EXECUTIVE COUNCIL

PUBLIC

Title:	FIG support of the IMS-GIS Data Centre
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	For policy decision (including budgetary policy)
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	Not Recommended:
	Under Executive Council Standing Order 23(2), Executive Council must have regard to the categories of exempt information in Schedule 3 to the Committees (Public Access) Ordinance when determining if information should be withheld
	The categories which are potentially relevant to this paper are: Schedule 3 Part 1 Paragraph 4.
Previous papers:	
List of Documents:	Proposal to the Falkland Islands Government for the Management of the IMS-GIS Data Centre

1. Recommendations

Honourable Members are recommended to:

(a) Approve that FIG enter into an agreement with SAERI to co-fund the management and operation of the IMS-GIS Data Centre (the Data Centre), located at SAERI.

(b) Refer to Standing Finance Committee, a request for additional budget of £29,814 in 2018/19 to support this agreement, to be administered through the Environmental Studies budget. This amount includes one-time costs that will reduce in future years.

(c) Note that the requested budget support amounts to 50% of the total costs to operate the Data Centre and that the proposed agreement would run for a four year period.

(d) Delegate authority to the Chief Executive, following advice from the Attorney General, to finalise and sign a Memorandum of Understanding with SAERI for the co-funding of the IMS-GIS Data Centre.

(e) Delegate authority to the Environment Committee to review the Data Centre management and co-funding agreement annually.

2. Additional Budgetary Implications

2.1 It is proposed that FIG and SAERI share equally in both the capital and operating costs to maintain a fully functioning Data Centre, as per the table below. Operating costs include the data centre manager, plus website hosting, internet, server and maintenance costs.

2.2 Capital costs include actual costs incurred to migrate this database from the FIG network following the separation of SAERI from FIG on 01July 2017, and its incorporation as an arms-length, not-for profit entity.

2.3 Table 1: IMS-GIS Data Centre FIG budget impact

	Total	2018/19	2019/2020	2020/2021	2021/2022
Hardware & infrastructure	£ 4,115	£ 2,454	£ 1,087	£ 287	£ 287
Operating costs		£ 27,360	£ 27,360*	£ 27,360*	£ 27,360*
TOTAL		**£ 29,814**	**£ 28,447**	**£ 27,647**	**£ 27,647**

* To be reviewed annually based on actual, RPI-adjusted costs

3. Executive Summary

3.1 The Information Management System and Geographical Information Systems (IMS-GIS) Data Centre was created in 2016 by the South Atlantic Environmental Research Institute (SAERI), whilst still a department of the Falkland Islands Government. The Data Centre's role is to manage the ever-increasing marine and terrestrial environmental data being generated in the Falkland Islands, provide access and information about the data and, where possible, display it spatially. It was intended for use by FIG departments, as well as by researchers, NGOs and industry.

3.2 Since its inception, the Data Centre has incorporated environmental and geographic data generated by a number of FIG departments, as well as data generated by scientific research projects and by industry driven environmental projects. All researchers

undertaking environmental work in the Falkland Islands must agree to make information about their data available through the Data Centre.

3.3   Importantly, the Data Centre has created and maintains an online metadata (background information about the actual data) catalogue of all environmental data available about the Falkland Islands, with details on how this data can be accessed, as well as acting as repository for much of the data itself. The IMS-GIS data is currently used by a number of FIG departments to inform their recommendations and decision making. It is also accessed regularly by researchers and NGOs, enhancing the Falkland Islands reputation for understanding and safeguarding its marine and terrestrial ecosystems. In addition, the Data Centre provides training courses in open-source GIS for FIG staff.

3.4   The Data Centre was originally housed within the FIG information technology (IT) network, where its functioning was constrained by requirements for data storage and high speed, web-based data transfer which could not be readily supported. When SAERI was separated from FIG to become an independent Charitable Incorporated Organisation in July 2017, a plan was initiated to migrate all of SAERI's IT needs to its own systems. However, it was identified that the IMS-GIS Data Centre would need to be considered separately, due to its heavy data demand.

3.5   To enable SAERI to continue to operate the Data Centre and provide enhanced management of environmental data, research and training in open source GIS software on the island, it is proposed that FIG co-fund its work. The Data Centre provides services of value to, and on behalf of, FIG and this is separate from the subvention provided to support the growth and development of SAERI as an organisation.   The funding requested represents 50% of the costs of operations, with the balance paid for by SAERI.

3.6   This service would be difficult to duplicate within FIG, as neither the expertise nor the IT infrastructure exists in-house or within Synergy, our service provider. Attempts to retain the IMS-GIS system on FIG's servers (separate from other SAERI systems) were not recommended by Synergy. FIG does not currently have the capacity to manage this type of data resource, nor the ability to maintain and update the metadata catalogue or to manage data security, intellectual property rights and access to researchers.

3.7   The Data Centre is used by a number of departments, including Public Works, Natural Resources and the Environment Unit, as well as acting as repository for data collected by the oil industry. However, for ease of budgeting and considering the proposal, it is proposed that funding support for the Data Centre is flowed through the Environment Unit by means of increasing the Research budget. This would provide a mechanism for an annual review of the support arrangement by the Environment Committee to ensure that FIG continues to obtain value from the Data Centre.

3.8   **REDACTED**

4.   Background and Links to Islands Plan and Directorate Business Plan/s

4.1   Co-funding the continued operation of the IMS-GIS Data Centre supports achievement of the Islands Plan vision and objectives, including:

- Agree and implement new ways of sharing information and consulting with the community, including developing the digital presence of the Falkland Islands Government to ensure greater accountability;

- Develop our science and technology capabilities for the Islands;

- Respecting our globally significant biodiversity and unique environment, taking a proactive and responsible approach to development;

- Encourage research into the Falkland Islands environment to provide a greater understanding of ecosystems, biodiversity and eradication plans;

- Implement control of invasive species, biosecurity and eradication plans;

4.2   The IMS-GIS Data Centre was developed at SAERI in 2016 while SAERI was a department within FIG. Upon the split from government, it was agreed that FIG and SAERI would investigate options to maintain the operation of the IMS-GIS Data Centre through a cost-sharing arrangement related to the actual costs for hosting and operating the Data Centre.

