



ENHANCING LEGACY AND CAPACITY FOR MARINE AND COASTAL ENVIRONMENTAL COORDINATION IN FI THROUGH COLLOABORATION AND PARTNERSHIP

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Cover photos Errina sp. corals commonly known as lace corals are found in the Falkland Islands © SAERI

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ABOUT THE SOUTH ATLANTIC ENVIRONMENTAL RESEARCH INSTITUTE (SAERI)

SAERI was a Falkland Islands Government initiative and operated as an arm's length government department from 2012 until June 2017. From 1 July 2017, however, it became a fully-fledged and independent Charitable Incorporated Organisation (CIO) operating out of its hub in Stanley, Falkland Islands. Its origins remain a fundamental aspect to its growth and its future.

SAERI undertakes research in the UK Overseas Territories (UKOTs) and other Atlantic and Caribbean coastal communities, from the tropics down to the ice in Antarctica. Its vision is to deliver world-class environmental research that informs the effective stewardship of our planet. Its mission is to grow a sustainable environmental research institute in the Falkland Islands, and to build research and environmental stewardship capacity within and between South Atlantic Overseas Territories.

Strategically, SAERI aims to be a world-class research institute that teaches students and builds capacity within and between the South Atlantic Overseas Territories. In order to achieve that it must be:

1. Project optimised – by operating as a streamlined and efficient organisation through the Focal Areas;
2. Fully funded – Falklands registered limited company is able to fund SAERI overheads, ensuring SAERI ultimately becomes fully financially independent from Falkland Islands Government and by ensuring that all grant applications (where possible) contain cost of seat coverage; and
3. The holder of proprietary environmental knowledge of the South Atlantic – by continuing to provide the research expertise offered to date.



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1. BACKGROUND

Recognising the need for holistic marine and coastal management across all sectors, FI embarked on a long-term process of MSP in 2014. A fundamental consideration of the MSP process has been to respect culturally and economically important activities, whilst at the same time conserving the marine environment. Over the last 5 years, with Darwin Plus and other funding, SAERI and partners (British Antarctic Survey - (BAS), Falkland Islands Government (FIG), SMSG) have implemented a suite of marine and coastal time-bound projects addressing baseline knowledge gaps, building partnerships, stakeholder and community engagement in MSP and Marine Management Areas (MMA) development. Specifically, through partnerships, stakeholder engagement and support, SAERI created the Islands' first comprehensive map of FI coastal habitats and initiated projects on dolphins, seals and seabirds to understand important areas at-sea to feed into the MSP process¹. SAERI established a framework for MSP in 2017; which was followed by a project that identified proposed FI **Marine Management Areas (MMA)** (hereafter the MMA project) that align with international criteria for Marine Protected Areas (MPA). As a result, SAERI has a breadth and depth of knowledge about the FI marine and coastal ecosystems and a network of key partners and stakeholders across government, industry and the community. This is a critical time for marine and coastal management in FI and there is now a requirement for a **non-project based, co-ordination role** within the organisation to **ensure the continued focus on, and development of, marine and coastal environmental management** in FI.

Funding from the John Ellerman foundation was secured to cover the **role of Marine and Coastal Programme Co-ordinator (MCPC) at SAERI for a 3-year period**. This post has been created to secure long-term capacity and sustainability in ocean conservation, management and research co-ordination by continuing to work with FIG and stakeholders, providing evidence to support the proposed MMAs, establishing a framework to monitor the proposed MMAs and consolidating successful work that has already been completed including fine-scaling the design of the MMAs. The **Marine and Coastal Programme co-ordinator** will be a **key role** in the organisation

This report is a brief update on the first quarterly implementation of the project.

¹ <https://www.nature.com/articles/s41598-019-44695-1>

2. MARINE AND COASTAL PROGRAMME COORDINATOR RECRUITMENT.



Dr. Narissa Bax joined the South Atlantic Environmental Research Institute (SAERI) in May 2021 for 2.5 years as a Marine and Coastal Program Coordinator, thanks to funding from the John Ellerman Foundation. Her role focuses on the coordination and development of research to sustainably conserve a network of Marine Management Areas (MMAs) aligned to international criteria for Marine Protected Area (MPA) designation. Narissa has a PhD from the Institute for Marine and Antarctic Studies, University of Tasmania, Australia, where she specialised on deep sea coral biodiversity, biogeography, connectivity, phylogenetics and conservation - across the Antarctic continental shelf and slope, the sub-antarctic, Patagonia and South West Atlantic. Her research agenda as a benthic-ecologist currently includes

the Antarctic Seabed Carbon Capture Change (ASCCC) project which aims to understand the function of polar and subpolar seabeds in the carbon cycle 'Antarctic blue carbon' ([Bax et al., 2021](#)).

