



Creating the spaces, filling them up. Marine spatial planning in the Pentland Firth and Orkney Waters



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ABSTRACT

Marine spatial planning (MSP) is a leading management tool worldwide for organising the way we interact with the marine environment. MSP utilises the latest and most accurate data available on the marine and coastal space and socio-economic factors in order to inform policy. But what does governance under MSP look like? In the Pentland Firth and Orkney Waters strategic planning area in north-eastern Scotland MSP is 'the new kid on the block'. This paper draws on the concept of governmentality to better understand how a new governance system (the block) is emerging to support MSP by making people and the seas more governable. It suggests that the local authorities – The Orkney Islands Council and The highland council – are strong contenders to be leaders in this new system, in collaboration with other key actors such as Marine Scotland. These actors are vying for influence over the new system. For this they need to legitimise their positions and legitimise MSP itself. One way that they do this is by nurturing a 'mentality of space' among stakeholders and the general public. Teaching other actors to think and communicate in spatial terms eases the transition to MSP. Certain technologies are used to aid the learning process, such as maps, models and diagrams. However, the system is still in the making and uncertainties and resistance remain.

On a theoretical level these findings demonstrate how closely related the governance system, governmentality, and MSP are, and how they co-evolve. Appreciating these links can help inform current and future experiences with MSP, and help us to understand the role of power in processes of social organisation.

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1. Introduction

Marine ecosystems are complex and are influenced by a huge range of both internal and external factors. By interacting with and using marine resources through fishing, oil and gas extraction, aquaculture, recreation etc., humans become part of these ecosystems. Thus in our attempts to manage marine resources it is important that we take into account the social-ecological system as a whole (Olsson et al., 2004). To this end there has been a shift from sector-based and species-based natural resource management towards an ecosystem-based approach (EBA). The EBA "seeks to broaden the scope of traditional resource management so that it considers a wider range of ecological, environmental and human factors in the exploitation of resources" (Curtin and Prellezo, 2010). New management challenges arise from the sheer complexity of

this system. Innovative and dynamic tools must reflect and deal with this complexity.

Marine spatial planning (MSP) is a processual framework that contains a range of management tools for coasts and seas. MSP allows for more informed and co-ordinated decision-making between stakeholders, scientists, planners, non-governmental organisations (NGOs), private companies and governing bodies. It is a move away from the management of individual marine sectors and towards the holism described above (Gilliland and Laffoley, 2008; Douvère, 2008; Halpern et al., 2008; White et al., 2012), acknowledging marine resource use as a complex web of socio-natural interactions. MSP is an attempt to deal with this complexity by using detailed ecological, economic and social analyses of how various marine industries and activities interact and affect one another and the natural environment. This data is then used to make decisions on the spatial arrangement of human uses of marine and coastal areas. Research has already shown that this approach can lead to management measures that avoid or mitigate potential conflicts

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early in the process of developing in these areas (Shucksmith et al., 2014).

Definitions of MSP vary but it can perhaps best be understood as “a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives” (Ehler and Douvère, 2009: 18). This statement also summarises an important ideological foundation of MSP, namely social inclusion and democratic principles. Three key features of MSP are that it is future-oriented in that it seeks to achieve agreed goals, it is primarily a public sector activity, and it is concerned with both shaping and protecting the built and natural environments (Jay, 2010: 495–6).

The transition to MSP in the United Kingdom (UK) has been fairly rapid and some of the milestones are detailed in Section 4 below. This paper focuses on the emergence of MSP in the Pentland Firth and Orkney Waters (PFOW) strategic planning area in the northeast of Scotland. The Marine (Scotland) Act 2010 granted the Scottish Government planning powers over its seas and this is the first plan being drafted under these. The plan is seen as necessary in the area due to a number of new developments in the inshore area. Marine spatial planning in the PFOW has been described by those involved as “the new kid on the block”: it is a newcomer entering from the outside. The description invites analysis of how this new kid establishes itself. It also invites us to ask how the governance system (the block) for MSP will be constructed: what will the new block for this kid look like? This paper explores the power struggles that occur when such a new system is introduced. It aims at a qualitative understanding of the process, ideology and organisation of MSP. MSP allows new processes, such as broad stakeholder engagement, guided by an ideology, for example EBA and democratic principles, and these mean that society is organised in a new way. By applying the theories of governance and governmentality (the mentality of governing and being governed – see Section 2 below) more can be said about these elements. The central, two part research question is: how does MSP contribute to making the strategic planning area of the Pentland Firth and Orkney Waters governable, and who will govern it?

Sections 2 and 3 outline the theoretical framework and methods of this study, respectively. The development of MSP in the UK and in the PFOW, and a description of how the plan is being constructed are outlined in Sections 4–5. Section 6 then analyses the role of The Orkney Islands Council (OIC), and in Section 7 the Crown Estate's role is considered. There follows a discussion of how these key bodies recruit actors to MSP in Section 8. Section 9 presents a model of how MSP, governmentality and the governance system co-evolve before concluding remarks are made in Section 10.

2. Theoretical framework – governance and governmentality

The theoretical basis for this paper is located in the governance of natural resource management systems. Marine *management* is realised through a series of instruments and regulations that affect human interaction with natural ecosystems such as fishing catch quotas and environmental impact assessments (EIAs), to imposed no-go zones and financial incentives or penalties. The *governance* system on the other hand pertains to the institutional and organisational framework that governs these processes and manages the rules of the game (Kjær, 2004). It is comprised of a wide range of actors from scientific bodies to local authorities, political institutions, private companies, NGOs, and complex combinations of these. The transition to MSP will likely require changes to the local and national frameworks that govern marine and coastal management in Scotland. Various actors are strengthening their

positions and defining their roles within the context of MSP. The Orkney Islands Council, which is the form of local government, for example, is aiming to take a central role, and The Crown Estate – the proprietor of inshore sea beds – will also need to adapt its role as the plan evolves. These key actors will be central to the discussion presented here about the emerging governance system under MSP.

In this paper marine governance is understood as being beyond government (Rhodes, 1997; Lefèvre, 1998). This is due to the increased influence of non-governmental organisations and the globalised economy, and the resulting decision-making constellations typified today by public-private partnerships and the involvement of civil society. With broader consensus from stakeholders required under MSP, and the scale of investments in marine industries in Orkney, the emerging governance system will likely match this description. Additionally, the governance system is not distinct from the natural system upon which it acts. This paper follows more recent understandings of these two as a socio-natural whole defined by tight feedback loops and (sometimes dramatic) consequences brought about by change (Kooiman et al., 2005; Jentoft, 2007; Berkes, 2010). This is important to acknowledge in an MSP context when new decision making frameworks are used under relatively unknown circumstances (planning at sea as opposed to on land often has no legal precedent, for example, and researching the potential impacts of new wave and tidal energy technologies is a relatively new field).

