and cost-saving way.

10.3. In conclusion, a governmental commitment to MSP in the Falkland Islands will, for minimal investments:

- **Save money** in the long-term by preventing issues, protecting important resources and sites, and responding more efficiently to accidents
- **Reduce risks** to the marine environment, on which the two main economic activities bringing money to the islands rely (fisheries and tourism)
- **Resolve or avoid conflicts** amongst marine users
- **Provide a platform** for coordinated stakeholders’ engagement and applied scientific research.
Appendix 1 – Example of the Marine Spatial Plan for the Shetland Islands

This is an extract from the website http://www.nafc.uhi.ac.uk/research/msp/simsp/simsp, flowed by maps extracted from the Plan.

Shetland Islands Marine Spatial Plan

The Shetland Islands Council has adopted the fourth edition of the Shetland Islands’ Marine Spatial Plan (SIMSP) as ‘Supplementary Guidance’ to the Shetland Local Development Plan. The Shetland Local Development Plan together with any Supplementary Guidance sets out the policies and criteria against which planning applications and works licences submitted in Shetland will be considered.

The SIMSP provides an overarching policy framework to guide marine development and activity out to 12 nautical miles. It incorporates authoritative spatial data on the marine environment, its various uses and assets.

The policies and maps in the SIMSP will be material considerations in decision-making on individual marine planning applications and works licences within Shetland’s coastal and marine waters out to 12 nautical miles. It is hoped the SIMSP will also provide a useful resource for all users of the marine environment including developers, planners and regulators.

Documents to Download:
- SIMSP Strategic Environmental Assessment - Environmental Report
- SIMSP Strategic Environmental Assessment – Non-Technical Summary
- SIMSP Habitats Regulation Appraisal - Record
- SIMSP Strategic Environmental Statement - Post Adoption Statement

You can also download data for use with GIS or Google Earth.
Appendix 2 – Stakeholder engagement

List of members of the MSP project steering committee (meets every three months and in regular contact outside of these meetings):

Current:
- Alexander Arkhipkin (FIG Fisheries Department)
- Jon Boot (FIPLA)
- Paul Brewin (SSMSG, SGSSIG)
- Bill Dawson (Royal Navy)
- Ben Lascelles (BirdLife International)
- Chris Locke (FIG Fisheries Department)
- Tim Martin (FIPLA)
- Stephanie Middleton (Falkland Islands Tourism Board)
- Andy Pollard (FIFCA)
- Nick Rendell (FIG Environmental Department)
- Andy Stanworth (Falklands Conservation)
- Phil Trathan (British Antarctic Survey)

Past (due to employee changes):
- Paul Brewin (FIG Fisheries Department)
- Ken Humphrey (FIPLA)
- Malcolm Jamieson (FIG Fisheries Department)

Extracts from statements made by members of the steering committee:

“Participation in the MSP process development has been a revelation from the outset. A very early indication of some of the powerful benefits available was when we identified that some of the military exercise areas overlapped a major penguin and seal foraging area. […] The beauty of the MSP system is that the more you add to it, the better it gets and the more opportunities start to reveal themselves.”
Bill Dawson

“I have been involved in both the MSP project Steering Group and MSP workshop hosted in Cambridge. Both, but particularly the workshop, have provided for engaging with experts in a range of MSP related topics. […] It has also been useful, through the project, to develop understanding of stakeholder concerns with regard to MSP.”
Andy Stanworth

“The MSP project has highlighted aspects of our managed areas where improvements can be made. In particular, illustrating some not well understood vessel movements […] New data has come to been introduced through the workshops […] which have already aided in better management […] With the growing needs of a rapidly developing hydrocarbon industry in the Falklands, a robust marine spatial management plan will benefit all marine users, mitigating risk as well as protecting our marine resources.”
Paul Brewin

