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Governance and power in the planning of Scotland's seas

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"***Don't gain the world and lose your soul…***"

- Bob Marley

Table of Contents

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Summary

This thesis examines Marine Spatial Planning (MSP) from a governance perspective. It considers the effect that MSP has on the governability of complex marine environments. An attempt is made to demonstrate how MSP is reliant on the creation of different types of space that are used to further reinforce marine planning processes. These include map spaces, physical meeting spaces, graphical representations of sea space, and online spaces. The spaces are used to share detailed information about the sea, along with visions of how its resources might be exploited and/or preserved, thus also further reinforcing the MSP approach and anchoring it in society. It can be said that the MSP system, the governance system, and a specific marine planning mentality (a form of 'governmentality') co-evolve and are mutually supporting.

Further, the case of MSP in Scotland is used to explore the topics of transparency and participation in MSP processes. This includes considering the roles played by stakeholders and the public. It appears that MSP does little to level the playing field in the power relations that already existed between stakeholders. It is argued that MSP in Scotland is not meeting its potential in terms of being transparent and participatory. This seems to coincide with conclusions made about other MSP systems in other countries.

The concept of power is explored further to consider what might happen in instances where MSP processes are not perceived to be representative. This perception might emerge from the fact that early stages (or 'step zero') in planning are dominated by a select group of stakeholders, whilst others are invited to contribute at a later stage when certain decision making parameters might already have been set. The role of the public as stakeholders is also considered on the grounds that MSP is often described as a 'public process'. A comparative analysis with land use planning in Scotland shows that the public is able to organise itself to form opposition to a system that lacks transparency and opportunities for participation. Modern governance theories accurately describe their forms of resistance there and the same might occur in MSP.

Finally, some recommendations are made for the governance of MSP processes in Scotland that could help to prevent the later 'transaction cost' of people opposing the processes or outcomes.

List of papers

I: Smith, G. (2015). Creating the spaces, filling them up. Marine spatial planning in the Pentland Firth and Orkney Waters. *Ocean & Coastal Management*, **116**, 132-142.

II: Smith, G., & Jentoft, S. (2017). Marine spatial planning in Scotland. Levelling the playing field? *Marine Policy*, **84**, 33-41.

III: Smith, G. (2018). Good governance and the role of the public in Scotland's marine spatial planning system. *Marine Policy*, **94**, 1-9.

List of figures

List of abbreviations

CMPP	Clyde Marine Planning Partnership
EBM	Ecosystem based management
EC	European Commission
EIA	Environmental Impact Assessment
EU	European Union
GBRMP	Great Barrier Reef Marine Park
GIS	Geographic information system
GPS	Global positioning system
HELCOM	Baltic Marine Environment Protection Commission - Helsinki Commission
ICES	International Council for the Exploration of the Sea
ICZM	Integrated coastal zone management
IOC	International Oceanographic Commission
JNCC	Department for Environment, Food and Rural Affairs
MARs	Marine Resource System
MMO	Marine Management Organisation
MPPs	Marine planning partnerships
MSP	Marine spatial planning
NMP	National Marine Plan
NMPi	National Marine Plan interactive
OIC	Orkney Islands Council
OPP	Obligatory passing point
PFOW	Pentland Firth and Orkney Waters
SMRs	Scottish marine regions
SSMEI	Scottish Sustainable Marine Environment Imitative
STECF	Scientific, Technical and Economic Committee for Fisheries
TAC	Total allowable catch
UNESCO	United Nations Educational, Scientific and Cultural Organization

1. Introduction

How do we manage and govern complex natural environments? For answers to this question we might look to our seas and coasts as an example of a complex environment. The physical components of this environment – the coastlines, waves, tides, reefs, sandy seabeds, estuaries, and under water troughs and ridges – support a myriad of marine biota: flora and fauna that coexist in intricate ecosystems. Humans are an active part of many of these ecosystems. We pursue activities such as oil and gas extraction, fishing, marine renewable energy development, aquaculture, recreation, transport, and in so doing form part of the socio-ecological whole (Olsson et al., 2004). The physical components and the marine biota cannot be directly managed. We cannot manage a coral reef, or a shoal of cod, or a mussel bed. When we talk about managing marine resources we talk about managing human action and inaction in a socio-ecological system. For example, total allowable catch (TAC) quotas are set to regulate how much fish humans are allowed to catch, marine protected areas (MPAs) are designated for the conservation of vulnerable species or ecosystems, robust laws help ease conflicts between fishing sectors (and between these and other maritime activities), and all extractive industries and development projects are carefully regulated and monitored. Each country or region manages these activities within given ecological, environmental, political, economic, and social parameters, which form the basis of management objectives, targets and methods.

In many regions these management efforts are facing increasingly complex challenges as maritime industries continue to grow and diversify. In the European Union (EU), for example, 'blue growth' is billed as the maritime contribution to the Europe 2020 strategy aimed at achieving "smart, sustainable and inclusive growth" (EC, 2020). Blue growth refers to the recognised potential for expansion in five maritime industries in particular: aquaculture; coastal tourism; marine biotechnology; ocean energy; and seabed mining. In many areas this will likely result in a larger number of actors accessing and using marine resources, a greater competition for space, increased conflicts between users, and increased cumulative impacts upon marine environments. This complex scenario has been referred to as the 'marine problem' (Ritchie & Ellis, 2010).

Over time the need to sustainably manage growing maritime industries whilst conserving vulnerable marine ecosystems and human livelihoods (i.e. the marine problem) increasingly led experts to the more holistic approach of ecosystem-based management (EBM). EBM "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 & Prellezo, 2010: 821). The focus of marine management began to move from single species to habitats and ecosystems (Day, 2008). By accommodating the complexity and co-development of socio-ecological systems (Berkes, 2010) it can better inform attempts to improve the condition or abundance of individual fish stock species, for example, or of a vulnerable ecosystem such as a coral reef, whilst minimising the risk of this outcome having a negative impact on other species or ecosystems. It is a means of looking at the bigger picture and considering what the natural and anthropogenic pressures on the specified entities are at all levels, including the cumulative impacts of these. Management initiatives can then be applied at all of these levels to aim at positive management outcomes (Link & Browman, 2014). Marine management tools need to be designed to cope with this complex scenario.

Marine spatial planning (MSP) is promoted as one such set of tools. MSP is essentially a decision-making framework to help manage the spatial distribution of human activities that impact coastal and marine areas, considering interactions between sectors, changes over time, and informed by extensive data collected on all relevant ecological, environmental, political, economic, and social factors. It has gained traction worldwide as a leading approach to tackling complex marine management scenarios. As of June 2017 the International Oceanographic Commission (IOC) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) claim, "about 65 countries were preparing or had prepared about 140 marine plans at the national, regional, or local levels".[i]

For MSP to be effectively used to support marine management actions it requires the coordination, cooperation, involvement and expertise of a large range of people who affect – or are affected by – the problem-framing, system design, implementation, and monitoring. In many ways it is unprecedented in its participatory approach to marine management, being defined 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 that are usually specified through a political process" (Ehler & Douvere, 2009: 18). This definition is interesting because it draws attention to the political and social aspects of MSP and acknowledges the involvement of the public. In order to carry out the technical tasks of marine management through MSP such as allocating space, deciding on marine consents and licenses for projects, and preparing for future sea use changes, people need to be organised in some way, and they need to be clear of their roles. Whilst the final marine spatial plan will be

comprised of a series of well-defined actions, rules and regulations with a supporting legal basis, there is a lot of organising to do before this written plan can be created, and, indeed, once it has been. The definition of MSP as a 'public process' suggests that the range of participants in MSP processes could potentially be very broad.

Viewed as an exercise in organising people and their roles, we are encouraged to also consider how marine environments can be governed. Approaching MSP from a governance perspective allows us to pose a range of interesting questions. Who governs in an MSP system? Who can contribute to planning, and at what stages? How are planning frameworks and priorities set? Who is affected by plans, and can these people affect plan making in turn? What can be said about transparency and participation in MSP processes? How are decision-making processes institutionalised? Who has input to these institutions? These questions are also strongly tied to the democratic principles of fairness, participation and, thus, legitimacy (Birnbaum, 2016). MSP itself is tied to these democratic principles. The extent to which it upholds these can influence the social acceptability of the marine management actions decided upon under MSP (Voyer et al., 2015). This fact was not lost on early advocates of MSP who stressed the need for stakeholder engagement (Pomeroy & Douvere, 2008), which should begin with bringing stakeholders to the table early (Gopnik et al., 2012; Olsen et al., 2014) and continue through to plan implementation and monitoring (Carneiro, 2013). However, as we shall see, there are plenty of concerns about the inclusivity of MSP regimes.

With MSP being a public process it also stands to reason that the way it is governed would be heavily influenced by the socio-political and cultural traditions of the given location. This is why MSP appears in so many different guises across the world. The building blocks of every MSP system seem to be "socially and experientially based, local and specific in nature (…), and dependent for their form and content on the individual persons or groups holding the constructions" (Guba & Lincoln, 1994: 110-111). It appears that many of the realities of MSP are socially constructed. They are formed in situ when participants define the issues that need to be addressed, discuss methods to deal with these, decide to move forward with MSP, establish planning priorities, form the necessary governance and management frameworks, and then begin to use – and improve – these frameworks. As such, MSP cannot be stripped of its given context (Guba & Lincoln, 1994). It is heavily influenced by traditional and cultural ways of 'doing things', that are site-specific, and also influenced by site-specific needs. For example, objectives in The Netherlands include improving coastal defences against sea level rise (Jay, 2010-b), whilst the long standing planning tradition in Israel is more

heavily influenced by military defence objectives (Soffer & Minghi, 1986). MSP practices can also vary in accordance with local political traditions and do not always follow expert recommendations (Jay et al., 2013; Olsen et al., 2014).