It is not enough to say that an actor is in a new governance position. To understand how actors actually manoeuvre themselves into this position we can draw on the theory of governmentality, which “conceptualizes the citizens’ willingness to be governed” (Johnsen, 2014: 14, emphasis added). This can be understood on two main levels. On one level “the term *governmentality* seeks to distinguish the particular mentalities, arts and regimes of government and administration” (Dean, 2006: 2, emphasis in the original). Here we refer to the mentality of governing, taking into account the “thousand and one different modalities and possible ways” of doing this (Foucault, 1979). The mentalities, arts and regimes of governing for marine spatial planning are still evolving in Scotland and institutions are learning to master them.

The other level of governmentality is also key to grasping this evolution, namely the forms of thinking by the individual citizen (and collectively by communities) and the resulting shared understandings of what the natural resource space represents (in this case inshore waters and the coastal zone). This demands that we consider how we govern our own behaviour in relation to these understandings. As such this paper will consider the factors that influence “the way in which an individual questions his or her own conduct (or problematizes it)” (Dean, 2006: 11). It is argued here that in the context of marine spatial planning this is influenced by certain ‘mechanisms, techniques, and technologies of power’ (Foucault, 2003: 241). In this paper the term ‘technologies of power’ refers to forms of defining and communicating marine space. Examples include maps, diagrams and other visual aids. These play a significant role in attempts to spatially plan the seas and coasts, where space is created, communicated, and options for filling it are discussed. And they get people interested in doing this. They affect the processes, ideologies and organisation of MSP. Emerging strategies to govern and be governed in this new planning system suggest that governmentality is strengthened by MSP.

3. Methods

The marine spatial plan for the PFOW area is the first being

written by The Scottish Government since it assumed responsibility for national marine planning under the Marine (Scotland) Act of 2010.¹ As an unprecedented process that will form a blueprint for other regions, this lends itself well as a case study. A case study is appropriate when “a ‘how’ or ‘why’ question is being asked about a contemporary set of events over which the investigator has little or no control” (Yin, 2009: 13). This paper seeks to understand how the PFOW strategic area is being made governable. The case also has clearly identifiable geographical boundaries, which helps to define the case study. Whilst there is a limit to what generalisations can be made from one case (Creswell, 2007:74), and marine spatial planning is a flexible technique that can take on different forms depending on the local situation and needs (Stelzenmüller et al., 2013), some of the existing governance structures in the PFOW area are common to other parts of Scotland, such as a legitimate form of local government. As such it is possible to comment on how other regions could follow suit in governing marine areas through MSP.

This paper is informed by extensive reviews of official documents, articles, research literature, local and national media publications, online tools and photographic evidence, and the author receives regular newsletter updates of planning and marine issues for Scotland and Orkney. It provides a qualitative, localised understanding of MSP. These documents were supported by a round of formal, semi-structured interviews conducted with planners and government officials in April 2013, and participatory observation in MSP consultation events in Orkney and Caithness in July 2013. A further round of formal, semi-structured interviews was held with planners in April 2014 to discuss the consultation feedback and progress towards the marine spatial plan. In total 14 interviews were conducted with individuals from key organisations including Marine Scotland, The Orkney Islands Council, The Highland Council, The Scottish Parliament, The Crown Estate, and from two academic institutions: The University of Edinburgh and the Orkney campus of Heriot Watt University.

The initial, exploratory round of interviews held in April 2013 were conducted with those drafting the plan and focused on the preparations for MSP. It soon became clear that unfamiliarity with MSP in Scotland was a recurring theme and that it would be interesting to focus on how the plan would emerge under these circumstances. Other rounds of interviews then allowed for deeper probing into the politically sensitive topics of who would govern MSP and which actors were vying for more control. Participatory observation at the local stakeholder and public engagement events in July 2013 provided and insight into how people were being made familiar with MSP. Particular attention was paid to which questions the attendants were asking, what their concerns were, what their level of interest was, and how they incorporated technical language into their dialogue. Participatory observation is a useful way to experience a process from a member's perspective but the researcher is also likely to influence what is being observed (Flick, 2009: 226). Participation began tentatively so as to observe how other participants introduced technical language into discussions and referred to maps and diagrams etc. The level of engagement then grew as discussions evolved. The other practical reason for proceeding tentatively is that the researcher is not a local stakeholder and was conscious of influencing decisions on a draft plan that will not affect his daily interaction with local coasts and inshore waters. I made my role as a researcher clear from the beginning and was made very welcome in both sessions. Numerous

informal, unstructured interviews arose from these sessions during breaks and at the close of proceedings.

4. MSP in Scotland

Scotland has adopted marine spatial planning as a key marine management tool. Table 1 below outlines the main steps in arriving at this stage in relation to developments in the UK and Europe.

Whilst the UK Government and the devolved Scottish administration have committed to MSP, the required institutional framework is still very much in the making. Questions remain over who will govern the new system and who will ‘do’ marine spatial planning. A steep learning curve awaits planners (whose experience is often restricted to terrestrial planning), and the newly recruited stakeholders and scientists. For an overview of the key actors referred to in this paper please see Table 2.

4.1. The Pentland Firth and Orkney Waters

The Pentland Firth and Orkney Waters (PFOW) strategic planning area is located in the north-east of Scotland (see Fig. 1). The area has seen a significant increase in human activities in inshore waters (defined in the UK as the area up to 12 nm from the MHWS) resulting from the potential to harness an estimated 1.6 Gigawatts (GW) of energy from waves and tidal streams (UK Parliament, 2012). The site lies between the tidal systems of the North Atlantic Ocean and the North Sea and experiences some of the fastest tidal currents in the world. Companies such as Kawasaki Heavy Industries, Scotrenewables and Atlantis Resources Corporation have responded to this opportunity, investing considerable of time and money in developing the necessary technologies. The total expected investment in the renewables industry and supporting infrastructures in the PFOW could exceed £6bn (\$9.8bn) by the end of the decade (The Crown Estate 2011). It is hoped that these developments can contribute significantly to Scotland's ambitious greenhouse gas emissions reduction targets of 42% of 1990 levels by 2020, and 80% by 2050 (Climate Change (Scotland) Act, 2009).