3. ACTIVITIES TO DATE:

- i. Based on existing collaborations, Narissa is progressing research to determine the contribution of the proposed Burdwood Bank MMAs to carbon storage and sequestration. This work complements SAERI's research on blue carbon in Falkland Island kelp forests ([Bayley et al., 2021](#)), and the neighbouring British overseas territory of Ascension Island ([Barnes et al., 2019](#)).
- ii. Narissa's work on Blue Carbon and the Blue Economy have led to her inclusion in broader working groups as part of the UN International Decade of Ocean Science for Sustainable Development 2021–2030, including:
 - 1) Challenger 150: a decade to study deep sea life, with SAERI now listed as a [research partner](#), and Narissa listed as part of the South Atlantic working group.
 - 2) The Deep Ocean Stewardship Initiative ([DOSI](#)), invited Narissa to be part of their working group during the Plenary session IPBES-IPCC Co-Sponsored Workshop Report on Biodiversity and Climate Change ([in which Bax et al., 2021 was cited](#)), and
 - 3) [The Southern Ocean United Nations Decade](#) launched in June 2021 have also requested her input.
- iii. Additionally, Narissa is building international collaborations around themes of genetic connectivity (and the inverse - isolation) using genomic approaches relevant for the proposed MMA locations, including fieldwork collections (diving/snorkelling) in kelp ecosystems to inform a larger body of work across the [Sub-antarctic](#). She is also building on her background as a coral specialist to advance our understanding of Stylasteridae diversity in the Falkland Islands and surrounding region. To inform broader ecosystem based management, Narissa draws on her existing taxonomic skills and networks to identify specimens collected from the Burdwood Bank, with a focus on key Vulnerable Marine Ecosystem (VME) taxa such Cnidaria, Porifera, Bryozoa and Echinodermata - the ecosystem engineers of the seafloor. This work will complement current

Marine Spatial Planning (MSP), and VME assessments to build a greater understanding of the linkages within and between Falkland Island biodiversity 'hot spots' and across the Patagonian Shelf, the sub-antarctic and Antarctica.

- iv. In concert with this research, Narissa is supporting the Falkland Islands Government (FIG) to progress the designation and implementation of the proposed Falkland Islands MMAs through FIG led targeted stakeholder consultation workshops across government, industry, conservation and science networks in 2021, in preparation for FIG environmental planning in 2022. In total, her contributions will inform long-term conservation management strategies aimed at understanding the challenges and opportunities for biodiversity conservation in the Falkland Islands - a unique and globally significant test case for remote MPA management.

4. COMMUNICATION AND OUTREACH

The project has been introduced as part of SAERI's regular outreach materials. In addition Narissa has been interviewed in a podcast. See links below.

- [SAERI newsletter](#): and website [newspage](#).
- SAERI's website [staff profile](#).
- SAERI twitter account: https://twitter.com/SAERI_FI/status/1410605561515712525 and https://twitter.com/SAERI_FI/status/1403342234636935172
- A [Podcast interview](#).

5. STAKEHOLDER ENGAGEMENT

- Most immediately, Narissa has met with Racheal Cooper (Head of Environment) and Andrew Gaule (Director of Policy and Economic Development) both from the Falkland Islands Government with whom Narissa will be working closely helping to support the FIG led MMA stakeholder engagement and consultation process.

6. QUARTER TWO – FORWARD LOOK

- In the next quarter the Marine and Coastal Programme Coordinator, will complete the following:
 - (1) A review of the Falkland Islands MMA process to date and prepare the report for publication in a peer reviewed international journal.
 - (2) Work with the Falkland Islands Government to help design MMA workshops, will be held as part of the FIG led MMA stakeholder engagement.
 - (3) A report on Burdwood Bank and its importance to carbon sequestration. Prepare the report for publication in a peer reviewed international journal.

7. IMAGES OF THE WORK IMAGES OF THE WORK



Image: *Errina* sp. corals discovered during drop camera surveys at ~50m off Bird Island, one of the proposed MMA locations in the Falkland Islands. The coral genus *Errina* is one of the most species rich genera of Stylasteridae (lace) corals and isolated field-like aggregations have been documented in Antarctica, the sub-antarctic, Patagonia and now potentially in the Falkland Islands as well.