In light of the diverse approaches to MSP – and the incentives that drive it – it is useful to choose one example to study. This particular thesis focuses on MSP in Scotland, which is still very much 'in the making' and where existing governance structures are being rearranged to accommodate MSP processes. In Scotland MSP can be studied both as a governance tool, and as something that might impact the role and position of governors and stakeholders in Scottish waters. I return to introduce the Scottish case in more detail below.

2. Research questions and objectives

The main objective of this thesis is to understand how MSP affects the governability of complex marine ecosystems. In order to do this the focus is on governance structures and processes and the roles played by both stakeholders and the public. This objective is designed to contribute to recent attempts to evaluate MSP processes (e.g. Carneiro, 2013; Collie et al., 2013; Scarff et al., 2015; Jones et al., 2016; Flannery et al., 2018). It is driven by the following three central research questions:

Q1. Has MSP contributed to the increased governability of complex marine environments?

Q2. Do MSP processes in bring stakeholders to the table early?

Q3. What opportunities exist for public participation in MSP processes?

All three of these questions relate to the way in which marine environments can be governed through the mechanism of MSP. The potential contribution of this exercise is clarified below in sections 4 and 5 where I outline the relevant governance theories and then link them to MSP. The link is comprised of a number of important themes. Firstly, if we accept that MSP is about organising people then it seems relevant to look beyond MSP itself and consider how people are governed, more generally. There is no reason to believe that things should be different just because of the uniqueness of the marine socio-ecological system. Secondly, the governability of that system might be closely linked with technologies of power and the means by which people are convinced to accept a new system of rule and then to adhere to it. How do we get people to think in a way that will ease the transition to something new? And if we are asking people to

think about something new then at what stage are we doing so? And can we make – *and maintain* – a promise that their contribution is important to decision outcomes? These people in MSP are known as stakeholders. And do we count the public as stakeholders? Where do we draw this line? Following on from that it also seems appropriate to assume that not everybody *will* adhere to that new system of rule. If there is cause for resistance that emerges from any existing barriers to public participation, then how might this manifest itself? As we shall see, modern governance theory provides the necessary tools with which to pose and explore important questions of MSP.

I use section 5 below to further contextualise the three research questions and explain how they were tackled in the three research papers. Before this, however, it is important to introduce MSP in more detail, which I do next in section 3. Sections 4 and 5 are used to outline the theoretical basis of this thesis and to contextualise the research questions. In section 6 I outline the methodological approach used in this project and section 7 describes the MSP system in Scotland. All of the results are presented in section 8. I use section 9 to discuss the results in relation to the theoretical basis and also propose a possible improvement to MSP in Scotland. I finish with concluding remarks in section 10.

3. Marine spatial planning

MSP traces its roots in the pioneering zoning approach to marine management in Australia's Great Barrier Reef Marine Park (GBRMP) (Day, 2008). The original GBRMP management approach relied on relatively rudimentary matrices used to decide on permitted, prohibited, or permit-based human activities in various marine zones, with the overarching goal of protecting the coral reef. However, monitoring and evaluation of the GBRMP have led to a better understanding of the wide range of factors that can affect management strategies, and multiple improvements have been made to that regime since its introduction in 1981. For example, the GBRMP system originally did not cater sufficiently for tourism and recreation and so additional statutory management plans were introduced for these sectors; the increasing access to Global Positioning Systems (GPS) technology meant that more accurate boundaries could be identified; and the original zones did not consider the range of biodiversity within an ecosystem, instead favouring one habitat type, namely the coral reef itself (Day, 2008). So management of the GBR improved significantly over time. But there is no reason to suggest that lessons learned from one model of how the sea can be *managed* – as advanced as the model may be – should necessarily lead to the idea that our seas can be

planned. To understand this progression it is necessary to leave the sea for a while and consider the evolution of planning more generally.

3.1. Developments in planning

MSP reflects the "dominant spatial planning paradigm of the present era" (Kidd & Shaw, 2014: 1537) and has also been informed by terrestrial – or 'land use' – planning. The accelerating rate of industrialisation in the United Kingdom during the 19th Century, for example, had caused towns and cities to expand rapidly. It soon became clear that human activities in these areas needed to be planned to make a more efficient use of space and improve living conditions, hygiene levels, logistics, etc. The original Housing, Town Planning, &c. Act 1909 required local councils (municipal government) to introduce town planning systems, which constituted a form of rational decision making over the allocation of space. However, this seemingly straightforward task soon became more difficult in the face of globalisation, neo-liberalism, multiculturalism, and postmodernity, because societies (and their needs) were becoming more complex.

Consequently, Friedmann (1973) argued that more attention should be paid to the relationship between knowledge and action. Friedman himself claims that "this shifted the discourses of planning theory away from planning as an *instrument of control* to one of *innovation* and *action,* which in turn, raised questions about what values ought to guide our practice, what strategies should be adopted, and how participation by community and/or stakeholders might be furthered" (Friedmann, 2003: 8, emphasis in the original). It became increasingly important to consider other forces that affect urban areas, such as the aforementioned globalisation, neo-liberalism, multiculturalism, and postmodernity. How were these forces affecting the social and cultural dynamics of communities? And how were the planning needs of these communities changing as a result?

The task of increased participation by community and/or stakeholders is now a key theme in planning. In the context of sweeping neoliberal reforms in the UK in the 1980s Patsy Healey was involved in a project aimed at examining "how far development plans were being implemented" (Healey, 2003: 102). Much like with the earlier criticism of planning as an instrument of control, it was found that the idea of development plans simply being 'implemented' "reflected a very traditional conception of a plan as a spatial blueprint, which would steadily be translated into built form on the ground" (Ibid). This was exposed as an out-dated view, and instead development plans started to become "statements of policy

principles and regulatory norms to guide land and property development processes" (Ibid). Rather than a spatial blueprint, Healey describes how plans represented a series of principles and norms that helped shape human interactions in planning. As such, plan implementation was a negotiative process involving a wide range of actors, and centralised, top-down planning was being frustrated by localised, bottom-up forces, as communities resisted straightforward control by planning. These processes emerged in "the reduced certitudes and predictabilities of a complex world" (Brand & Gaffikin, 2007: 283).

Healey was one of several scholars, including Innes and Booher (1999) and Swyngedouw et al. (2002), who began to develop an approach to planning that took account of Friedmann's call for broader considerations to inform the process, and also of the observed reality of planning as a negotiated process involving a plethora of groups and individuals in a complex, modern society. Such perspectives were compatible with the concept of 'collaborative planning', exposed the interactive process of 'planning through debate' (Healey, 1992). Collaborative planning draws more attention to governance processes, especially those that "focus on developing qualities of place and territory" (Healey, 2003: 107). Critically, collaborative planning helped reinforce the importance of participation in planning, and also the fact that planning occurs in complex institutional environments that are influenced by wider social, economic and political. However, whilst the case for improving participation is strong, it is not very easily achieved in practice. For example, Brand and Gaffikin (2007) point to the dichotomy between the desire to improve the speed and decisiveness in plan making on one hand, and the fairness of participatory processes on the other. The dilemma here is between upholding the democratic principle that people have a right to be heard when the decisions being made concern them (Dahl, 1989), and the danger of suffocating the planning process by taking all views into account.

3.2. Returning to the sea

The changing approaches to planning described here dealt with land use. The jurisdiction for land use planning usually reaches just beyond the shoreline. In the case of the UK this equates to the mean low water mark of ordinary spring tides, as shown on Ordnance Survey maps (Jay, 2010). This demarcation is not very accurately defined and is often context dependent, with local councils, developers and landowners frequently turning to a series of byelaws to decide on individual planning cases. But whatever the ambiguities over terrestrial limits, planning beyond them was previously not considered possible for two main reasons. Firstly, the land is more easily demarcated, traded, and built upon. The sea, on the other hand, "by its

very nature, resists these conditions; its physical characteristics militate against detailed human organisation and manipulation, making it largely undevelopable and therefore unplannable" (Jay, 2010: 175): "the antithesis of modern land space" (Kerr et al., 2014: 120). Secondly, "the jurisdiction of coastal states over their surrounding seas has historically been far weaker than over their land areas" (Jay, 2010: 175). Although state control over near shore waters is now much more clearly established, access to and use of the marine environment has been characterised by legal ambiguities and contestation.

Kerr et al. (2014), demonstrate how rapid growth in the offshore oil industry in the 1970s began to challenge this view, as it demanded greater human interaction with the seabed and marine space. The industry drove efforts to research, understand, and map the sea and the seafloor. In the last decade the aquaculture and renewable energy sectors have added impetus to these efforts. The combination of greater pressures on marine resources and the improved understanding of that environment have brought about a "complete re-think" of the way the seas could be developed and, therefore, planned (Ibid: 120). This is bolstered by the widespread use of GPS from the 1980s onwards, and advancements in mapping techniques, which expanded the limits of what was technically possible in marine planning.

In order to demonstrate the influence that planning has on efforts to manage human activities in marine and coastal environments it is useful to consider an example. The maps presented in figure 1 have been created using geographic information systems (GIS) technology, which is designed to capture, store, manipulate and present data in relation to positions on the Earth's surface. They depict a section of the Northeast coast of the USA.

Two principle user groups of this area are represented: the seagoing vessels as shown on the left, and the baleen whales and turtles on the right. Even to the untrained eye it becomes apparent that conflict might occur between these two users of space, and a range of questions begin to emerge. We might consider, for example, direct contact between ships and marine mammals that might have consequences for shipping safety, and might threaten the survival of these mammals. Does the main threat to the mammals come from direct collision with vessels, or from (noise) pollution? What types of vessels are using these lanes? Which ones have priority and which ones are restricted in their movement by regulations, water depths, or currents? Are there any fishing grounds to which fishing vessels need access? Many of these questions have been considered by conventional marine management, and will have been covered by early zoning regimes such as that in the GBRMP.