Other important marine industries based in Orkney include pelagic and demersal fisheries (5280 tonnes live weight landings in 2012), shellfish fisheries (3440 tonnes in 2012) salmon farming (11 694 tonnes in 2012), and crude oil infrastructure, including the natural harbour of Scapa Flow for ship-to-ship oil transfers. The mainland population affected by the plan is difficult to estimate but there are 21 530 inhabitants to Orkney in 2012 (all figures taken from the Orkney Economic Review 2012–2013). The Orkney Islands are also very reliant on internal ferry routes, visiting vessels and tourism. The marine spatial plan will aim to reconcile the growth of the renewable energy sector and its supporting infrastructure, with the continuation of existing activities.

5. Constructing a marine spatial plan

Work to develop a marine spatial plan for the PFOW began in 2009. The process consists of three stages. The first two were led by Marine Scotland. Stage 1 set out the high level framework for the plan, identified categories for required data and knowledge, summarised what was already known in each category and made recommendations for how to fill knowledge and data gaps. In stage 2 research projects were established to fill these gaps. Direct feedback Stage 3 was about reaching out to the stakeholders and the general public about the plan. A Plan Scheme was published and constantly updated to communicate progress made in the plan, and a Planning Issues and Options consultation paper was created to offer stakeholders the chance to contribute to the content of the

¹ A marine spatial plan already exists for the Shetland Islands and was made statutory in 2014 (see Kelly et al., 2014). However, this is a unique case due to the autonomy enjoyed by Shetland over marine planning.

Table 1
Milestones in the turn to marine spatial planning in Europe, the UK and Scotland.

Year	Action	Contribution
2002	Safeguarding our Seas publication. Department for Environment, Food and Rural Affairs (Defra)	Shared vision of 'clean, healthy, safe, productive and biologically diverse oceans and seas' set out by the UK Government and the devolved administrations of Scotland, Wales and Northern Ireland (Defra, 2002).
2007	European Integrated Maritime Policy (IMP)	MSP listed as one of its five cross-cutting policies and the European Union (EU). Member states urged to create road maps to MSP. Not legally binding.
2007	Advisory Group on Marine and Coastal Strategy (AGMACS) reports for Scotland.	This ministerially-chaired group concludes that "[t]here should be a system of Marine Spatial Planning ... [with] ... a statutory basis, though potentially with a variable control (e.g. the flexibility to incorporate a non-statutory framework of local stakeholder engagement and planning)" (The Scottish Government, 2007: 14).
2008	Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU	The document aims to help develop MSP by member states and encourage its implementation at EU and national level (The European Commission 2008)
2009	Marine and Coastal Access Act	Preparations for introducing an MSP system. Established Marine Management Organisation (MMO) to oversee marine planning in England. Division of English inshore waters into 11 marine plan areas. Devolution of further planning powers to Scotland for its offshore area (12–200 nautical miles (nm) from the Mean High Water Springs (MHWS)).
2010	Marine (Scotland) Act	Granted the nation further statutory rights in the planning of its seas (to 200 nautical miles) ^a , and contained a duty for Ministers to prepare and adopt a National Marine Plan (NMP), as well as powers to prepare regional marine plans.
2014	Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 - establishing a framework for maritime spatial planning	A set of 'minimum common requirements' set out in shared seas of member states. First step towards legally-binding MSP framework for the EU.
2015	Scottish National Marine Plan published.	Sets out a single overarching planning framework for all marine activities in Scottish waters.

^a Some of these powers are in combination with the UK Marine and Coastal Access Act (2009).

Table 2
Overview of the key actors referred to in this paper.

Name	Role
Marine Scotland	Marine Scotland is a Directorate of the Scottish Government and responsible for managing Scotland's seas for prosperity and environmental sustainability. It takes an overall lead on planning and policy, and is drafting the NMP. Its five cross-cutting project teams are 1) Aquaculture, Freshwater Fisheries and Licensing Policy, 2) Performance, 3) Science, 4) Compliance and 5) Fisheries Policy. Directly involved in drafting the PFOW marine spatial plan.
The Orkney Islands Council (OIC)	The local administration for the Orkney Islands. Manages areas such as housing, education, leisure and culture, and rubbish and recycling. Responsible for town planning and aspects of marine developments e.g. ports and harbours and aquaculture (the latter in collaboration with the Scottish Environmental Protection Agency and The Crown Estate). Directly involved in drafting the PFOW marine spatial plan.
Highland Council	Same roles as the OIC but on the mainland and covering a much larger area including some western isles. Directly involved in drafting the PFOW marine spatial plan.
Marine Scotland Licensing and Operations Team (MS-LOT)	"[P]rovides a 'one-stop-shop' for all marine licence applications in Scottish waters" (Marine Scotland online). Licenses required for deposit/removal of substances or objects onto the sea bed, construction, dredging etc.
Scottish Natural Heritage (SNH)	A public body charged with promoting and preserving Scotland's natural heritage. Expressed strong support for an MSP system in Scotland in 2010 (ABP Marine Environmental Research 2010). A key contributor to the MSP design process and will be a main user of the final plan.
Scottish Environmental Protection Agency (SEPA)	A non-departmental public body and Scotland's environmental regulator. Helps businesses and industry understand and preserve the environments in which they operate. Will be another key user of the plan.
European Marine Energy Centre (EMEC)	Based in Stromness, Orkney. Only centre of its kind worldwide to provide companies developing wave and tidal converters with purpose-built, accredited open sea testing facilities. Close collaboration with The Crown Estate. Funders include The Scottish Government, OIC and the Highlands and Islands Enterprise
The Crown Estate	A unique and complex organisation. The Crown Estate refers to the portfolio of state property that is administered by a private company headed by the Crown Estate Commissioners (CEC). Nevertheless all profits made from developments on these sites go to the UK Treasury for public spending. Property includes 50% of the foreshore and almost the entire inshore seabed. For purposes of simplification, the organisation will be referred to throughout this paper as 'the Crown Estate'. In November 2014 The Smith Commission announced that responsibility for the Crown Estate's assets in Scotland would be devolved first to The Scottish Government, and later to local level (The Smith Commission, 2014). In addition to devolution, there is pressure to reform the CEC, as discussed below.
Highlands and Islands Enterprise (HIE)	This organisation aims to integrate community and economic development in an area covering more than half of Scotland's land mass. Works to attract investment in the marine renewables sector, among many others. Official aims are to support businesses, strengthen communities, develop growth sectors and create a competitive region.

plan and consider the planning options (Marine Scotland, 2012).

