

Draft

Initial report on outcomes of: Workshop held in NAFC/Scalloway Monday 3rd November 2014

Research interests in the northern Voes of Shetland centred around studies in Sullom Voe

MASTS – DPMS Case Study

www.masts.ac.uk/masts-research/research-themes/dynamics-and-properties-of-marine-systems

The workshop was funded by a small grant from MASTS to investigate the potential for developing further research based on long-term studies in and around Sullom Voe SAC which would be of interest to a wide range of stakeholders. The original aims of this meeting are described in the proposal (see page 2 of this document).

Participants: (* - those joining in by VC or telephone conference link)

Professor Hamish Mair (Chair), Heriot-Watt University/MASTS
Dr Bill Sanderson, Heriot-Watt University/MASTS
Dr Rachel Shucksmith, NAFC/UHI/MASTS
Dr Richard Shelmerdine, NAFC/UHI/MASTS
Dr Beth Leslie, NAFC/UHI/MASTS (also representing interests of SSMO)
Karen Hall, Scottish Natural Heritage
Juan Brown, Scottish Natural Heritage
Kirsty North, Scottish Natural Heritage
Kelda Hudson, Scottish Natural Heritage
Janet Davies, Scottish Environment Protection Agency

*Professor Michael Burrows, SAMS/UHI/MASTS
*Professor David Patterson, Executive Director MASTS/ Director SOTEAG
*Zara Morris-Trainor, SOTEAG Executive Officer
*Dr Richard Bates, University of St Andrews/MASTS
*Professor Teresa Fernandes, Heriot-Watt University/MASTS
*Pauline Cooksey, prospective PhD student, HWU.

Note: Numerous other stakeholders could not attend the meeting but will be circulated with these and further information notes for any comments and contributions.

Recommended Actions:

- Hamish Mair to start drafting Carnegie Trust Research proposal (submission deadline January 2014) to fund a multi-disciplinary marine environmental sampling survey in Summer 2015 to gather information to: a) round-off potential for describing and analysing long-term datasets of biological/physical/chemical data collected from Sullom Voe studies, and b) follow up studies started in more recent surveys in nearby regions such as the new Fetlar to Haroldswick MPA.
- Once a basic outline of draft of the Carnegie Trust Research grant proposal is circulated, Workshop participants and other interested parties to consider what 'added value' could be obtained from such a survey (if a grant application is successful and given limitations on funding and what could feasibly be included - see various preliminary ideas suggested in the Workshop Proposal text on Page 2 of this document).
- Hamish Mair/Rachel Shucksmith to add into circulation list other researchers (complementary disciplines) and stakeholders who were suggested as important contributors to these concepts.
- All interested parties: If the Carnegie Trust funding is not forthcoming, then what alternatives are there for proceeding with the research aims described?
- David Paterson to investigate feasibility of proposing a 3rd version of a special edition of the RSE Proceedings publication on Sullom Voe.
- Participants and other stakeholders to consider ways of involving PhD and Masters research students from MASTS institutions' in aspects of the overall topics of interest resulting from Workshop discussions.
- Hamish Mair/Rachel Shucksmith to arrange another Workshop (perhaps virtual by VC) in early 2015 to progress ideas which have developed from this first meeting and subsequent communication exchanges.

DPMS Case Study Proposal

Research interests in the northern Voes of Shetland centred around studies in Sullom Voe

There have been numerous long standing interests by different entities in Sullom Voe since the mid -1970's when annual statutory monitoring surveys started around the Shetland Oil Terminal's treated ballast water outfall, just off Calback Ness point. Heriot-Watt University started the statutory monitoring which was a separate monitoring programme to that of SOTEAG (www.soteag.org.uk/) set up around the same time. SOTEAG monitoring covers many sublittoral, intertidal and terrestrial studies around the whole length of the Voe. The statutory programme (a requirement for the Oil Terminal operators – BP) concentrates on the benthic sediments in the outer Sullom Voe and the Orka Voe areas and the *Modiolus* horse-mussel bed on which the outfall diffuser pipeline lies (as it happens, all within the designated boundary of the later-established Sullom Voe SAC). The Statutory monitoring continues annually but at a lesser intensity than in the early years. In 1999, through a NERC Small Research Grant, there was a more detailed study of the Calback Ness horse-mussel bed to investigate population analysis, densities, growth rates and associated fauna and flora. In 2004 Heriot-Watt University undertook SNH commissioned biotope mapping and site condition monitoring surveys of Sullom Voe (proposed SAC at that time), and more recently, colleagues have surveyed areas in northern Shetland on other biogenic reefs related to potential MPA sites. There therefore is a large amount of historical information in our possession (35 years' worth) which could be usefully analysed in an integrated way. With a large industrial complex (Sullom Voe Oil Terminal) and much maritime activity (tanker traffic, pipeline laying, coastal fishing) taking place within a marine SAC, there are numerous bodies interested in better understanding the dynamics of this area's marine environment: oil, engineering and fishing industries; Shetland Islands Council; SEPA, SNH, MSS.

There are plans to submit a research proposal for another targeted survey in 2015 to answer some of the gaps in knowledge identified over the years and to enable a 35-year data-set to be completed. Through initial discussions of these plans amongst interested academic colleagues further ideas have been raised and it seems sensible to propose holding a workshop with interested stakeholders to better design an appropriate survey to answer as many questions as possible.

A single targeted survey of the outer Sullom Voe area and analysis of the results could answer several key science questions:

- How have benthic communities at fixed sample stations changed over 35 years and, if they have changed – why?
- What is the current health of the Calback Ness biogenic reef in comparison with health status assessments in previous years?
- Are current monitoring strategies (now and in the future) suitable for needs of statutory requirements and how could valuable additional information be obtained in a cost efficient way?

A DPMS Workshop would be extremely valuable in bringing academic expertise together with stakeholders to address these questions, and others – especially since there may be interest in other MPAs in northern Shetland as well as developing marine spatial plans within Shetland. It is anticipated that the original single research survey proposal planned would be able to answer some, but not all of the questions of interest. The Workshop would help identify how to best target other ways (and potential funding sources) of addressing these issues.

Currently, MASTS academics at Heriot-Watt University, St Andrews University and UHI/North Atlantic Fisheries College have been discussing the design of a one-off research survey in Sullom Voe and have tentatively sought interest from other bodies (see above) which has proved promising. The workshop would invite interest from a) other academics who could add value to the project or produce complementary collaborative proposals, and b) MASTS (and non-MASTS) community stakeholders who could advise on other gaps of knowledge in which a targeted set of studies could address.

It is proposed that the DPMS Workshop should be held in early November to provide time for adjustments to research proposals underway and enable a plan for field studies in 2015 and beyond. Smaller research questions which could be addressed by MASTS institution PhD or MSc students could be identified and offered as student projects in a collaborative way. A Report of the Workshop discussions, findings and recommendations would be produced in early 2015 for wider distribution.

This DPMS Case Study Workshop could be seen as initiating a process which, with support from all parties, could result in regular workshops, perhaps through the SOTEAG route.