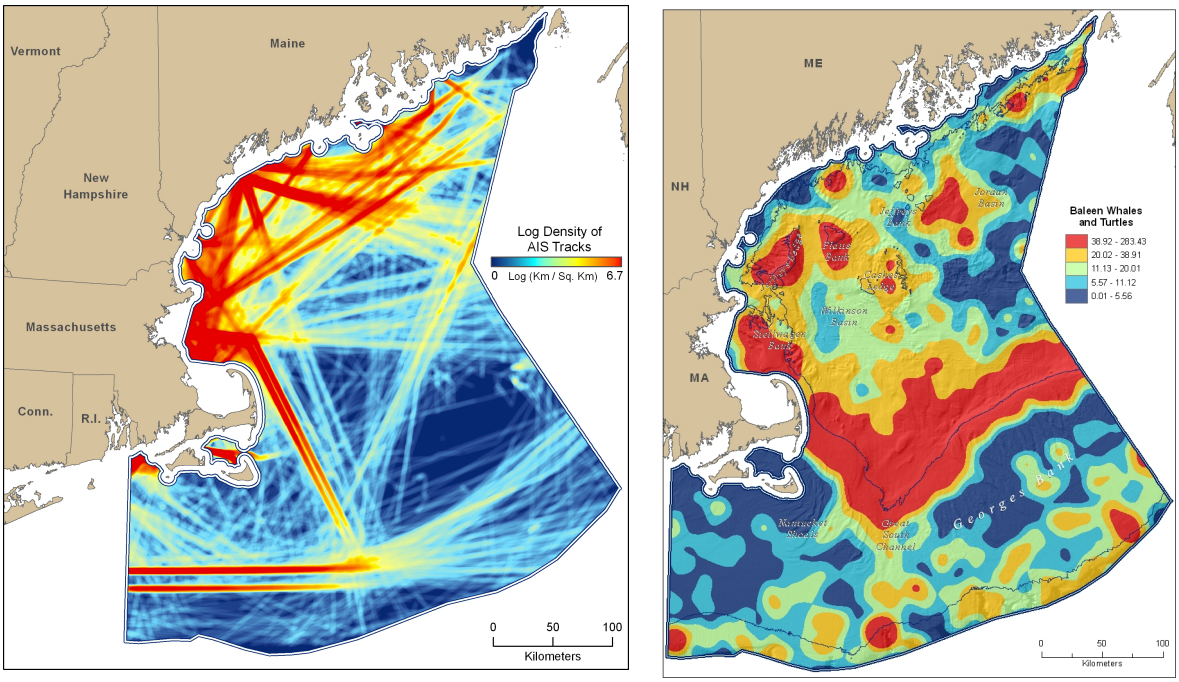

Figure 1: GIS produced maps showing the shipping density (left) and baleen whale and turtle distribution (right) off the Northeast coast of the USA (Tlusty, 2012).

However, experiences in terrestrial planning prompt us to explore the situation further. For example, there are temporal factors: things that might change over time. At some point in the future there might be the potential for whale tourism in the area, resulting in more shipping activity being sanctioned. Is local government considering this prospect? What is the status of the local fishing industry? Is it stable, growing, or shrinking? Is it being affected by the migration of fish stocks due to climatic changes? Is a new, alternative industry luring its workforce away? Which other, less apparent, stakeholder groups can contribute to the planning process, or be impacted by it? Is it a popular recreational area for sailors, kite surfers, and SCUBA divers? If so, what might these groups have noticed about changing conditions in the area, whether ecological, climatic, or physical? Can they contribute to the scientific understanding of the mapped area? Are there other vulnerable species or ecosystems in the area to consider?

It is in these ways, and in relation to the newly acknowledged complexity of modern society in planning more generally, that MSP develops and expands rudimentary zonal management practices. Crucially, MSP must be thought of in four dimensions, taking into account the three-dimensional space in between the seabed and sea surface, and the fourth dimension of time. “MSP by definition involves some kind of forward look. It includes

expressing a vision about what is desired in the future, forecasting future needs and conditions, and deriving scenarios based on objectives and targets, and ensuring that decisions are led by planning as far as possible rather than being simply reactive." (Jay, 2010: 175).

3.3. Participation in MSP

To help formulate a vision for the future of marine and coastal areas, and to collect enough information about these areas, and to move towards a point where we can describe MSP as a form of collaborative planning, it is useful to invite those who will be affected by marine plans and management decisions to contribute to the required knowledge base. Those people are the stakeholders. Whilst MSP is reliant on strong leadership and clarity on who will be making the final decisions (Ehler & Douvere, 2009), there is consensus in ecosystem based approaches to management that simply telling stakeholders what to do in a 'command and control' approach presents a "danger of failure" (Katsanevakis et al., 2011: 809). The balance is not easy to strike. Despite the core aspects of EBM approaches having been well formulated, an "implementation gap" persists (Koehn et al., 2013: 32), caused partly by the difficulty in integrating social information, i.e. about resource users, stakeholders, and diverse coastal communities (Ibid.). This information can refer to the history, heritage and cultural dimensions of fisheries, for example: information that can be very useful in marine management decision making but that is somewhat intangible in scientific terms.

However, when invited to participate, stakeholders are able to bring these knowledge types to the planning processes and contribute to a number of important actions, including "developing goals, synthesizing data, assessing impacts, suggesting designs […] and areas for MPAs" (Collie et al., 2013: 5). The stakeholders can provide detailed knowledge of marine areas because many of them interact with them on a regular basis. The benefits of incorporating this knowledge into plan and decision making where possible demonstrates the functional value of stakeholder engagement in MSP (Smith & Jentoft, 2017): so stakeholder engagement plays a practical, informative role. But there is also inherent value to stakeholder engagement (Ibid.), which refers to the commitment to democratic principles, as mentioned above. This adds a normative prescription to MSP.

There is no agreed recipe for success for how to ensure that stakeholders are effectively engaged in MSP, and the levels to which this is achieved across the globe do vary (Collie et al., 2013). This is partly an issue of how to identify stakeholders. They have at times been selected on 'dangerously oversimplified' terms (Pomeroy & Douvere, 2008),

which often results in only the prominent marine space users being invited to contribute. The danger of this approach is that broader (social) consequences of decisions remain unforeseen and the planning legitimacy might be undermined. Conversely, though, there is often a perception that broader definitions of stakeholders, such as opening debates to the public for example, means that people are commenting on marine management issues who do not know enough about the topic (Fleming & Jones, 2012), and planning processes might become slow and laborious. No single model exists for selecting stakeholders but it is regarded as an important task in order to balance top-down and bottom-up processes (Jones, 2009). And what happens when a wide variety of stakeholders are engaged but a final decision is taken that appears to contradict popular opinion? These people might then feel alienated from future engagement (Fletcher et al., 2014), or fatigued by processes that require considerable effort with little discernable benefit (Johnson et al., 2016). Participatory processes can also face simple logistical challenges where people lack the time or money to attend events (Nutters & da Silva, 2012). In MSP there is also an important difference between stakeholder engagement for the purpose of preparing marine plans and for the purpose of deciding on individual marine consents and licenses, with plans acting as guidance documents for these. The latter, especially, is meant to be more streamlined under MSP, but there is continued scepticism over the extent to which this efficiency has been achieved (Scarff et al., 2015).

It has been said of the construction of MSP that "the dominant logic remains that of scientific rationalism, filtered through the precepts of environmental and resource management" (Jay, 2010: 186). What can be said about the prioritisation of participatory practices in this dominant logic? Research suggests that in many areas MSP is not as participatory as is recommended in guidelines. There is some concern that "MSP is not facilitating a paradigm shift towards publicly engaged marine management" (Flannery et al., 2018: 32), thus missing out on its potential for "democratising management of the seas" (Ibid). This is mainly because "[t]op-down processes tend to dominate, [with] more participative platforms tending to be 'disconnected by design' from executive decision-making" (Jones et al., 2016: 256). It seems there is little scope for "participation through a two-way exchange of information" (Jarvis et al., 2015: 21). This two way exchange of information can bolster chances of planning outcomes becoming more widely accepted (Collie et al., 2013), and has a bearing on how transparent MSP processes are perceived to be.

In particular the special issue edited by Jones et al. (2016) demonstrates how many countries have struggled with participatory processes in MSP. In Belgium there was a

perception that top-down forces were dominating management of the Belgian part of the North Sea (BPNS) and more effort was directed towards consultation (Pecceu et al., 2016). In England the opposite trend occurred, with strong participatory structures that were in place initially being replaced by a more top-down approach, meaning that confidence in stakeholder engagement was damaged (Lieberknecht & Jones, 2016). MSP in northern Scotland has struggled with consultation fatigue and some actions by certain key players that undermined the trust of stakeholders (Johnson et al., 2016). Even where some elements of planning have been very transparent, a core group of actors operating behind closed doors can create some scepticism, as was the case in Norway (Olsen et al., 2016). And where engagement and participation levels are seen as acceptable, there are normally calls for these to be increased further, such as in the Mediterranean (D'Anna et al., 2016).

4. Governance, power and MSP practices

So where might we look to help explain why MSP practices have not been as inclusive as they might be? A useful point of departure lies in highlighting two key characteristics of MSP. The first is that it is a *process*, and not a single plan or outcome (Halpern et al., 2012). Plans are an output of MSP but it is the process that matters because it is through the process that objectives and roles are continuously redefined. Another important distinction comes in what we might term the 'essential elements' and 'existential characteristics' of MSP (de Gialdino, 2009). The essential elements include scientific research into the components that make up the socio-ecological system in question, mapping processes involving GIS, and logical decision-making processes operating in the context of well-established frameworks, such as maritime law, etc. These elements lie at the core of MSP, and help define it. The 'existential characteristics' of MSP include the reasons for implementing MSP, the make-up of its supporting institutions and political processes, the level of transparency and central government control, MSP's guiding principles, the means of selecting and engaging stakeholders in planning processes, etc. The existential characteristics of MSP vary considerably from region to region.