Drafting of the plan is done by a core Working Group. This group is comprised of three representatives, one each from Marine Scotland, The Highland Council and The Orkney Islands Council. The Working Group is supported by an Advisory Group that is "drawn from organisations with knowledge of the protection and enhancement of the Pentland Firth and Orkney Waters and from those whose members use the area for commercial and recreational purposes" (Marine Scotland, 2013: 13). This close collaboration is a new institutional arrangement that demonstrates the capacity of

MSP to organise. The plan's primary purpose is to guide consenting decisions with the objective of "supporting the sustainable development of key sectors including, but not limited to, offshore renewables, aquaculture, inshore fisheries, tourism and recreation" (Marine Scotland, 2013: 22). For this it will rely on the collection and analysis of relevant, robust and reliable information on the local marine environment and socio-economic characteristics. These are processes that will be streamlined by MSP. By offering this guidance the plan will also contribute to visions for the sustainable development of the area, such as set out in the Orkney

Local Development Plan (Orkney Islands Council, 2014), where the ideological side of MSP becomes apparent.

The intended users of the final plan include:

- Marine Scotland Licensing and Operations Team (MS LOT) will use the plan to inform marine licensing, consents under Section 36 of the Electricity Act and other appropriate licensing decisions;
- Orkney Islands Council (Orkney Harbour Authority) will use the plan to inform decisions on Works Licence applications;
- Statutory agencies such as Scottish Natural Heritage and the Scottish Environment Protection Agency could use the plan to inform the consultation responses they make to relevant licences and applications;
- Highland Council and Orkney Islands Council could potentially use the plan to inform decisions on relevant planning applications i.e. developments in the coastal zone;
- Businesses and individuals that wish to deliver new development in the marine area e.g. renewable energy companies, port infrastructure developers and aquaculture businesses;
- A variety of existing marine users including those involved in fishing, diving, recreational activities, transportation, shipping and navigation; and
- Local communities

Once completed, the pilot marine spatial plan will initially be non-statutory. As such planning decisions will not have to be made in accordance with the plan and it will function more as a key guiding document. The early ideology of marine spatial planning is clearly tentative at this stage. It is a novel, ambitious idea but there is uncertainty over how it will work in reality. The PFOW strategic area makes up one of the eleven Scottish Marine Regions (SMRs) that are being created to allow local administration of inshore marine planning.² The plan – and lessons learned through its design – will also serve as a blueprint for local authorities in the other ten planned SMRs. At the time of writing this paper the working group had prepared consultation drafts of the Marine Spatial Plan, the Sustainability Appraisal, the Regional Locational Guidance (to assist inform the process of locating wave and tidal energy devices), and the Socio-Economic Baseline Review. These documents are sent to the OIC and Highland Council where they will be considered by the Orkney: Development and Infrastructure Committee, the General Meeting of the Council, and the Highland: Caithness and Sutherland Area Committee. Following consideration by the council committees the working group makes any necessary changes to the documents before they are prepared for public consultation.

6. The Orkney Islands Council – a capable facilitator

Marine Scotland presided over the initial stages of preparing the plan, but a key informant involved with the plan's development stated that “the Orkney Islands Council is trying to manoeuvre itself into a central position in MSP” (30/04/2013).³ It enjoys high levels of legitimacy as it is comprised of elected local residents, appears to have many of the necessary attributes to play a strong role in local

marine planning. The council's capabilities lie in its familiarity with some processes that are important to MSP. It oversees local terrestrial planning applications, marine works licenses, and although all other marine planning applications are processed through the MS LOT in Aberdeen – a practice that will continue under MSP – local council knowledge, resources, and actions are invaluable in processing these. Cooperation will likely need to be strengthened here, or the capacities moved to the PFOW completely. This will streamline the planning process and reduce costs in, for example, EIAs for marine developments.

There is often considerable overlap between marine and terrestrial activities. This is most evident in instances where marine developments interact directly with the coast or inter-tidal zone, such as with marine renewable devices, which require land-based infrastructure for deployment, maintenance and grid connection. And there are other, less structural reasons, such as when locals voice concerns over the aesthetic impact of industrial constructions. As a result many propose that terrestrial and marine planning systems should overlap to account for this (Gilliland and Laffoley, 2008; Smith et al., 2011). Gilliland and Laffoley support the suggestion that in the UK the MSP system be extended shoreward, resulting in the “integration between terrestrial and marine planning activities and institutions” (Gilliland and Laffoley, 2008: 790). The benefits of this would be practical in terms of dealing with interlinked planning procedures, and also institutional, with the potential to streamline planning procedures under the direction of fewer governing bodies. In practice for the PFOW area this would probably mean more marine planning responsibility for the OIC and Highland Council. These links are already being acknowledged by the OIC, for example in Section 2.9 of their Orkney Local Development Plan. The section points to the difficult balance of protecting sensitive landscapes from development on the one hand, but also avoiding “frustrating” necessary coastal developments to support marine industries on the other (The Orkney Islands Council, 2014: 6). Such references show that the OIC understands the importance of integrating marine and terrestrial planning, and that it is integrating the developments in marine industries into its strategic visions and planning mentality: all the time strengthening its claim to be a leading governing institution for MSP. The limits to linking marine and terrestrial planning must also be acknowledged and some have suggested that full integration of the two systems does not appear possible on account of the significant differences in governance, rights and resource use (Kerr et al., 2014). Nevertheless, this does not necessarily exclude the OIC from a central role in both.

The OIC has long term experience in coordinating local consultations on planning issues. This includes overseeing their announcement in local media and the feedback procedure whereby residents are given 28 days to respond to development proposals. In most cases staff will be familiar with the recent planning history of an area where a new proposal is made. The council is also very familiar with organising public information events and has already done this for marine spatial planning. Marine Scotland conducts presentations at such events and provides the overview for where the PFOW fits into national plans, but is seen by some locals as out of touch with local needs. Two local informants criticised Marine Scotland's methodology, such as its unwillingness to adopt more dynamic public engagement techniques like role plays. Such initiatives could help clarify what MSP is and what the actors' roles might be and could help to organise society around marine management. This is important when introducing a new planning system. The OIC appears suitably placed and willing to explore these more progressive techniques.

The OIC understands the importance of including local stakeholders in decision making processes, which is essential to marine

² Initially the strategic area did not match the boundaries of the SMR as these constituted two distinct administrative processes. However, the majority of consultation responses supported the alignment of the two and the draft plan will be amended accordingly. An overview of the responses is available at: <http://www.gov.scot/Publications/2014/04/5576/10>.

