



MASTS 'Brexit' Event – Summary Report

This report was authored by Lucy Greenhill on behalf of MASTS

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BACKGROUND

As negotiations continue in relation to the UK's departure from the European Union, considerable uncertainty remains around the final structure of any deal and the implications across all policy areas. Maritime issues are of key concern in Scotland and numerous reports and opinions are accumulating, highlighting significant areas of concern, ranging from fisheries to decommissioning, and some potential opportunities.

There is a critical need for knowledge and capacity to support and influence the on-going negotiation process, at both the Scottish and UK level. Expertise regarding the broad range of marine research, operations and commerce is in demand to support discussion, promote interests and secure advances where possible.

Such discussion must be based on the best available science but taking into account the socio-economic and historical context. The Marine Alliance for Science and Technology for Scotland¹ (MASTS) is supporting this discussion, providing scientific expertise and promoting the development of emerging policy and progress towards sustainable marine management, during the transition period and for the post-departure UK organisation.

This workshop, supported by MASTS, brought government and academia together to consider the legal, governmental and research framework under which Brexit is taking place and to identify priority areas and activities where information can be shared and options considered for enhancing scientific support for the Brexit process. The objectives were to:

- Understand current status of Brexit with respect to marine systems and research capacity, including the legislative framework
- Identify the priority gaps in knowledge
- Develop ways to enhance communication pathways for the best scientific advice required to support the Brexit process

EVENT SUMMARY

Following an introduction by **Professor David Paterson** (Executive Director of MASTS), presentations were heard from **Dr James Harrison**, Senior Lecturer in International Law, University of Edinburgh on "*Brexit and Future Maritime Cooperation*", **Andrew Brown**, Future and Fisheries Management, Marine Scotland on "*Fisheries and Brexit*", **Hazel Curtis**, Chief Economist, Seafish spoke on impacts to the seafood industry and **Lucy Greenhill**, Researcher in Marine Governance, Scottish Association for Marine Science (SAMS) on "*Sustainable*

¹ <http://www.masts.ac.uk/>

Development of Scotland's Seas: Securing Progress in Uncertain Times – Report of Sea Scotland 2017 Conference”.

Three working groups were established:

- Fisheries
- Marine Productivity (excluding fisheries)
- Good Environmental Status (GES)².

Delegates were assigned to groups based on their experience and discussed the issues, knowledge needs and opportunities under three themes. Overarching recommendations are presented below, followed by specific analysis in relation to fisheries, marine productivity and GES. More specific recommendations were made in relation to fisheries, probably since it is a more discrete topic and a key priority in negotiations.

RECOMMENDATIONS AND ACTIONS

The following ideas and opportunities were identified to support the BREXIT process with respect to marine systems and research capacity:

PROMOTING UK AND SCOTTISH INTERESTS	<ul style="list-style-type: none">• Focus on Scotland & UK as a thriving maritime economy, at the forefront of innovation, technology and commercialisation• Promote recognition and strong provenance of Scottish produce e.g. seafood and tourism• Develop international mutual acceptance of regulations and standards, out with EU mechanisms• Take advantage of the wider pool to recruit from the best possible staff (including outside the EU)• Maintain and establish a good working relationship with the EU
ENSURING ONGOING COLLABORATION WITH EU PARTNERS	<ul style="list-style-type: none">• Review current partnerships between UK /Scotland and EU partners and develop high level strategy (such as a workshop/conference/papers) to influence the direction of collaboration in relation to research and policy• Develop a funding mechanism to support UK academic engagement with ICES• Create an integrated research framework across Scotland and the UK of marine expertise (perhaps via MASTS)

² GES: Relating to the Marine Strategy Framework Directive (MSFD).

INFLUENCING GOVERNANCE

- Implement a research and development funding programme for the North Sea to co-ordinate research across national boundaries, based on the [BONUS](#) model which promotes and funds interdisciplinary science for sustainable development and ecosystem based management in the Baltic Sea.
- Implement mechanisms to support collaboration now, similar to the EU's [COST](#) programme which funds actions to develop interdisciplinary research networks, to maintain and improve current international collaboration.

CONNECTING SCIENCE AND POLICY

- Increase profile and influence of the UK within OSPAR, with the aim of leading on environmental policy.
- Establish a UK-wide agency to harmonise and integrate disparate pieces of legislation affecting the marine area, working closely with Scottish and UK Government departments.
- Focus on innovation in marine regulation, developing participatory, proportionate and robust legislation, including a world leading MSP system
- Within the UK, lobby government to raise profile on marine environmental related issues including under the blue growth agenda.
- Establish a pairing scheme to connect academics with government, by identifying national working groups in relation to Brexit which require academic input then pairing them with MASTS members.
- Establish a collaborative government/academia/industry marine advisory institute or body based on a group which pull in relevant experts for fixed periods and facilitate secondments between organisations, and which would:
 - Produce position papers
 - Identify science requirements
 - Work on specific problems
- Establish a Scottish Government - Academic Brexit Council to act as a conduit between Government and marine academic expertise.