The existential characteristics of an MSP process determine how it is governed and it might be the case that inadequate institutional frameworks create barriers to participation in MSP by resource users, stakeholders, and diverse coastal communities. The task of organising people for MSP requires a robust but flexible governance system. So any problems that exist might be structural. It is important here to clarify the difference between management and governance, which have both been mentioned in this thesis already. According to Johnsen

(2014) marine management denotes the targeted formal actions that are undertaken to regulate the behaviour of certain people who are accessing and/or using marine resources, in his case fishers. The examples given earlier in the introduction were TAC fishing quotas, MPAs, shipping lanes, and EIAs. These are management interventions that regulate human behaviour in the marine environment. The governance system, on the other hand, refers to the organisational and institutional arrangements that shape how these management actions are created (and by whom), how they are enforced, how and when they are discarded, replaced, changed or updated, and how power is distributed in the management system. It refers to "the processes by which societies, and social groups, manage their collective affairs" (Healey, 2003: 104). In short, governance manages the rules of the game (Kjaer, 2004). So the TAC system in Europe, for example, is governed at the highest level by the European Commission on the basis of advice from the International Council for the Exploration of the Sea (ICES) and the Scientific, Technical and Economic Committee for Fisheries (STECF). It is also governed at state level by the various domestic fisheries governing bodies of the member states. In the case of Scotland (for which fisheries management is a power devolved from UK Government) the main governing body is Marine Scotland. For the international MPA network in Europe, the OSPAR Convention helps to identify threats to the marine environment and is used to guide marine environmental protection measures. Once again, governance systems for this operate at different levels where they are adapted to suit socio-ecological conditions and needs, such as the regional Baltic Marine Environment Protection Commission - Helsinki Commission (HELCOM) and the Joint Nature Conservation Committee (JNCC) and the Department for Environment, Food and Rural Affairs (Defra) in the UK.

However, one could conclude from these examples that governance is a straightforward, hierarchical process between a governing body and a governed subject, much like with Hobbes' all-knowing, rational Leviathan (Hobbes, 2006). But modern governance systems are complex. For marine issues they are characterised by continuous interactions between governing institutions, marine resource users, and scientists, and by the notion – described above – that ecosystems do not exist independently of humans. The socio-ecological 'system to be governed' provides feedback loops that inform the governing system (Johnsen, 2014). And so it seems reasonable to use what we know about modern governance to further our understanding of MSP processes.

For example, it is relevant for the study of MSP to note the influence of political modernisation more generally. This has caused the centres of power to shift between the nation-state, market actors, and civil society. In a process that Rhodes (1996) describes as the "hollowing out" of the state, governance is now beyond government (Rhodes, 1997; Lefèvre, 1998). As noted by Van Driesche and Lane (2002), the "new political culture no longer places much faith in solutions imposed from above, increasingly relying instead on a network of decision-making relationships that link government and civil society across many scales" (p. 283). According to Van Tatenhove (2011) some of the governing powers have been drawn away from the nation-state (i.e. away from 'above') due to the re-politicisation of society through action groups who strive to take on more governing responsibilities that more closely match the will of citizens, and the (resulting) pressure for market actors to be more socially responsible. These market actors are also active in the marine sphere as nations and regions chase blue growth targets. Governments have also outsourced many governing activities to the private sector, which is able to provide the specialised skills, flexibility and human and financial resources. The market economy is relied upon to assume public service responsibilities, whilst cutting costs and stimulating growth and competition in the process. Public-private partnerships are key to meeting the "the mushrooming demands" of governance (Rosenau, 2004). Many of the technical competencies required for planning our seas, such as GIS software and databases, are provided by the private sector (Smith, 2015).

Another reason that MSP processes cannot be run in a simple command and control approach is that informal governance institutions have become much more important. These include conventional practice, beliefs, social networks and cultures that rest alongside, challenge, or reinforce more formal structures such as laws, written contracts, and codified artefacts (Prell et al., 2010). Modern governance is partly characterised by greater civic action, so when we describe MSP as a 'public process' it is worth noting that the 'public' is not necessarily a pre-existing category of people but the group that emerges in the process of issue-based political engagement (Dewey, 2012). In any given moment, the group self-nominates and self-organises to face social challenges or seize opportunities (Ibid.). In this way communities and groups of citizens who are bound by a common interest and form organisations (Prell et al., 2010) are challenging the status quo on a wide range of issues, including marine renewable energy, MPAs, the state of the fishing industry, or as a reaction to instances where local democracy is perceived to be undermined. Civic action rarely results in a direct shift in statutory powers over marine planning or management, but they play a key

role in drawing attention to issues that matter to coastal communities. And informal governance institutions have demonstrated that power relations are not necessarily hierarchical, but are nested, or networked.

Overall it is clear that "changes have taken place in the forms and mechanisms of governance, the location of governance, governing capacities and styles of governance" (Kersbergen & Waarden, 2004: 143). New institutions, community groups, private companies, advisory councils, scientists, managers, and non-governmental organisations are among the actors cooperating to find solutions to societal problems and influence policymaking. Key to this is that they are able to deploy resources independently (Peters & Pierre, 2001) and they appeal to the re-politicisation of society (Van Tatenhove, 2011). The modern governance system closely resembles a network and is characterised by participatory practices, which involve a wider range of people from groups such as those mentioned above. One example of this is the Community of Arran Seabed Trust (COAST) in Scotland. Even without statutory powers this group has fought to keep sustainability issues at the top of the MSP priorities list. In doing so COAST has not only demonstrated its importance to scientific research (Howarth et al., 2011; Potts et al., 2014) but also that it is possible to affect subtle changes in power relations within a governance system.

Information is the currency of governance. This statement is true also of MSP, especially in the age of instant and widespread digital information sharing. Using the example of environmental governance, Mol (2006) has suggested that we are living in the informational governance age. The author states, "where conventional environmental governance relies on authoritative resources and state power, in informational governance information becomes a crucial (re)source with transformative powers for a variety of actors and networks" (Mol, 2006: 501). The access and use, gathering and construction, and handling and transmission of information are key elements for this resource, and these processes make up the 'space of flows'. 'The environment' can be represented in the space of flows, and this representation is very different to our sensory experiences of it. Instead, it exists in the space of flows in the form of symbolic tokens that can now travel freely and with little regard for national or bureaucratic boundaries. The environment is now defined by the movement of waste, biodiversity, polluted water, emissions, numbers of surviving endangered species, etc., and is not bound to a physical place. Society is now structured and governed differently with networks and the 'space of flows' characterising decision making (Mol, 2006). At the space of flows are those who "know how to handle the switches that govern

flows of money, capital, and information, at the expense of the vast majority of ordinary people living their lives in the 'space of place'" (Ibid: 499). This latter group remains more static and place-bound. If we consider for a moment the example maps presented in figure 1 above we see that any information withheld from a study, or owned by a private company, might easily determine the outcome of important decisions relating to the conservation (or not) or whales and turtles.

Importantly, "informational governance is strongly related to the disenchantment with science" (Mol, 2006: 502). According to Mol, science (and especially scientific institutions) are no longer perceived as being able to describe modern, complex societies, and are even less well equipped to predict what will happen in them so as to prepare policy makers, resulting in a "call for more accountability, transparency, openness, and thus (access to) information" (Ibid: 503). The central role played by information in MSP might have a bearing on how it operates in practice and, perhaps more importantly, how it is perceived by different actors. The combination of calls for greater accountability and transparency, and the flux between the space of flows and the space of places, might mean that power is redistributed in new ways. Continuing with this line of enquiry into the redistribution of power and the reorganisation of people it was also deemed useful to consider the arts and mentalities of governing and of being governed.

In studying the arts and mentalities of governing and of being governed there is an opportunity to understand why MSP processes might fall short of their potential for inclusivity. With the emergence of new governance arrangements it is worth considering the means by which certain actors manoeuvre themselves into positions of influence, and the way the governed are rendered governable. It appears that this outcome is not wholly dependent on the skill or power of the governor. Instead, by adopting Foucault's concept of the 'conduct of conduct' the concept of governmentality allows us to extend the notion of government to practices of self-government. "Thus the notion of government extends to cover the way in which an individual questions his or her own conduct (or problematizes it) so that he or she may be better able to govern it." (Dean, 2010: 19) Governmentality "conceptualizes the citizens' willingness to be governed" (Johnsen, 2014: 14). The willingness to be governed (or lack thereof) might explain how communities, stakeholders, and even wider society react to decisions made through MSP. It might also influence their desire to become involved in the decision making processes and, ultimately, the extent to which they are able to.

One way in which the governed subject, such as the citizen, problematizes their own conduct, or perceives a new system, or becomes willing to be governed, is through the influence of certain "mechanisms, techniques, and technologies of power" (Foucault et al., 2003: 11). In this thesis I interpret an effective technology of power as being capable of disciplining actors to some degree. It does this by representing things, people and processes in a compacted and usable form that people are able to relate to more easily. In other words, "processes or people are handled indirectly through a system of representation" (Holm, 1996: 179). The system of representation often includes financial bookkeeping, flow charts and work diagrams. Maps have been shown to work in this way (Smith & Brennan, 2012). The relevance of governmentality to this thesis comes from contemplating MSP as an experiment in the arts of governing, and in the techniques of organising governed subjects. From this perspective MSP cannot operate in isolation as a series of technical fixes to marine management problems. It must somehow be embedded in the social (as are the management problems themselves) in order to function.