³ Where governance in marine spatial planning by the OIC is mentioned here it entails close collaboration with The Highland Council, which represents mainland communities.

spatial planning (Gilliland and Lafoley, 2008; Ehler and Douvere, 2009; Fletcher et al., 2013). Often it is reported that “government planners need to engage outsiders earlier, more often, more meaningfully, and through an open and transparent process” (Gopnik et al., 2012: 1139). This feeling is shared in the OIC where it has been expressed that the planning process should be ‘front loaded’, that is to say that stakeholders should be involved from an early stage (James Green, OIC, 30/04/2013). Engagement is long term and continues through to the evaluation of plans that are already in use (Caneiro, 2013). At consultation events held to discuss the PFOW *Planning Issues and Options* paper several stakeholders pointed out that local communities appeared last on the list of intended plan users given above in section 5. The working group was urged to place the communities higher up the list, if not at the top. This is an important observation for a marine spatial plan that is supposed to represent a public process of planning. It also demands a central role, in planning, of a strong, local, representative institution such as the OIC. By mirroring the stance of the wider (academic) literature on the importance of stakeholder and public engagement in MSP, the council is highlighting its understanding of what is required (and its understanding of MSP’s ideological foundations) and its capacity to conduct the necessary actions. It is adopting the mentalities, arts and regimes of government and administration relevant to planning at sea.

Many aspects of MSP involve fairly routine procedures such as coordinating meetings, organising consultations, and gauging public and stakeholder opinions. MSP appears a daunting undertaking because of the level and scope of scientific research required to support decision making. Primarily, however, MSP is about organising people. It is only our actions that we can affect through management, our actions that impact marine and coastal space. It is this fact that the OIC must focus on. The OIC has local legitimacy, local knowledge, and already manages many aspects of public life on Orkney, such as housing, education, leisure and culture, and rubbish and recycling. This experience at the local level will be essential to successful marine planning in the PFOW. These capacities make up what has been called ‘institutional capital’ (Haughton et al., 2010: 119). Shifts in governance systems often require institutional capital to be established at new scales to perform new tasks. The OIC – in collaboration with The highland council representing the communities on the mainland of the strategic planning area – already operates at an appropriate scale for regional marine planning. In a coordinating and facilitating role it could continue to allow the scientific research to be carried out by other bodies such as Marine Scotland Science and The Crown Estate.

6.1. The OIC and the (slightly) larger picture: Our Islands—Our Future

As mentioned, introducing MSP to the PFOW area has come about largely because of the potential to harness the abundant wave and tidal energy. Marine renewable energy research and design projects in the PFOW are among the most advanced in the world. The speed at which the industry is evolving has rejuvenated concerns regarding the status of Scotland’s island communities. The fear expressed by some is that the communities will be underrepresented in decision making processes involving such strong interests, and that any benefits of development will not be felt locally. The debate is not new. In April 1985 the Secretary of State for Scotland submitted a report to the UK Parliament entitled Report of the Committee of Inquiry into the Functions and Powers of the Islands Council of Scotland (The Montgomery Committee 1985). The report recommended that all opportunities should be taken to consolidate, develop and extend the powers of Island

Councils. Based on these foundations and the European Union’s (EU) subsidiarity principle – that decisions should be taken as closely as possible to the citizen – there is a new programme of positive engagement in this topic by Scotland’s three island councils – Shetland, Orkney and Comhairle nan Eilean Siar representing the Western Isles. The *Our Islands – Our Future* campaign aims to ensure that the position and needs of the Island areas are taken seriously (The Island Councils 2013).

A joint position statement made by the councils deals with the issue of managing local natural resources, referring especially to the role of The Crown Estate, of marine spatial planning and the marine renewable energy potential. It recommends that Island Authorities assume control of revenues generated from inshore seabed leases with “genuine community participation and benefits” in the energy sector and it also calls for a greater local role in spatial planning (The Island Councils 2013: 2). This is a strong ideological message that marries the aspirations of unique and remote communities to the ideologies of planning in an informed and inclusive way. There is hope that the combined efforts of the councils can safeguard a greater influence locally over what happens in Orkney and the Pentland Firth. Day two of the *Our Islands – Our Future* conference in September 2013 closed with Steven Heddle of the OIC stating “[g]ive us the tools to do it ourselves - and we will” (Heddle, 2013). This would affect the seabed leasing process currently overseen by The Crown Estate. It could also affect the composition of the planned Scottish Marine Regions. Within each of these regions there will be a Marine Planning Partnership (MPP) comprised of regional planners, industry representatives and other experts. Big questions remain as to who will form these partnerships and assume control over planning. This would be organised differently in different regions, but for the PFOW region the eventual outcome of the *Our Islands Our Future* campaign will prove telling. The campaign also brings a strong sense of belonging and togetherness: a sense of place to the defined PFOW space. This could improve local public acceptance of a new, council-lead, marine governance system.

7. Another kid, another block? the role of The Crown Estate

MSP is designed to guide marine planning decisions. Nevertheless, development in the wave and tidal sector is well underway in the PFOW. That is not to say that it goes ahead unregulated: licensing still follows strict procedures and companies must complete the necessary Environmental Impact Assessments. From a governance perspective, however, and in terms of real actions, the most prominent actor at present is not the OIC but the Crown Estate Commission. As proprietor of the inshore seabed, the Crown Estate has so far overseen the leasing of areas for renewable device testing, as it has the various leasing rounds for offshore wind farm sites in other parts of the UK (for an overview of these see Jay, 2010). In the initial leasing round for the PFOW area in 2010 the stakeholder engagement was minimal to non-existent. Fishers, for example, were not informed before the official announcement. Marine spatial planning is a tool intended to manage increased pressures on marine space but speaking of the relationship between MSP and the renewables sector in PFOW one planner commented that “the cart had bolted before the horse” (Shona Turnbull 25/04/2013). The OIC might have taken the lead on the MSP but energy sector activities continue to be coordinated largely by The Crown Estate in collaboration with industry and the European Marine Energy Centre (EMEC), and under licensing regulations dealt with by MS LOT. This has left some actors in (the Crown Estate, EMEC, energy companies), and others out (OIC, The Highland Council and, to some extent, Marine Scotland).