© SAERI



Image: Gentoo penguins (*Pygoscelis papua*) coming ashore at dusk at York Bay, near Stanley, Falkland Islands. This location was closed until November 2020 due to the presence of land mines from the Falklands war. Now it is open to the public, and only a short ~10 minute drive from the office, this location provides a unique view of biodiversity on our door step.

© Narissa Bax SAERI



Image: The sea slug, *Elysia* sp. found in a local and isolated rock pool near Stanley. This species represents a possible test case for genetic research. The genus is described in Patagonia, but is not formally described in the Falkland Islands. It would be interesting to understand the relative connectivity, or isolation, and to know if this is a founder population.

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8. PROGRESS AGAINST OUTCOMES

The table below will be included in each report to give an overview of progress against end of project outcomes

Outcome	Context	Update
<p><i>Outcome 1: The local community will be engaged in the Marine and Coastal environment of the Falkland Islands, and there will be a strong commitment from FIG to lead on Marine and Coastal Environmental coordination into the future.</i></p>	<p>The community and people are at the heart of the Marine and Coastal environment of the Falkland Islands. The MPCP will develop an outreach, education and communication plan to disseminate the success of this multi-year partnership project. The role will also work with the FI education department to create education packages on the marine environment that could localise elements of the curriculum.</p>	<p>Narissa has Gained an overview of research capacity and partnerships in the Falklands during her first few months in Stanley. She has formed connections at the Fisheries department and is using their lab space once a week to maintain an ongoing working relationship. In July, narissa completed an oil spill response course, which included participants from mineral resources, fisheries and the local community. in Narissa's 'spare time' she signed on as a volunteer with Falklands Conservation with plans to assist in the field where possible.</p> <p>The 'development of an outreach, education and communication plan to disseminate the success of this multi-year partnership project' is a broad and ongoing aspect of the MPCP role. Narissa plans to progress this work in collaboration when and where opportunities arise - to keep the Falklands community at the heart of Marine and Coastal environment - this aspect cannot be a solo endeavour.</p>

<p><i>Outcome 2: Marine Management Areas on the Falkland Islands will be strengthened through the development and implementation of the first MMA Monitoring plans, and the creation of 'mixed sustainable use zones'.</i></p>	<p>This is a critical time in the development of FI MMAs. We have now entered into a period of policy formulation, management plans and monitoring design through a series of workshops with FIG and the major stakeholders. This will result in a 'designation package'. However, there is currently little resource (human or financial) for this to be implemented going forward. Without this post, the process could stall. Critically, the MCPC role will lead, in collaboration with FIG, 1) the finer scale design and implementation of monitoring plans for the MMAs and coastal zones, 2) use empirical data to sub-categorise the 'Mixed Sustainable Use Zones' within the nearshore MMA,</p>	<p>Narissa is working closely with Al Baylis and Paul Brickle to progress MMA goals and support FIG when and where possible. She is also working to inform conservation management through research partnerships, and the development of her research agenda</p>
<p><i>The Marine and Coastal Environment of the Falkland Islands will be better understood through further funded innovative research, and robust data management.</i></p>	<p>A flexible and adaptive process is the philosophy of the FI MSP/MMA process is key to its delivery, as marine systems are highly dynamic in geographical space and time. New data will allow for better management, for informed monitoring and for a better understanding of this highly diverse and productive environment. The role of the MCPC will be to coordinate ongoing and new research and write grants for relevant research to the MSP/MMA process. A central role of the MCPC with support from the IMS-GIS Centre Manager will be to: maintain the MSP and coastal mapping toolboxes and update new marine data collected; develop data collection protocols, recording forms and platforms for monitoring and future research be responsible for collating metadata for all activities.</p>	<p>Narissa is developing a flexible and adaptive strategy to achieve the goals of the MCPC role and coordinate research and development in the Falkland Islands - with key linkages to local and international working groups. This includes working with the IMS-GIS Centre Manager, following a recent meeting during the oil spill response course and a formal data request to assess VME imagery. This imagery will be used in future peer-review publications to highlight the conservation value of deep-sea habitats and biodiversity in the Falkland Islands.</p>



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SAERI is a Public Incorporated Organisation (CIO) registered with the Charity Commission in England under Charity number 1173105. It is also entered on the register of Charities in the Falkland Islands with registration number C47.

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