Much in the way that MSP is a product of social, political and cultural ways of 'doing things', the subject (e.g. the stakeholder or the citizen) is not a rational self-governing agent but a product of social structures, epistemes and discourses (Bevir, 1999). There is a critique of objectivism in this line of thought, with epistemes helping to define the conditions for discourse. So discourse is not centred on the issues that matter in any objective sense. Power relations and the dissemination of information ultimately determine what matters. The power/knowledge relationship is played out in new ways when a new regime is introduced for governing decision making, such as is the case with MSP. So there might be some value in examining the ways that the subject is continually suppressed, thus being recreated as a set of beliefs and desires (Bevir, 1999). How is this achieved in relation to the marine environment? There is a need for critical though on how "environmental issues come to the fore in given societal agendas" (Peel & Lloyd, 2004: 362). MSP has been promoted as a means to tackle problems that *need* to be tackled: it is a set of tools that *need* to be implemented. These needs have to be communicated a promoted in the right way. Once again, MSP has to be embedded in the social. To find out how this takes place it is worth taking a closer look at mechanisms, techniques, and technologies of power in MSP, within the context of the locations and forms of modern governance and changing spheres of influence (if not direct, statutory power).

5. Contextualising the research questions

Considering MSP's apparent embeddedness in social, political and cultural ways of 'doing things', and what modern governance theory tells us about how society is governed, there is an opportunity to further our understanding of MSP processes, and to comment on how they may be made – or kept –participatory. In order to do this it was deemed useful for this study to examine an empirical case of an MSP system that is being designed and implemented: to look at how it is being set up to help manage a complex 'marine problem'. By studying an example of MSP in the making it was possible to form more detailed questions based on the central research questions stated above. These more detailed questions formed the basis of the three published papers presented in this thesis.

Scotland is one example of where a new system of MSP is being designed and implemented. With the Scottish Government keen to pursue blue growth in key industries, most notably in the aquaculture and marine renewable energy sectors, the marine and coastal environments are coming under increased development pressures. So changes to marine industries and to the marine and coastal environment have become heavily politicised in Scotland. Whilst the country's MSP system is described in more detail below in section 7, and also in paper 1, a key aspect of it is that the National Marine Plan of 2015 will be partly implemented through governance frameworks in eleven Scottish Marine Regions, which are designed to facilitate greater local input into decision making. These unique frameworks focus on planning for Scotland's inshore waters, which extend to 12 nautical miles from the Mean High Water Springs. Being constituted in this way means Scotland provides a good example of strong centralised leadership in MSP but with the promise of localised stakeholder engagement. So it is comprised of both top-down governance elements, but with great potential for alternative, modern forms of networked governance to emerge.

It is here that the elements of governance theory outlined above help us shape some interesting questions about participation and the distribution of power. Firstly, whilst the new MSP system borrows from existing marine management infrastructure in Scotland, it is a largely new approach. Therefore, it is likely that MSP required some way of gaining traction and support among those who will be somehow affected or involved. So how was this achieved? How are people encouraged to get on board with MSP? This topic relates directly to the first research question: has MSP contributed to increased governability of complex marine environments? In order to provide an answer it was necessary to gain access to the initial stages in planning when problems were framed, priorities set, and people invited to

participate. One area of Scotland's inshore seas that is facing greater blue growth pressures than most is the Pentland Firth and Orkney Waters (PFOW) off the Northeast coast of the Scottish mainland. This site was used to test the MSP procedures introduced in the Marine (Scotland) Act 2010. Planning here was in the early stages as I was beginning this research project and so provided an excellent opportunity to witness plan development. So in paper 1 (*Creating the spaces, filling them up. Marine spatial planning in the Pentland Firth and Orkney Waters*) I explore the effect of MSP on the governability of marine management processes by asking: "how does MSP contribute to making the strategic planning area of the Pentland Firth and Orkney Waters governable, and who will govern it?" (Smith, 2015: 133). As we shall see, these questions provided an opportunity to mobilise the concepts of technologies of power and their role in shaping governmentality.

The second part of that question – about who governs – quickly led to a deliberation of the opportunities that stakeholders and the public have to engage in MSP practices, which are the topics addressed by the second and third central research questions. The second research question asks: do MSP processes bring stakeholders to the table early? This question delves into both the functional and the inherent value of stakeholder engagement. Stakeholder engagement can help to inform MSP but it also ties MSP to principles of good governance. The levels of engagement can influence the perceived fairness and legitimacy of the system by upholding basic democratic principles. But the answer to the question might not be as simple as proving that a meeting was held early on to which a number of local stakeholders were invited. It is important to scrutinise who was invited and what we describe as 'early'. It was also important to bear in mind that stakeholder inclusion was not invented under MSP, and that there were pre-existing relations between stakeholders: many of these having developed over decades, or even centuries. And there are powerful actors at play, such as the Crown Estate. So it was important to focus on the diversity of stakeholders and avoid an over simplistic definition of these. Existing power dynamics are acknowledged in paper 2 (*Marine spatial planning in Scotland. Levelling the playing field?*), which asks: "firstly, how is the diversity of stakeholders considered in Scottish MSP? And secondly, what is done to address existing power struggles between stakeholders?" (Smith & Jentoft, 2017: 34)

An attempt is then made to cast the net a little wider and consider the role of the public in MSP. The definition of MSP given in the introduction above describes it as a 'public process' and so another central objective of this thesis is to assess what is being done to warrant this description? If it is indeed a public process then there need to be opportunities for

the public to get involved. The third central research question asks: what opportunities exist for public participation in MSP processes? The question formulation in paper 3 (*Good governance and the role of the public in Scotland's marine spatial planning system*) follows this line of enquiry quite directly: "what opportunities do members of the public have for making some form of contribution to the decision-making process, and what are the barriers to this"? (Smith, 2018: 2). It is here that the full potential of examining MSP from the perspective of modern governance theories began to emerge, as we will see in the discussion section below. To draw attention to the relevant opportunities and barriers it was necessary to scrutinise the regional MSP governance system in more detail. Not only would this allow me to problematize the concept of 'the public' but also what threat any public discontent over MSP processes might bring with it. Should MSP practitioners be mindful of the alternative governance mechanisms, locations, capacities and styles that have arisen in other public policy areas? And what can be said of the role of informal governance mechanisms in MSP? In this line of enquiry it proved useful to consider the trends in Scotland's land use planning system in paper 3.

Before addressing these issues in the context of MSP in Scotland I first describe the methodological approach of this project.

6. Methodology

The first task in designing a research project into MSP was to identify the main themes in the existing literature. A useful point of departure was previous research that I had conducted into MSP in Scotland (Smith & Brennan, 2012). Building on the basis of that research, the further reading allowed me to explore additional themes, key points of contention and important subtopics (Clifford & Valentine, 2003). Organising the literature helped me link the various cannons (Golden-Biddle & Locke, 2007) and begin formulating research questions, and a research strategy.

There were four themes relevant to the governance of MSP that stood out from the readings: its theoretical basis and early guidelines (e.g. Douvere, 2008; Gilliland & Laffoley, 2008; Halpern et al., 2008; Ehler & Douvere, 2009); the relationship between terrestrial and marine spatial planning (e.g. Jay, 2010; Smith et al., 2010; Kidd & Ellis, 2012; Kerr et al., 2014; Kidd & Shaw, 2014); stakeholder engagement and local empowerment (e.g. Pomeroy & Douvere, 2008; Ritchie & Ellis, 2010; Fleming & Jones, 2012; Gopnik et al., 2012); and, more recently, evaluations of MSP processes (e.g. Carneiro, 2013; Collie et al., 2013; Scarff

et al., 2015; Smith, 2015; Jones et al., 2016). Additional topics that are well covered in the literature relate to the technical aspects of planning, such as scientific practices that inform MSP (Christie et al., 2014; Shucksmith et al., 2014), and the development of specific tools within MSP (Mayer et al., 2013; Stelzenmüller et al., 2013).

It can be said that the first four topic areas mentioned above relate to the 'existential characteristics' of MSP. This is where I began to hypothesise that the realities of MSP are socially constructed and cannot be stripped of their given context. However, the aim of the research was not to prove or to disprove the broad hypothesis of the social construction of MSP systems. The research design was more inductive and focused on observation, description, and interpretation, followed by reinterpretations (Blaikie, 2009). The purpose of the hypothesis was to give purpose to the research (Yin, 2009), and as a prompt to mobilise the theories of governance used. The theoretical basis presented in section 5 has a strong bearing on the methodology of this thesis because it encouraged me to pose questions about how the institutional basis for MSP is developed. For example, the concept of governmentality urges us to question human behaviour in a political context by calling into question "how we shape or direct our own and others' conduct" (Dean, 2010: 38). Three broad questions emerged from this line of enquiry: "how do we govern?"; "how are we governed?"; and "what are the conditions that affect both of these processes?" So the research questions in this thesis were inspired by "how" questions designed to explore the processes of governing and being governed within an MSP system. For example, research question 1 (How does MSP affect the governability of marine management processes in Scotland?) is an attempt to mobilise these kinds of questions in the context of a particular case by focusing on human actions and their governance outcomes.

Given the diversity of approaches to MSP and the strong links to localised conditions and challenges, I decided to concentrate on one particular site for this study of MSP. I wanted to observe the 'in situ' governance of MSP that was local and specific in nature. A case study was deemed appropriate to explore governance in MSP because it allows us to ask 'how' or 'why' questions about a "contemporary set of events over which the researcher has little or no control" (Yin, 2009: 13). Furthermore, it is a method of investigating a phenomenon "within its real-life context and addresses a situation in which the boundaries between phenomenon and context are not clearly evident." (Yin, 2003: 59). Case studies help provide a 'thick narrative' of events and realities (Flyvbjerg, 2006), offering a detailed understanding of the "contexts or settings within which participants…address a problem or an issue" (Creswell,

2007: 40). A case study is also open to the use of theory or conceptual categories to help guide research and data analysis (Meyer, 2001). This was well suited to my intention to use governance theory to explore MSP. The thick narrative would be best provided by people's stories: qualitative descriptions that are "rich in participant commentaries" (Vaismoradi et al., 2013: 398).