Strengthening the marine renewable energy industry remains a top priority. The Crown Estate has committed £5.7 m (up from an

initial £4.0 m) to an Enabling Actions Fund, which “supports work that accelerates and de-risks the development of the wave and tidal projects in the Pentland Firth and Orkney Waters, to facilitate successful and timely construction and operation” (The Crown Estate, 2013). The project is wide-ranging and reports commissioned under this fund examine for the renewables sector the socio-economic impacts, environmental impacts, cumulative impacts, investment opportunities, supporting terrestrial infrastructure, and interactions with other marine users. Although more sector-based than MSP, many of these actions – including the stakeholder engagement – overlap with the intended purpose of the PFOW marine spatial plan.

Options for marine development are supported by The Crown Estate's own web-based *Marine Resource System (MaRS)*, which provides “a wide range of data, maps and analysis facilities to aid in the planning of the marine environment” (MaRS Members Portal). An attempt by the author to create a MaRS account was unsuccessful as it is only available to “selected partners”. It seems that if The Crown Estate continues to ‘enable actions’ in the marine renewables sector in the PFOW, a lot of the planning may be done by it and its selected partners before marine spatial planning gains a statutory basis. Indeed, it is worth noting that The Crown Estate does not appear on the MSP Working Group's list of primary users shown above. An archived presentation given by The Crown Estate sets out the benefits of MSP and points to the MaRS system as the organisation's own MSP tool (The Crown Estate 2009). How The Crown Estate relates to the official marine spatial plan when it nears completion will be interesting to see, especially following its devolution to Scotland. Certainly, the OIC will not be able to assume control over MSP as “a public process of analysing and allocating the spatial and temporal distribution of human activities” (Ehler and Douvere, 2009: 18) whilst The Crown Estate continues to exist and operate in its current form. Putting Scotland at the forefront of marine renewables development is a strong ideological statement. Marine planning must remain rational enough to support this only if it does not contradict the responsibilities it has to support other users of marine and coastal spaces.

One course of action under the reform of The Crown Estate could be to increase its presence and activities at local level and with more local control. The knowledge and expertise of The Crown Estate would be a valuable asset to authorities charged with marine spatial planning in the SMRs. Locally based teams comprised of – and trained by – Crown Estate staff could continue to help develop certain marine industries, but from a position where they would be more closely guided by marine plans. Collaborations with Marine Scotland Science and the *Highlands and Islands Enterprise* would continue as a feature of this role. The Crown Estate's role in attracting investment in the marine renewable sector and overseeing the leasing of sea bed space to bidding companies should continue, but could be restructured to follow local needs and ensure local benefits of investments. The scale of these operations would have to be carefully balanced between local/regional and national levels, however, because the UK as a whole needs to remain an attractive investment location for marine developments, especially in the renewables sector. So a national marketing strategy should remain.

At two further processes would need to be carefully managed when reforming the Crown Estate along these lines. Firstly, the widely criticised deficiencies of the Crown Estate Commission need to be addressed, such as “the lack of accountability, the lack of communication and consultation with local communities, the inappropriateness of the CEC's statutory remit for its responsibilities in the marine environment, the cash leakage from local economies and other adverse impacts arising from the way the CEC operates” (Scottish Affairs Committee, 2012). Secondly,

whilst the Crown Estate's activities are brought down to local level, where they can more closely follow local plans, the organisation must not be too closely involved with the planning processes. This would be problematic as one single body cannot be responsible for attracting investment and for making marine plans. This would create a temptation for corruption and attract criticism over how transparent the new governance system is. What is certain is that reform of the Crown Estate would involve a change in relations between actors and a substantial redistribution of power. Whilst this has been considered for a while, it can be argued that these are direct effects of introducing marine spatial planning.

The governing system for MSP in PFOW is still in the making and challenges and uncertainties lie ahead. However, construction of the system is dependent on other actors being recruited to it: dependent on reorganising. I now turn my attention to how this is done in the PFOW.

8. Affecting governmentality, recruiting actors

A key method for engaging actors in MSP is by affecting the way marine space is imagined. Imagination plays an important role in decision making in natural resource management (Fesmire, 2010). This is perhaps more true of marine spaces than most terrestrial spaces as they are not as easily accessible or visible. Visual aids are a very effective tool addressing this limitation and are commonly used in MSP engagement events organised by the OIC, Marine Scotland, and The Crown Estate. They can be used to communicate a range of relevant details including planning challenges, strategies, and scenarios, current uses of marine space, how the local MSP fits into national planning, technical details about wave and tide energy generators, etc. They might include maps, graphs, technical diagrams, and even physical models that people can interact with. Scientific research to support MSP is extensive in its scope and depth and these graphics give stakeholders and residents the chance to see local coasts and inshore waters as never before.

The displays and tables set up by OIC and Marine Scotland at these events are adorned with posters and leaflets presenting information relevant to the MSP process. The map circled at centre of the image shown in Fig. 2, for example, is produced with geographical information systems (GIS) software and presents findings from the Scotmap project. This project uses data gathered from interviews with owners of fishing vessels less than 15 m in length to accurately record and map inshore fishing activities. As of July 2013 over 1114 interviews had been conducted in Scotland⁴ (although the map shown portrays only the relevant PFOW area). This map gives a clear indication of how the activities of fishers in the area might interact or conflict with other marine resource users, such as the renewable energy sector. This event resembles others organised by councils in collaboration with Marine Scotland where “we had big maps [...] laid out on the table” (Shona Turnbull, Highland Council, 25/04/2013) (Fig. 3)

The act of communicating with visual aids in marine spatial planning is a good example of technologies of power in action (for another account of the power of maps and mapping on Scotland's west coast see Smith and Brennan, 2012). Several spaces are being created. Firstly, the inshore waters of Orkney and the Pentland Firth are being defined as a space of opportunities and challenges. There is great opportunity in industries such as aquaculture and marine renewables, but at the same time there are large problems in how these opportunities can be seized without impacting too negatively on the natural environment or the livelihoods of locals. Attendees

⁴ <http://www.scotland.gov.uk/Topics/marine/science/MSInteractive/Themes/ScotMap/scotmap-description>.