SCIENCE NEEDS

- Strategic analysis of marine scientific requirements
- Greater research on understanding of cumulative and in-combination effects on marine systems, plus better communications, better science understanding.
- Regular horizon scanning identifying emerging threats and the required scientific response.
- Gap analysis of future training needs.

INFORMATION AND DATA

- Online marine Brexit resource
- Develop MOUs to make commercial data available (high priority) for integration in the Marine Atlas
- Simplify but strengthen the UKMMAS (UK Marine Monitoring and Assessment Strategy) process in the UK.
- Create a co-ordinated data system linked to GIS to indicate what activities are occurring and their footprints of effect.
- Lobby for the development of an updated, UK-wide 'Marine Atlas'.
- Update the Marine Atlas including setting out the application challenges.
- Progress from data collation to information generation with the Marine Atlas by holding regular 'hack-the-sea' day to brainstorm the system and identify information available and requirements.
- Rationalise monitoring and data collection across different legislative requirements.

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- Public campaign 'Your Sea' to raise awareness of the value of the sea for the public, by setting out what each taxpayer gets from the sea and marine commerce.
- Identify public engagement "stars" and promote media exposure of marine issues

FISHERIES – SCIENCE AND KNOWLEDGE NEEDS

Although the post-Brexit situation will be complex and require trans-national negotiation, the current UK government goal is a situation where the Common Fisheries Policy (CFP) no longer applies to the UK, and how this applies to devolved authorities is in question. Where there is potential to influence new fisheries management, there is a critical need for supporting

science to inform new policy decisions for governing fisheries. Such governance will need to be ‘fit for purpose’ and enable an ecosystem approach while satisfying market place accountability. Policy and regulatory instruments need to be flexible to respond more quickly to new scientific advice. It is relevant, however, to consider to what extent these knowledge needs are necessary in any case, to inform improved fisheries management, and whether there are needs related specifically to Brexit.

The UK has many strengths in relation to fisheries research, including extensive peer-reviewed science, leadership and contribution to long-standing international data sets such as the International Bottom Trawl Survey (IBTS), considerable scientific expertise across the UK, including natural and social sciences and a long-standing history of good collaboration with industry. Overall we have a strong international reputation and are recognised as leaders in the field, which provides a strong basis for on-going discussions.

However, data on fish and fisheries is often difficult to obtain and there are a number of weaknesses. There is a lack of spatial and temporal resolution, particularly for small-scale fisheries, data gaps in fish stock assessments and a need for more social data related to workers. Data is essential to inform “ecosystem-based management” (EBM) and related “marine spatial planning” (MSP) and much more could be acquired through efficient utilisation of existing platforms and better integration with industry, but there are costs involved and we need to consider how this might be funded. EBM and MSP both require greater emphasis on inter-disciplinary science, relating natural and social fields.

There is also the risk that data collection might be compromised where it is currently dependent on collective resources and co-operation with EU countries, and we need to consider the implications of no longer being part of the EU’s Data Collection Framework ([DCF](#)) (for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the CFP). The loss of connection at EU level may also lead to possible loss of ‘best practice’ links, with a consequent need to focus on non-EU states.

The following actions were recommended in relation to fisheries:

FISHERIES MANAGEMENT

- Better align science/policy/industry and focus on delivering the agreed vision for Scottish fisheries
- Develop strong legislative and policy frameworks to enable the achievement of such a vision, based on international instruments and best practices (e.g. Ecosystem Approach to Fisheries (EAF).
- Highlight the role of Marine Spatial Planning (MSP) in enabling an ecosystem approach, integrating fisheries as a sector, with understanding of interactions with other sectors and the environment.
- A UK version of the EU joint research centre “Science, Technical and Economic committee for fisheries” ([STECF](#)) to

INNOVATION AND FUNDING

SCIENCE NEEDS

EDUCATION AND OUTREACH

advise all devolved authorities including the Isle of Man on fisheries matters.