Given my previous research, Scotland was a strong case study contender early on in this project. Furthermore, MSP was gaining momentum in Scotland as this new research project was getting under way in 2013. The 2006 Scottish Sustainable Marine Environment Imitative (SSMEI – see section 7.1 below) had long since paved the way for new and innovative management approaches, and the Advisory Group on Marine and Coastal Strategy (AGMACS) had concluded in 2007 that MSP should be introduced (Scottish-Government, 2007). But the real breakthrough came with the Marine (Scotland) Act in 2010 and the subsequent process of preparing the 2015 National Marine Plan. Leading up to the publication of the National Marine Plan – and even currently – all of the constituent parts of the MSP system (existing and new) were still being put into place: the science; the institutions; the regulatory frameworks; the geographical boundaries; the (emerging) marine industries; the stakeholder engagement procedures, etc. Marine planners, scientists, stakeholders, conservationists, politicians and local communities were given a new task of transitioning to MSP and were essentially learning by doing. So there was a clear opportunity to explore how this all comes together, including the participation of stakeholders and the public in the process.

The National Marine Plan also paved the way for regional marine planning where unique institutional arrangements were being made (see section 7.1). Upon learning of these planned arrangements I decided to focus on the planning of inshore waters and once again the timing helped to justify this decision, because the regional marine plan being put together for the Pentland Firth and Orkney Waters (PFOW) was receiving considerable media attention in 2013. Given that the PFOW case was a pilot that would be used to help guide planning in other Scottish Marine Regions I realised that it might be demonstrative of how a supporting governmentality can emerge. What could be said of citizens' willingness to be governed? What affects this willingness? In April 2013 a preliminary public consultation was hosted to discuss an '*Issues and Options*' paper for marine planning in the area. The event would be used to discuss what the most pressing marine management challenges in the area were, as well as the available options for tackling these. Attending the event would be a chance to

conduct interviews and observations to gain insights into how engagement happens in the context of MSP, who is in charge of these processes, and what actions and decisions precede public debate.

6.1. Methods and techniques

Before beginning the fieldwork it was important to analyse some of the key supporting documents for MSP in Scotland. Document analysis "entails finding, selecting, appraising (making sense of), and synthesising data contained in documents" (Bowen, 2009: 27). I subjected the texts to thematic analysis, searching for patterns (themes) within data (Braun & Clarke, 2006). It must be said, however, that the research was motivated by hypotheses, previous understandings and objectives, so it would be naïve to believe that thematic analysis can merely 'give voice' to the texts. I would agree that themes reside inside our heads and emerge through the way that we think about data (Anzul et al., 2003). But these are only prompts that can still lead to a rich diversity of findings. Hypothesising about the formulation of a governmentality associated with MSP, for example, still leaves plenty of scope for there being either no evidence for this in the texts, or a myriad of different references to ways that this governmentality might be shaped. So the thematic analysis of documents was more inductive and focused on observation, description, and interpretation, followed by reinterpretations (Blaikie, 2009). Inductive research allows themes to emerge and be used to formulate next stages of research. And although inductive research is not aimed at (dis)proving a theory, it can be guided by theories, and is therefore compatible with the case study approach, and with thematic analysis, which is suitable for use with a wide range of theoretical frameworks (Braun & Clarke, 2006).

The key policy documents analysed at this early stage provided the necessary background to the PFOW public consultation mentioned above. They included the Planning Issues and Options Paper (Marine-Scotland, 2013), the Workshop Information Pack (Working-Group, 2013), and the UK Marine Policy Statement (HM-Government, 2011). These documents were not subjected to full content analysis, which involves a compression of the text based on explicit rules of coding (Stemler, 2001). Instead, key themes and passages were identified and summarised. This was all done by hand, often with a colour coding system. Document analysis has several benefits, with notable ones including efficiency, document availability, cost-effectiveness, and lack of obtrusiveness and reactivity (the researcher does not affect the research topic in the same way that he or she might in during

interviews or observations, for example) (Bowen, 2009). One of the main limitations – lack of detail (Ibid.) – can be overcome by supplementing with other research methods.

During three research periods in 2013, 2014 and 2015 I conducted a total of 21 formal, semi-structured interviews with representatives from a range of bodies including (with the number of interviews given in brackets) The Crown Estate (2), The Highland Council (2), The Orkney Islands Council (2), Marine Scotland (2), the Marine Scotland Licensing and Operations Team (1), the Moray Firth Coastal Partnership (1), Community Land Scotland (2), The Development Trust Association (1), The University of Edinburgh (1), Heriot Watt University (2), The Cairngorms National Park Authority (1), The East Neuk Estates (1), the Community of Arran Seabed Trust (1), the Knoydart Foundation (1), and a Member of Scottish Parliament (1). Informal interviews were also held at public events with representatives from organisations such as the Orkney Fishermen's Society, the European Marine Energy Centre, and Scottish Natural Heritage. These bodies represent a broad range of sectors and interests including industry, academic, political, conservationist, planning, community, private landowners, and government.

The first of these was with each member of the PFOW Pilot Plan working group (representing Marine Scotland, the Orkney Islands Council and the Highland Council). The formal, semi-structured interviews averaged an hour in length and rarely exceeded ninety minutes. Most of the interviews began informally with chats about current affairs, the weather, and – quite often – recommendations for scenic or interesting sites for me to visit during my stay in the area. This proved an excellent way to build 'rapport' with interviewees (Creswell, 2007), and also some trust. On a more practical level it eased any nerves that either party might have felt. I often transitioned into the topic of marine management and planning by asking how the interviewee came to work for, and represent, their current organisation or company, which provided useful background information. The informal beginning to the interviews was followed by a formal, semi-structured format in which I would ask a limited number of pre-prepared questions (Seidman et al., 2004). Appendix 1 shows an example of pre-prepared questions used in one interview. Some of the pre-prepared questions were linked very closely to the central research questions of the thesis. For example, I found it appropriate to be direct about asking how stakeholders would be engaged in the process of preparing the PFOW Pilot Plan, and they were chosen. This direct approach was intended to allow me to compare the answer the official statements from Marine Scotland explaining how stakeholders would be engaged. I generally got around to asking all of these pre-prepared

questions in interviews but at times they were either anticipated or other, more interesting avenues opened up. Given that I was interested in how people engage with the topic of MSP this flexibility was important and underlined my decision not to opt for fully structured interviews (Meyer, 2001).

After every interview I would immediately revise my notes and fill in extra information or observations whilst the experience was still fresh in my memory. At this stage I would often come up with follow-up questions, which I pursued via telephone or email. I transcribed single sections of interviews that were directly related to my research questions. Mostly, the audio recordings were used to clarify important details during the writing process. I did not use any qualitative data analysis software, preferring instead to categorise my notes according to certain themes and consolidate these using mind maps. This proved an effective method for cross-referencing the themes with those identified in MSP literature and policy documents. I included descriptions of body language and of any props used by the interviewee, such as maps, pictures, or diagrams.

After the first round of interviews in April 2013 I conducted follow-up interviews in April 2014. The aim of these was to establish the lessons learned from the consultation process and assess the progress being made on preparing the PFOW plan. Follow-up interviews are a useful means of consolidating data from the previous round, establishing which attitudes might have changed, and gauging if and how people's understanding of a subject has developed. They are particularly valuable for recording how and why things change in a political process (Seidman et al., 2004). They provide a feedback loop that helps to reveal any apparent contradictions between different sources, or even in the account from one source, perhaps an interviewee (King et al., 1994). The added bonus of follow-up interviews is that my own understanding of the processes improved after each session and so I was able to pose increasingly relevant questions.

In addition to the document analysis and interviews I was able to attend various events relevant to planning in Scotland. The first was the aforementioned public consultation on the PFOW Pilot Plan. The consultation was held in two sittings in July 2013: one in Orkney, and one in Caithness (on the mainland). I joined these events as a participatory observer. It is worth noting the difference here between participatory observation and participatory research, with the latter being defined by collaborative project design (Clark et al., 2009), which was not the case here. In keeping with the inductive approach of this research, the participant observation was non-structured, which is useful for understanding and interpreting cultural

behaviour and does not seek to check for a specific list of expected behaviours in the field (Mulhall, 2003). Instead, it helps to add context to stories. It is possible to observe moods, body language, levels of respect between participants, and gauge the emotions behind people's reactions to policy in a way that might not be transmitted through a written consultation response. It was at these events that I also gathered the photographic evidence presented in this thesis and in paper 1.

The very fact that I was invited to join public consultation on the *Planning Issues and Options* for the PFOW marine spatial plan says something about the openness of the system, and also means it is important to address the role of the researcher. I was provided with all of the information that other stakeholders and local residents received, and was warmly welcomed in the venues. Nevertheless, I also had to be mindful of my conduct at these events. I always clearly communicated the purpose of my visit, stating my affiliation and what I was researching. Consultation events are intended to provide information and give a space for discussion and I was aware of the fact that I was not a stakeholder in the PFOW region by any definition of the term. So at any given event I would often alter the level of my participation from passive, to moderate, or active depending on the topic and the format (Spradley, 1980). But I generally played a reserved role, focusing on the points that residents, planners and scientists were bringing to the table and how their discussions developed. Participants at the events were divided into groups that sat around different tables. Very often I would move between these groups and listen in, so as to gauge a wide range of views. I also attended two public debates on land use planning reform, one on the 26th May 2015 at the AK Bell Library in Perth, and one in *The Scotsman Conferences* on 2nd June 2015 at the Scottish National Gallery in Edinburgh. At both of these events I observed more passively as land use planning was a new topic for me at the time and I was keen to learn as much as possible about the controversies involved. The events did, however, lead to three of the formal, semi-structured interviews conducted. By including official government statements, interviews, and participant observation in this study I was able to triangulate from various sources of primary and secondary data sources (Decrop, 1999).