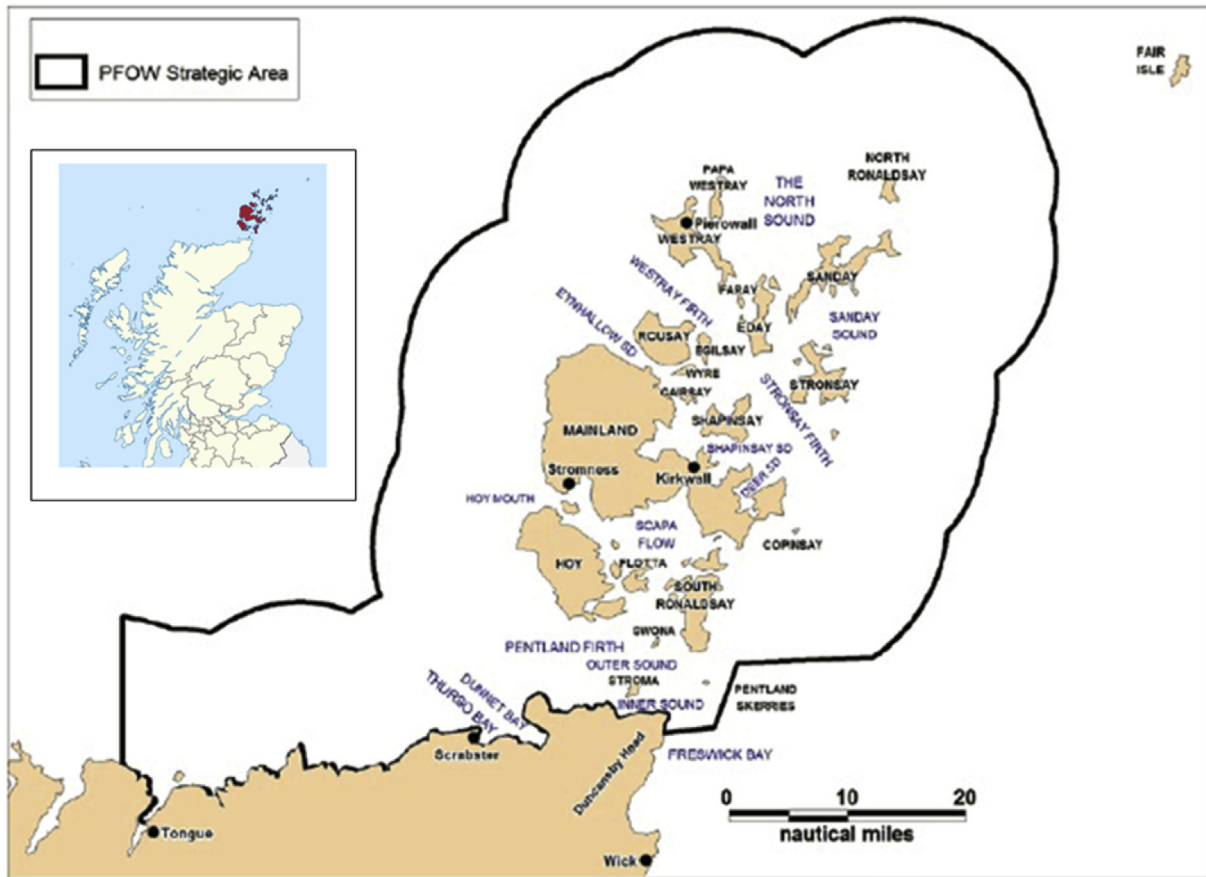


Fig. 1. Map showing the location of Orkney and the PFOW Strategic Area. Adapted from Wikipedia and Marine Scotland.



Fig. 2. A scene at an MSP public engagement event in Kirkwall, Orkney on July 1st 2013.

at the MSP consultation events in Kirkwall and Thurso in July 2013 began to think about this space and how it should be filled (in this analytical approach conservation is also considered as filling a space: it is filled with non-use, and it is filled with sensitive or endangered species). Answers to this question tended to vary depending on vested interests or levels of understanding. One sceptical comment made of the renewables industry was that “it’s

about putting manmade things into the natural environment” (Local Resident). The tone pitched invasive technology against the pristine natural environment. Another attendee, a stakeholder representing sailors, asked of the impact of renewables on recreational tourism. Other comments focused on interactions with fishing, whether MSP would lead to exclusion zones, and how the “complexities that cannot be taken into account” would be

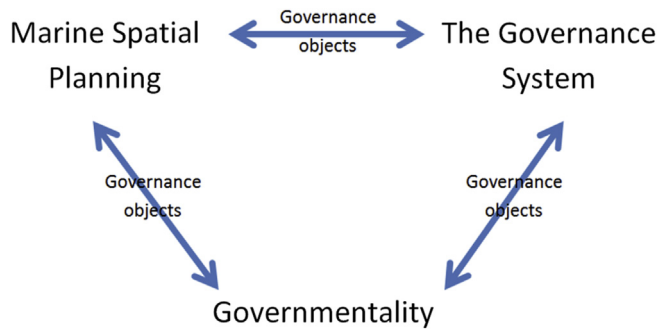


Fig. 3. The co-evolution of Marine Spatial Planning, the governance system and governmentality as facilitated by governance objects.

handled. Residents and stakeholders discussed a broad range of topics and had maps and images to refer to whilst doing so.

The PFOW area is a potential energy source; it's a provider of jobs; it's important to Scotland's economic growth; it's a rich fishing ground; it's a recreational haven; it's a part of Orkney's cultural heritage. Differences of opinion on how to manage these activities will persist under a system of MSP. But MSP can cope with these differences of opinion. In fact, it needs them. It provides an arena within which controversies can play out and solutions to difficult management problems sought. This is the second space that MSP creates. It creates physical meeting spaces where discussions and consultations are held. This is filled with citizens, representatives of stakeholder groups, scientists, academics, marine renewable and aquaculture industry representatives and planners. What happens in this space is the objectification of marine space, which becomes a governable object (Johnsen, 2014). The democratic principles underpinning MSP have allowed broader consultation on marine management than ever before. This is in keeping with Ehler and Douvère's earlier description of MSP as 'a public process'. Visual aids facilitate this communication. By pitching them at an accessible scientific level they can be used to prompt laypersons to think of marine management challenges in spatial terms. They nurture a 'mentality of space' that will ease the transition to marine spatial planning. In this context maps and images can be described as the "[a]gents, texts, devices, architectures [that] are all generated in, form part of, and are essential to, the networks of the social" (Law, 1992 p. 379). They help to anchor MSP in society.

This mentality is bolstered through visual representations of marine space and options for its use that are accessible online. The organisations, institutions and companies present or mentioned in public events provide relevant graphics on their websites. Much of the data on MSP in the PFOW, for example, is summarised in Marine Scotland's own geographical information systems based [National Marine Plan interactive \(NMPi\)](#). The platform allows registered users (registration is free and open) to access and explore interactive maps that present information on the main NMP topic areas: clean and safe; healthy and biologically diverse; and productive, with additional sections covering the physical characteristics; administrative areas; and base layers (bathymetry). The system allows users to add various data layers and in doing so the challenge of planning in Scotland's seas becomes apparent. Effectively the citizen is allowed to try their hand at spatial planning, and witness the competition for space. The recruiting of actors to the mentality necessary for introducing MSP does not stop at the exit of an engagement event. It continues as individuals explore their curiosity through the technologies put at their disposal, and in accordance with the data that the key actors choose to provide. This is sometimes provided on USB memory sticks given to people at

engagement events. These provide "really interesting" maps and graphics that show "how limited the space is" around Orkney (Deryck Brown, Thurso resident).