- Fully comprehensive vessel operation monitoring and reporting systems for all vessels, including inshore vessels.
- Regular assessment of outcomes of fisheries management which identifies accountability.
- Begin discussion on 'resource rent' as a management approach.
- Develop a strategic plan for marine science to support fisheries, with clear prioritisation of research needs.
- Establish a common funding regime to strategically assign all available resources across the science community to address agreed priorities.
- Ensure flexible approaches to funding and resourcing fisheries R&D, including combining marketing/commercialisation strategies to fund marine science and identifying opportunities for formal collaboration between industry groups and academia.
- Identify international partners of choice for fisheries R&D expertise, with a northern focus with activity based in Scotland.
- Prevailing condition and modelling of the natural ocean environment.
- Prioritise fundamental information for forecasting and demonstrating healthy fish stocks.
- More reactive intra annual data to inform fishing regulations.
- Improved international understanding on climate change impacts on fisheries (from the supply and demand side) and integrating this knowledge into management.
- Focus on R&D since there is potential for greater freedom to innovate in relation to fisheries techniques, including technological developments in catching and implementation.
- Social science to address social and community implications of sector development, including to understand impacts on livelihoods.
- Educate fishers to ensure understanding of the rationale behind management decisions.

- Train the academics – promote knowledge exchange and better relationships between science, industry and policy.
- Collaboration with education bodies to formalise training of fishers.
- Cultural changes in UK relationships with seafood. Enjoy more the wide diversity of Scottish seafood responsibly!
- Public awareness raising to develop pressure from consumers

PRODUCTIVITY - SCIENCE AND KNOWLEDGE NEEDS

Productivity here refers to maritime industries excluding fisheries, i.e. oil & gas (including decommissioning and carbon capture and storage), renewable energy, transport, waste, defence, communications, telecommunications, aquaculture, aggregates, tourism, and shipping.

The overall vision post-Brexit is to ensure that Scotland and the UK has a thriving maritime economy, maintaining or increasing our position as a leader in these areas, with a good working relationship with the EU and accepting environmental responsibility. Taking advantage of a new focus outside of the EU requires creating a greater global presence and representation of UK interests, and could provide the opportunity to recruit from a wider pool. Focus is on positioning the UK at the forefront of innovation technology, but also with the capacity for commercialisation.

Outside of the EU, focussing on trade, there could be effort on increasing exports, including exporting energy, particularly renewable energy (offshore wind). Increased brand recognition for UK / Scottish products would maintain or increase the value of exports. Attracting inward investment will be critical.

In terms of legislation, there will need to be mutual recognition between UK and EU countries of standards and regulations. As is essential for sustainable management of a multi-sectoral maritime economy, the UK could lead new innovation in marine regulation, to be user-friendly, proportionate and robust, as a world leading regulatory system.

As a maritime nation, the UK has a strong established institutional knowledge base particularly in the oil and gas sector, with world-leading capacity across marine technology, marine safety and other skills associated with maritime affairs. Our activities offshore, coupled with a stringent regulatory framework has driven scientific effort hence our current understanding of the marine environment and the impacts of human activities is advanced.

However, it was noted that dialogue and co-operation between sectors is currently limited, with industries traditionally regulated separately. This contributes to the challenges in understanding and managing the cumulative social and ecological effects of different activities. Legislative gaps exist around emerging sectors such as seabed mining, autonomous

ships and to drive progress towards clean shipping, with new policy and management approaches needed to integrate these.

There are notable challenges in relation to public perception of certain industries (such as aquaculture and oil and gas) which need to be addressed. This may also be related to the difficulties in recruiting into maritime sectors, particularly in terms of securing greater proportion of women. Developing capacity around skills, standardisation of vocational programmes and monitoring of progress in this area is key.

Within maritime sectors, the UK is less strong in relation to manufacturing, hence there is a need to focus on the commercialisation of R&D to promote moving from innovation to competitive production.

Key concerns raised in relation to this broad range of activities included:

- The impact of leaving the EU on standards and how this relates to and affects trade.
- The technological developments and digitisation of trade and the need to maintain position / influence in this, as well as potential changes to trade routes and the resulting impacts.
- Progress in particular areas such as de-carbonisation of shipping may be compromised within the UK.
- There are also likely implications for the developing progress towards integration of ecological concerns into policy and planning for maritime activities.
- Free movement of people is a key concern across most sectors, as is access to funding
- Opportunities were identified in relation to provenance / accreditation which it may be possible to develop, for instance in relation to tourism and produce / exports such as seafood)

GOOD ENVIRONMENTAL STATUS (GES)

Progress towards GES by 2020 under the requirements of the Marine Strategy Framework Directive (MSFD) represents an area of work to deliver ecosystem-based management to ensure sustainable use of marine goods and services. Given the UK commitment to the overarching goals of the MSFD and the work towards the scientific demands in meeting its requirements, it was considered a key framework for assessing the role of science in addressing maritime issues in the context of Brexit.

The UK has a strong scientific basis across a wide range of indicators of GES, based on high quality extensive historical data sets. This includes Scottish Government's Marine Atlas which provides a useful framework for understanding progress towards GES, particularly if it were to be integrated further across the UK.