It is also important to ensure that I followed ethical rules during the research. Guidelines for social science research are readily available in the methodology literature and helped shape my actions in the field in several important ways. For example, I typically contacted potential interviewees via email with a detailed description of the research scope and objectives. The transparency of this approach is a probable factor in most people agreeing

to take part. Emails also give recipients time to assess the offer so that they don't feel rushed into a decision about taking part (Brinkmann, 2014). Once at the interview, which was most commonly held at the interviewee's place of work, I presented a written summary of my research objectives and an interview agreement for each individual to sign. Here they agreed to audio recordings of the interview being made and to their statements being used in academic publications – anonymously if desired – once they had reviewed the context. It is important to reveal the context when quoting sources as the level of detail provided might jeopardise their wish to remain anonymous (Ritchie et al., 2013). The same goes for apparent contradictions between accounts given by different members of the same organisation (Ibid.), and so I was open about whom I had interviewed previously. As mentioned, I was always clear on my role and objectives during participant observation too. There are instances where deception and covert behaviour is the only way to gain access to certain observation opportunities (Ritchie et al., 2013) but this was not the case for the marine or land use consultation events. I also gained permission from people appearing in in photographs used in published material.

6.2 Methodological challenges

It is important to address some challenges that I encountered when designing and applying this research methodology. The first comes from the limitations of including only one detailed case study i.e. for the PFOW Pilot Plan. This marine spatial plan was the third one created in Scotland and a more comprehensive case study approach might have included a comparative analysis with the two existing plans. This would have added extra context to the site-specific needs and conditions in and around Orkney. However, there were practical reasons for not comparing these plans. The main one was a constraint on time, which had two components. Firstly, the thick narrative emerging from the multi-faceted PFOW case took time to study and analyse. Secondly, the PFOW Pilot Plan was actually being constructed during my research phase. As such it was the most concurrent of the three plans and I was able to observe it in the making. The two restrictions of overall time, and of timing, are common in social science research (Pettigrew, 1990). Nevertheless, the two other regional plans provided invaluable guidance for planners and scientists in the PFOW region, and some context for this study.

Including only one case study does raise the question of generalisability, or external validity. To what extent is it possible to generalise from one case? In a small country such as Scotland with a centrally governed MSP system the government retains a lot of control over

the Scottish Marine Regions, under the auspices of the Marine (Scotland) Act 2010. However, part of the value of a case study such as the PFOW region lies in uncovering instances where plan making might deviate from centrally-prescribed frameworks. There was no real Marine Planning Partnership in the PFOW case, for example, and indeed questions remain as to how these will be constituted (see paper 2). In addition, there are significant development pressures there, more so than in other regions. In this sense the process of creating a marine plan in the PFOW region was site-specific and this imposes considerable limits on the generalisability of the case study. That being said, an in-depth case study such as this one can contribute to the development of theories about MSP (Yin, 2009). These theories might then be re-visited in other case studies, or can at least generate discussions of best practices for MSP. Interestingly, towards the end of this research project a report was published of experiences with MSP in 12 cases across Europe (Jones et al., 2016), which included a study of the PFOW Pilot Plan. The results of that report reflected some of the conclusions that I had reached for that particular case, and for MSP more generally. This fact goes some way to demonstrating the value of scrutinising MSP governance systems, and suggests that the results presented here might have some wider significance.

In terms of how the problem of generalisability affected my research design, I would follow Flyvbjerg (2006) in arguing that the site-specific nature of a case study need not damage its validity. He uses the famous example of Galileo's rejection of Aristotle's law of gravity, which was not carried out on a large scale and yet a generalisable finding followed. However, it is another of Flyvbjerg's arguments that I find more convincing, and more applicable to this thesis. It is that generalisation itself "is considerably overrated as the main source of scientific progress" (Flyvbjerg, 2006: 226). Generalisation should not be discredited and certainly plays an important role in science. However, the point is that a single case study can make a worthwhile contribution to the (social) scientific field. Case studies can present examples of process X, or phenomenon Y, with readers making their own interpretations: perhaps forming the basis of further working hypotheses and studies (Rowley, 2002). It is also significant, for example, that the authors of the PFOW Pilot Plan were tasked to follow it up with a 'lessons learned' report (see paper 2). The Scottish Government appears keen to avoid repeating any mistakes in MSP. This does not demonstrate an attempt to generalise from the PFOW case, but instead shows the pragmatism in considering which characteristics in one case might assist planning in other regions.

There was also room for improvement in my interviewing skills, especially in the early research phase. Part of the challenge was adapting to the level of understanding required to discuss MSP with practitioners. As mentioned previously, I could only develop my understanding so far through reading. In an interview, any gaps in your knowledge are soon exposed. This might be because of an event, process or document that you are unaware of. In this situation it is easy to believe you could have been better prepared for an interview. But as these instances occurred I soon learned to view them as opportunities to learn and to better understand how marine planning was unfolding. Rather than a flaw in my preparation for interviews, I saw them as their raison d'être, and the interviews rapidly improved along with my knowledge of the subject. One change I would have made would be to alter the conditions for quoting the interviewees in manuscripts. In the written agreements that they signed I stated that I would double-check any quotes, including their context, before publication. This seemed to be the most ethical practice, but it was a time consuming one.

7. MSP in Scotland

The key steps taken to introduce MSP in Scotland are outlined in more detail in paper 1 of this thesis (Smith, 2015). Very briefly, the implementation of MSP in the whole of the UK is linked to various EU initiatives. In 2007 MSP became one of the 5 main cross cutting policies in the European Integrated Maritime Policy (COM-574-final, 2007). A year later EU member states were given guidance on how to implement MSP in the *Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU* (The European Commission 2008), and this was consolidated into an official framework in 2014 (Directive 2014/89/EU)[1].

Marine planning featured in the High Level Marine Objectives agreed upon collaboratively by HM Government (the UK Government), the Northern Ireland Executive, the Scottish Government and the Welsh Assembly Government in 2009. In the same year the Marine and Coastal Access Act 2009 led to the creation of England's Marine Management Organisation (MMO), which is responsible for MSP in the country's 12 marine plan areas. In 2011 the UK Marine Policy Statement established a specific framework for preparing marine plans and taking decisions affecting the marine environment (HM-Government, 2011).

With the Scottish Government keen to pursue blue growth in key industries, most notably in the aquaculture and marine renewable energy sectors, the marine and coastal

[1] It is worth noting that in EU documents 'MSP' often refers to maritime-, rather than marine spatial planning. The difference is not entirely clear but I interpret the word maritime as being more focused on industry, i.e. maritime sectors.

environments are coming under increased development pressures. MSP is seen as a way to help sustainably manage these pressures. The Marine (Scotland) Act 2010 gave the national government unprecedented powers to plan its seas (i.e. powers devolved from the UK Government). The Act contained a duty for Scottish Ministers to publish a National Marine Plan (NMP). The Act (and therefore the remit of the NMP) covers all activities in Scotland's inshore waters (up to 12 nautical miles from the Mean High Water Springs – MHWS) and most activities in offshore waters (12-200 nautical miles), with the exception of some, such as defence, which are managed jointly through the UK Marine and Coastal Access Act 2009.

Planning in Scotland's inshore waters will be implemented through eleven Scottish Marine Regions (SMRs – see figure 2 below). In each of these a Marine Planning Partnership (MPP)[2] will produce draft plans based on the situational needs and opportunities in their region (Hull, 2013). This thesis focuses on MSP in inshore waters because it is here that the institutional framework exists to facilitate local contributions to collaborative marine planning. Furthermore, some plans have already been prepared for inshore waters and it is here that terrestrial and marine plans overlap and interact most acutely.

Marine Planning Partnership members will be chosen according to their relevant expertise, skills and knowledge of marine planning. Scottish Ministers (members of the Scottish Cabinet) delegate powers ('delegable functions') to Marine Planning Partnerships. It is important to note that under the Marine (Scotland) Act 2010 there are certain powers that cannot be delegated ('exempted functions'). These include (a) deciding under paragraph 4 of schedule 1 whether to prepare and publish a statement of public participation, (b) deciding under paragraph 6 of that schedule whether to revise a statement of public participation, (c) deciding under paragraph 9 of that schedule whether to publish a consultation draft, (d) deciding under paragraph 14 of that schedule whether to publish a regional marine plan or any amendment of such a plan (p.7). Here, the Scottish Ministers operate through Marine Scotland, which is the Directorate of the Scottish Government responsible for the integrated management of Scotland's seas.

[2] The abbreviations 'MPP' and 'SMR' are provided to reflect common practice. However, to reduce the number of abbreviations in this text I will continue to use the long form.