4.3   Access to up-to-date, reliable information and data underpins many tasks that are undertaken by FIG Officers on a daily basis and provides the basis for informed recommendations to government. The Data Centre provides a platform that enables spatial data to be shared amongst FIG departments and facilitates integration of data from external sources. This ensures that the information underpinning our daily decisions and recommendations is accurate and up-to-date.

4.4   The Data Centre supports FIG staff to solve data problems incurred whilst processing data. It also provides training on data management and in open source GIS, enabling staff to independently solve problems using open source software. The availability of the online metadata catalogue provides a credible, accessible and transparent source of data which provides evidence of FIG's environmental stewardship and commitment to international standards.

4.5   The Data Centre has been used by FIG in the past to assist in a wide variety of tasks, including:
- Review of the Stanley Common, identification of existing infrastructure and cross-referencing with environmental background data and usage information, to inform formulation of management plan options;
- Migration of the farm mapping system from proprietary software to open source software at the Department of Agriculture (DoA);
- Provision of an up-to-date GIS tool to PWD surveyors, for maintaining Stanley addresses;
- Assistance to DoA in mapping and analysing data of invasive species (calafate database);
- Development of standard operating procedures (SOP) for the management of data collected by the hydrocarbon industry; the Data Centre is the repository.

4.6   Appendix 1 provides additional information related to the services and benefits of the Data Centre to FIG and to the advancement of science and research in the Falkland Islands.

5.   Options and Reasons for Recommending Relevant Option

5.1 Option 1 (recommended): Enter into a cost-sharing agreement with SAERI for the operation of the IMS-GIS Data Centre, based on an annual contribution towards 50% of actual costs, to support its continued operation for the benefit of the Falkland Islands. This option safeguards and builds upon FIG's initial investment in creating the Data Centre and developing the requisite expertise at SAERI to manage a world-class geospatial data system to support FIG operations, as well as environmental research and knowledge about the Falkland Islands.

A cost-sharing agreement will facilitate an annual review by FIG, proposed to be delegated to the Environment Committee, to ensure that the Data Centre continues to effectively provide and enhance geospatial data management for the Falkland Islands, and that FIG departments continue to receive value-for-money from this service.

5.2 Option 2 (not recommended): FIG to take on the direct management and implementation of the IMS-GIS Data Centre in-house. Management of geospatial databases and development and maintenance of metadata catalogues is not a core business of FIG and would require the recruitment of specialist human resources, as well as the acquisition of servers for data storage. If the service were reintegrated into the FIG network, it could significantly impact network performance. In addition, it would require the development of data protection and intellectual property policies and procedures to ensure that third-party researchers remain willing to make their research data accessible through the Data Centre.

5.3 Option 3 (not recommended): Do nothing. If the Data Centre is not supported by FIG, there is a strong risk that SAERI would not be able to maintain it into the future and that data quality and accessibility will deteriorate. Support for open access to high quality and reliable environmental data is considered to be a core function of responsible governments, and if this was no longer available the reputation of the Falkland Islands as a credible steward of the environment could be diminished. It could also impair or complicate FIG's ability to make evidence-based decisions on issues related to terrestrial and marine spatial planning.

6. Resource Implications

6.1 <u>Financial Implications</u>

6.1.1 If Option 1 is agreed, the financial implications are outlined below.

	Total	2018/19	2019/2020	2020/2021	2021/2022
Hardware & infrastructure	£ 4,115	£ 2,454	£ 1,087	£ 287	£ 287
Operating costs		£ 27,360	£ 27,360*	£ 27,360*	£ 27,360*
TOTAL		**£ 29,814**	**£ 28,447**	**£ 27,647**	**£ 27,647**

6.1.2 If Option 2 is agreed, the easiest solution would be to bring the entire Data Centre over to FIG and the least cost would be to simply take over the existing capital equipment and Data Manager. SAERI has expended a total of £8,230 on IT capital costs (server, laptop, website, etc), which would either have to be duplicated by FIG

or purchased from SAERI. Of the operating costs, £22,050 relate directly to the Data Manager, which would imply a cost of £44,100 per year if FIG were to take this service over. Ongoing IT, data services and technical support from Synergy would be in addition.

6.2   Human Resource Implications

6.2.1 If it is agreed to support Option 1, there are no additional human resource implications.

6.2.2 Option 2 would require the recruitment of a Data Manager.

6.2.3 Should Members choose to not support a cost sharing agreement between FIG and SAERI to maintain the Data Centre, it is expected that FIG staff will need to cover additional data management and curation of FIG-generated data. This could require additional staff, as well as requiring advanced IT training to be able to fully manage our own data and ensure that it is available between and across departments.

6.3   Other Resource Implications

Should Option 1 be chosen, there are no additional resource implications, aside from the requirement that the Environment Committee evaluate the arrangement on an annual basis.

Should Option 2 be chosen, additional server capacity and IT support will be required. It is also likely that legal expertise will be needed to develop data and intellectual property protection procedures that are sufficiently robust to satisfy the academic and business community that currently contribute data to the IMS-GIS Data Centre.

7.   Environmental & Sustainability Implications

7.1   The support of the IMS-GIS Data Centre, enables FIG to better achieve our Islands Plan environmental goals through improved data access to make better informed decisions.