Using this scientific basis, there is a strong track record of the UK influencing policy development in this area. However, there is a need for wider participation of academic experts and committing to the long-term funding of supporting science linked to GES. There are also problems in relation to balance- the allocation of funding to 'blue sky' as opposed to applied science, and how to fund next generation technologies. Access to data is a further identified weakness, and this could be addressed by a legislative framework which requires

commercial data to be made available. It was noted that it would be important to establish or task a UK-wide authority responsible for delivery of sustainable development (and GES) across the full range of maritime activities.

Raising the profile of marine issues is essential and public awareness could be increased through re-valuation of the marine environment and highlighting its value to society. This should include developments in education both in the public and private sectors with targeted incentives for academic and industry participation.

PROMOTING UK AND SCOTTISH INTERESTS	<ul style="list-style-type: none">• OSPAR will play a greater role in marine resources management after Brexit, as an axis for harmonisation of policies and regulations across countries using the North-East Atlantic. This will become a key forum to promote Scottish and UK interests.
HARMONISATION OPPORTUNITIES	<ul style="list-style-type: none">• The vacuum created by the withdrawal from EU commitments provides the opportunity to rationalise regulations and policies and unify GES science, management and advice in one competent authority (e.g., DG Marine).
A PUBLIC-PRIVATE-SCIENCE new deal	<ul style="list-style-type: none">• We need to augment and accelerate the integration of data obtained from all stakeholders. The Marine Atlas has proven the added value of such integration processes. We must now work on IP challenges to unlock data from the private sector. This is needed to (i) develop new and innovative approaches to manage the increase diversity of marine activities driven by the Blue Growth strategy; (ii) decrease management uncertainties and therefore decreasing investment risks; (iii) ease the monitoring and reporting process; (iv) increase our forecasting abilities for better governance.
SCIENCE NEEDS	<ul style="list-style-type: none">• We need a unified definition of GES. A clear vision on GES will increase our planning capacities to further build on Scotland’s world-leading expertise. This will allow us to retain our world-leading advantages in R&D – and the IP generation associated with it which benefits to all in Scotland. This will allow us to have clear horizon scanning ambition to harness emerging technologies and

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knowledge and maintain our world-leading educational advantage.

- The Scottish public remains largely unaware of the value of its marine environment. The views of marine assets are still very much focussed on classical industries. Developing a new narrative around GES and the services marine assets provide when in GES (e.g., emerging profitable topics such as recreation, cultural values, tourism, and health benefits) is essential to fully involve the public in sustainable management. We must make more of new technologies to bring the marine environment closer to all our citizens.

NEXT STEPS

This workshop brought government and academia together and created a new and high level platform for exchange and to that extent the workshop has already been successful. Among the participant and groups there were some area of agreement in terms of acute requirements and some identifying longer-term requirement.

Acute requirements:

- Availability of data in support of policy development
- Identify funding to support data acquisition, collation and presentation
- Improve communications among disparate groups
- Inform and educate populace on crucial issues
- Establish a “Scottish Government – Academic” Brexit relations group

Longer-term issues:

- Free movement of people and access to funding
- Creation of new advisory bodies (cf STFC with wider marine remit)
- Examine opportunities for better governance (MSP, EBM)

Based on this report, validated by workshop participants, interested parties from the subgroups will be invited to prepare a short “Action Plan” to be provide to Scottish Government. This will be discussed and developed at the next MASTS Annual Science Meeting in October 2018.

ATTENDEES

NAME	ORGANISATION
Colin Moffat	Marine Scotland
Mike Park	Chief Executive, Scottish White Fish Producers Association Limited
Caroline Cowan	Marine Scotland
Mark Shields	Energy Development, BEIS
Graham Black	Director - Marine Scotland
Andrew Brown	Marine Scotland, Future Fisheries Management
Neil Amner	Director, Anderson Strathern LLP
Daniela Diz Pereira Pinto	Global Environment Law, Strathclyde University
Mike Elliot	Marine Policy and Conservation, Hull University
James Harrison	Senior Lecturer in International Law, University of Edinburgh
Bill Turrell	Marine Scotland with a remit for Brexit
Matthew Frost	Marine Biological Association
Dickon Howell	Howell Marine Consulting
Hazel Curtis	Seafish
Steve Hall	Society for Underwater Technology
Gemma Truelove	NERC
David Lusseau	Professor, University of Aberdeen
Lucy Greenhill	Research Fellow in Marine Governance, SAMS
Teresa Fernandes	Ecosystem function and marine stressors, Heriot Watt University
David Bailey	Senior Lecturer in Marine Ecology, Glasgow University
Jacqui Tweddle	NERC KE Research Fellow, with MMO
David Paterson	MASTS Executive Director