Inspired by visual aids, discussions over marine planning between stakeholders, members of the general public, planners and scientists are conducted using a 'spatial vocabulary', such as is already well established in terrestrial planning in the UK (Healey, 2004: 534). The most common examples noted through participatory observation at engagement events included 'twelve nautical miles', 'local development plan', 'consent', 'exclusion zone', 'national marine plan', 'marine protected areas', 'tidal stream turbines', 'gigawatts of energy', 'strategic vision', and 'licensing'. All of these terms are closely linked to marine spaces and are provided by key actors: Marine Scotland, Orkney Islands Council, The highland council, The Crown Estate, and large energy companies. The strong position of these actors at present, coupled with the newness of MSP, means that they are able to determine the vocabulary used and are thus able to recruit other actors into marine spatial planning largely on their terms. These actors are regarded as the experts, and through the spatial vocabulary that they provide they help define the governing system that manages the rules of the game. This is not to say that the process is smooth. It does meet resistance. And as the governmentality develops on the level of the citizen – as individuals begin to question their own conduct in a changing governance landscape – more voices will be heard. These might ask "so, this is another done deal?". Or question why local communities do not appear nearer the top of the list of intended users for the plan as given in section 5 above. These were just two concerns raised at engagement events and suggest there is still a long way to go before the governors secure their positions. But as more actors talk and think about space, at least the position of the new kid, MSP, looks increasingly secure.

Indeed it appears that these processes reflect what is happening on a European level and justify governmentality as an approach to understanding marine spatial planning, "for the concept stimulates one to explicate the means, mechanisms, procedures, instruments, techniques, and vocabularies by which authority is constituted and rule accomplished" (Moisio and Luukkonen, 2014: 4). Moisio and Luukkonen explain how spatial representation is a powerful form of political control and how marine spatial planning conceptualises the problems that society is facing. In that sense it "renders reality thinkable" (ibid. 6). Although MSP is relatively new to Scotland, it is borrowing from more familiar forms of power politics and is tightly linked to more established policies, such as energy politics.

9. MSP, the governance system, and governmentality—a process of co-evolution

This analysis of the transition to marine spatial planning in the PFOW presented here shows how it emerges in conjunction with the new governance system and a new form of governmentality. These three elements appear to be co-evolving. MSP creates a governance system that facilitates wider stakeholder engagement, upholds democratic principles and responds to feedback from stakeholders and the general public (ideology). Parts of this framework are built on existing institutional capital, such as the capacity of the OIC to organise consultation (process). The role of some actors within this system will be re-evaluated, such as The Crown Estate (organisation). MSP is responsible for a significant shift in power, relations and roles. In order for this to happen a specific mentality of governing and being governed must be established, which is aided by a 'mentality of space'.

This co-evolution is facilitated by governance objects, which are symbolic representations of governance processes (Johnsen and Hersoug, 2014). These objects can be anything from a stretch of

coastline, to a marine protected area, a marine current turbine, an environmental impact assessment, a total allowable fishing catch, or even the physical space where negotiations take place. All of these objects are referred to or used by stakeholders. The objects are the focus of attention within MSP and provide access points to deliberations and decision making. Technologies of power allow these objects to be communicated and disseminated throughout the network. These technologies include visual aids such as maps, technical diagrams, and scientific data. They can be understood as tools through which governance objects are defined and referred to: how they are objectified. The arena in which these technologies operate are the physical spaces for engagement, negotiation, and decision making. These spaces are extended through online platforms and websites.

This diagram is a simplification of complex processes. But the governance objects should be thought of as those mentioned above: physical characteristics of the sea and things put into it (or not). The blue lines in the diagram represent the vehicles for these governance objects i.e. forms of communication, technologies of power. This diagram can help our understanding of how MSP emerges. It redefines how actors view one another and explains processes of exclusion and inclusion. Scrutinising these processes in real situations allows us to question the role of power in shaping governance systems.

10. Concluding remarks

This research has shown that MSP is making the marine and coastal environment more governable. Coming back to the first part of the original research question (how does MSP contribute to making the strategic planning area of the Pentland Firth and Orkney Waters governable?) it can be said that it is by putting marine space on the table; by discussing it; by opening a dialogue. It permits discussion of these spaces by stakeholders, scientists and planners, and allows these actors to grasp what they are referring to, often physically by pointing at maps and diagrams. They make use of the technologies of power to become governed, just as institutions use them to govern. Furthermore, MSP provides the vocabulary to talk about these spaces and to put certain actors within them. The spaces are being filled with various forms of use and non-use. MSP attracts participants by being democratic, by having an attractive ideology. As more governments adopt MSP it is worth considering how spaces are created, deliberated and filled and how technologies of power are mobilised. Scrutinising these is important because there is potential to (mis)use them to guide stakeholders and the general public towards a decision that suits more powerful actors. This undermines the democratic principles underpinning MSP. Rather than a process of deliberation it becomes a process of persuasion. There is great value in asking the question “so, this is another done deal?”

As for who will govern under MSP in the PFOW? Marine spatial planning is still very much in the making in the Pentland Firth and Orkney Waters. Who will eventually take a commanding position in planning the area's seas and coasts is still unsure as power relations are changing. But the OIC is emerging as a strong candidate. This will have to happen in collaboration with partners who can provide a strong scientific basis for planning, with the OIC playing a facilitating role and contributing to stakeholder engagement and public consultation. Probable partners include Marine Scotland, the Highlands and Islands Enterprise, the European Marine Energy Centre and academic institutions such as Heriot Watt University, which has a campus on Orkney. With the decision already taken to devolve the management of The Crown Estate—including profits made on its Scottish portfolios - to The Scottish Government, the nature of this organisation is likely to change considerably. Further

research is required to explore how reform of this unique organisation can be carried out and how promises to bring more powers to the local level are fulfilled.

An additional finding of this paper is the way in which MSP, the governance system and governmentality co-evolve through a complex power struggle. Appreciating this co-evolution can further our understanding of how society is organised in other realms beyond marine resource management.

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