List of stakeholder workshops on MSP process

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<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Date and time</th>
<th>Number of attendees</th>
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<tbody>
<tr>
<td>Public consultation #1: MSP for the Falkland Islands</td>
<td>Chamber of Commerce meeting room, Stanley, Falkland Islands</td>
<td>4/11/14 from 5pm to 8pm</td>
<td>18</td>
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<tr>
<td>Workshop #1: MSP for the Falkland Islands &quot;Setting the scene&quot;</td>
<td>FIG Fisheries Department meeting room, Stanley, Falkland Islands</td>
<td>24/11/14 from 8.30am to 12.30am</td>
<td>17</td>
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<td>Workshop #2: MSP for the Falkland Islands &quot;Developing the tools&quot;</td>
<td>Homerton Conference Centre, Cambridge, UK</td>
<td>16-17/04/15 9am to 5pm</td>
<td>22</td>
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Appendix 3 – Examples of mapping for MSP

Locations of breeding colonies of seabirds (albatross, giant petrels, penguins) and seals (yellow stars) and hotspots of breeding from analyses of colony locations (red areas). Data source: Falklands Conservation, Alistair Baylis and authors’ additions.

Identification of areas used and favoured for pleasure boating (sailing and small motor boat) from manual mapping by stakeholder consultation (including the Falkland Islands Yacht Club and individual sailors)
Appendix 4 – Benefits of MSP to date

a) **New critical data.** For instance: First shipping dataset for the Falkland Islands (over one year of full hourly AIS locations of all boats and ships, top map) that allows mapping shipping patterns (such as paths of cargo all around the Islands, bottom map).
Appendix 4 – Benefits of MSP to date (continued)

b) **Voluntary practice changes** from maps produced and given to stakeholders. For instance: Dangerous military exercise areas to avoid safety and environmental risks with fishing boats and penguin foraging grounds where they used to overlap (as shown in maps below provided to the Royal Navy). Fishing activity data came from AIS system; penguin data were provided by the GAP project.
Appendix 4 – Benefits of MSP to date (continued)

c) **Preliminary analyses to advise government.** For instance, analyses of cetacean strandings to provide monitoring opportunities (important for MSP to determine potential impacts to manage; top map), or analyses of biosecurity risk areas due to international shipping (important for MSP to determine sensitive areas; bottom map).
Appendix 5 – MSP future benefits

a) **Berkeley Sound Marine Zoning.** The map above presents the human use of Berkeley Sound with the locations of all vessels (fishing, cargo, reefers, tankers, launches, yachts, and others) that have used the Sound over one year (May 2014-May 2015) and locations of environmental features (Land nature reserves and sites of penguin and seal colonies). The only mooring is found next to Kidney Island. Cochon and Kidney Islands are nature reserves.

This map demonstrates that the Sound is already extensively used for human activities (commercial fishing vessels being the principal users) and that the potential for inshore oil transfers in the Sound will lead to competition for space. MSP, by providing all the scientific evidence and a platform for discussion via the MSP Forum and workshops, can help resolve issues while also considering protection of environmental and cultural values within the area. A marine zoning for Berkeley Sound through MSP will offer a risk-minimising solution to ensure all activities can take place in a safety-first environment.
Appendix 5 – MSP future benefits (continued)

b) **Protection of vulnerable areas.** Shipping traffic poses navigational hazard areas when ships pass by shallow or dangerous areas; ships may ground and oil spills may occur. By identifying navigational risk areas, vulnerable areas can be protected by creating shipping exclusion zones or shipping lanes. This will minimise the risks of oil spills (that may affect important areas for tourism, but also fishing grounds for extended periods; e.g. the container ship Rena in 2011 in New Zealand).

*Left: Cargo traffic near Kidney Island and Volunteer Point, important sites for the tourism industry*

*Below: Example of the Rena oil spill (similar size to many cargo ships around the Falkland Islands)*

*• Took short-cut (usual for many boats)*
*• 230m container ship*
*• Leaked 500-700 tonnes of heavy fuel, diesel oil before pumping (total >1,700 tonnes)*
*• National Response Team*
*• 500 seabirds rescued, estimated > 20,000 killed*
*• Affected fishing grounds >40km*