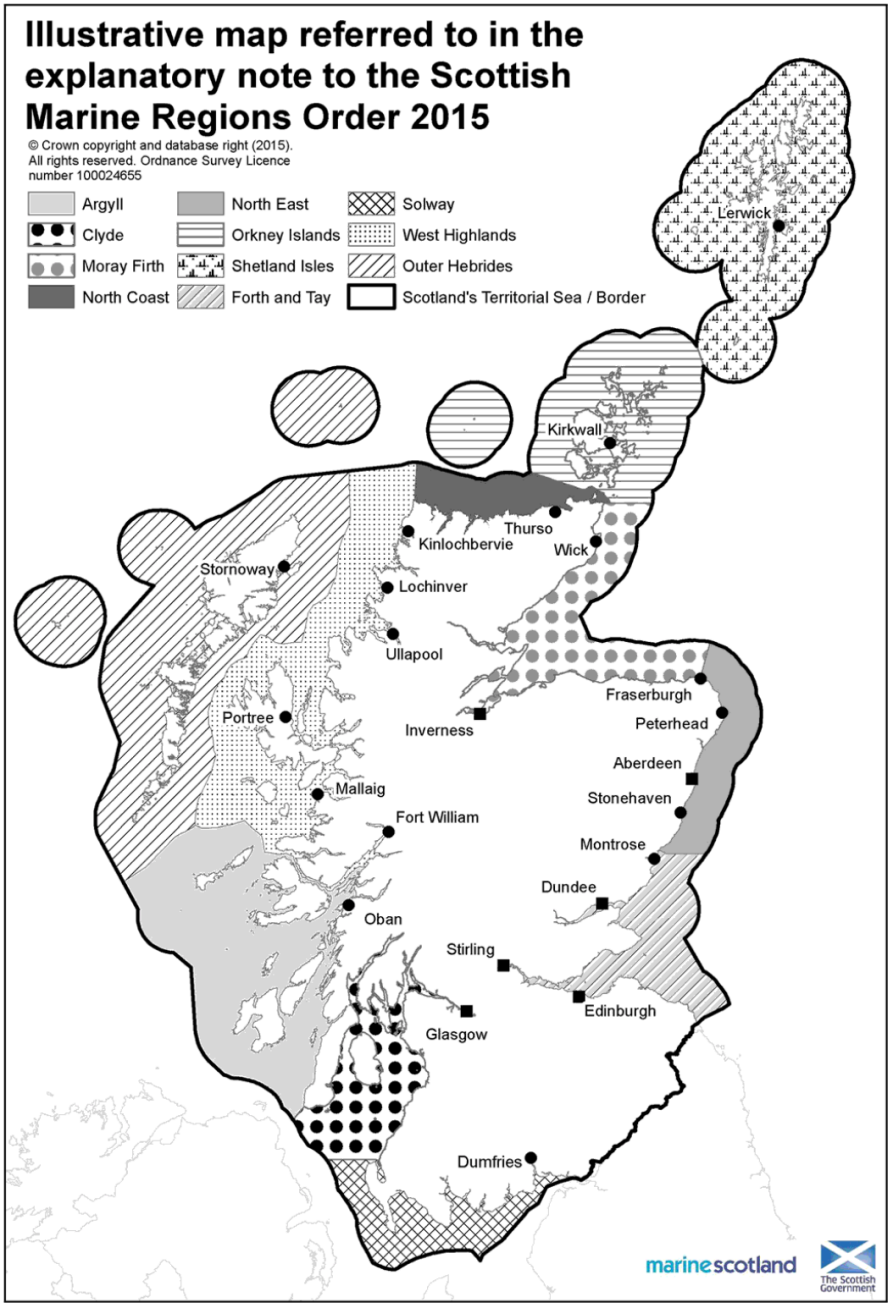

Figure 2: Map produced by Marine Scotland showing the 11 Scottish Marine Regions and the major towns and cities (MS, 2015).

Figure 3 provides a brief overview of the key actors:

Actor	Role
Marine Scotland	Directorate of the Scottish Government responsible for the integrated management of Scotland's seas. Responsible for overall marine policy, achieving 'good environmental status' according to the European Marine Strategy Framework Directive, promoting sustainable growth in marine

	industries, promoting sustainable, profitable, well-managed fisheries, ensuring compliance and enforcement, etc. Contributes to the scientific research of Scotland's seas and took a lead role in creating the National Marine Plan and the institutional framework for regional marine planning.
The Crown Estate	A unique and complex organisation in the UK. Technically, the 'Crown Estate' actually refers to a portfolio of land holdings and property administered by a statutory body run under the provisions of The Crown Estate Act (1961). The body is headed by a board of Crown Estate Commissioners (CEC). In the interest of simplicity, and in keeping with common practice, the body is referred to throughout this thesis collectively as the Crown Estate. Property includes 50% of the foreshore and almost the entire inshore seabed in Scotland. Further details follow below and in papers 1 and 3.
Scottish local councils	Sometimes also referred to as 'local authorities', these are Scotland's version of municipal government. There are 32 of them nationally; they are democratically elected and responsible for housing, education, leisure and culture, rubbish and recycling. The two mentioned most frequently here are the Orkney Islands Council and the Highlands Council.
The stakeholders	The number and diversity of stakeholders in Scottish inshore waters varies from region to region depending on the abundance of natural resources and the region's suitability for recreational activities such as sailing and SCUBA diving. Inshore fishers typically operate in vessels ≤10m in length and target the demersal species cod and haddock; the pelagic species herring and mackerel; and the shellfish species crabs, lobsters and scallops. Scotland is also inviting considerable investment to help develop its marine renewable energy sector, most notably for wind, tidal and wave power. Other notable uses include aquaculture, carbon capture and storage, shipping, marine aggregates, and oil and gas pipelines.

Figure 3. A brief overview of the key actors mentioned in this thesis along with their roles.

The overall governance arrangements for MSP in Scotland are summarised in the diagram in figure 4.

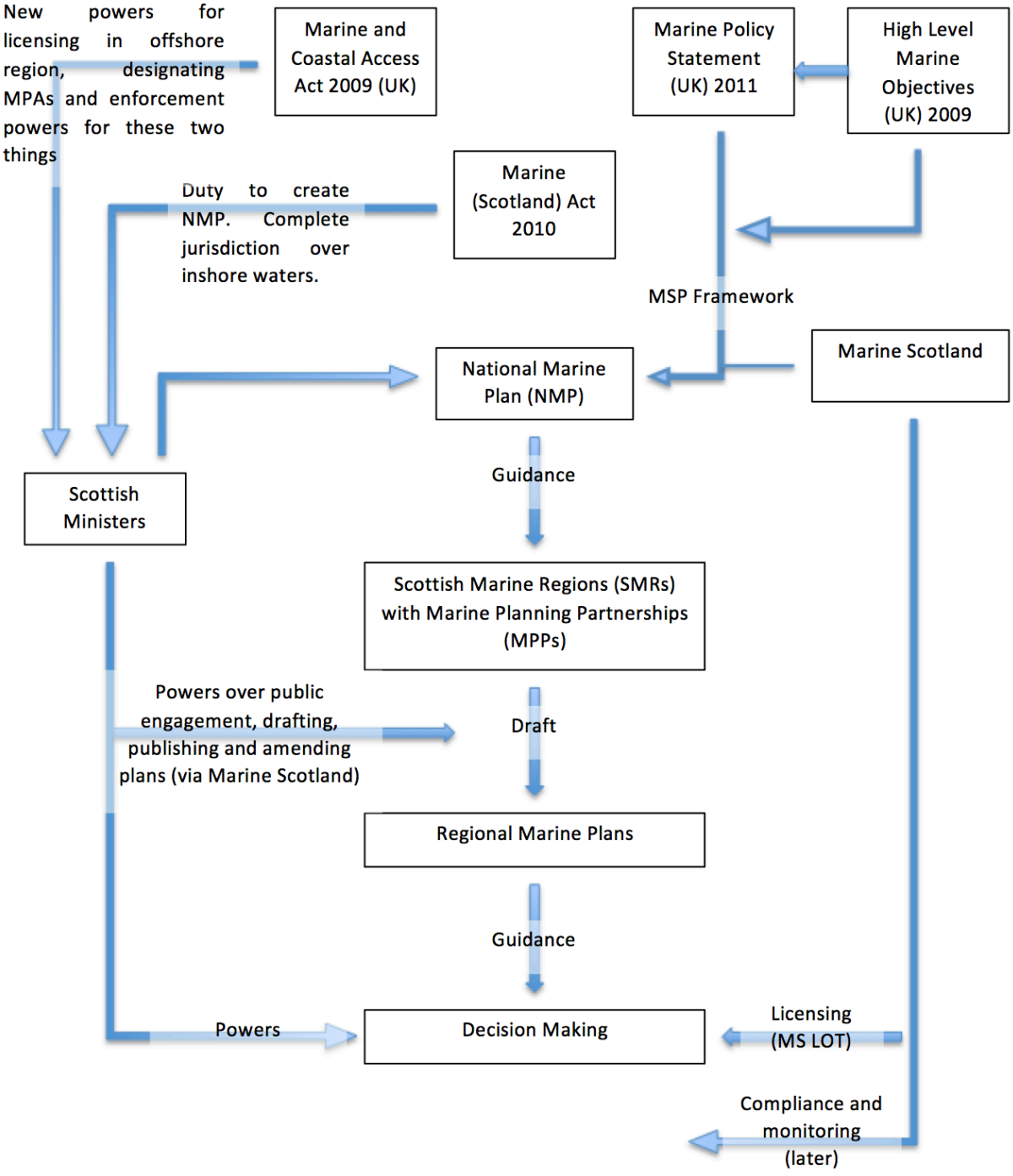

Figure 4. Diagram showing the overall governance arrangements for marine spatial planning in Scotland.

The Scottish MSP system builds partly on the existing system of Integrated Coastal Zone Management (ICZM). In 2002 the European Parliament and Council recommended that ICZM be implemented in all member states. Based on EU principles, the Scottish Government described ICZM as an approach that "considers the consequences of human

activities at the coast; is inclusive; fitting to local needs, and has national and regional backing"[ii]. It is similar to MSP in that it relies on interdisciplinary knowledge to understand marine and terrestrial issues that are inter-related (Stead & McGlashan, 2006: 24). However, its focus and remit is fairly limited to coastal issues and, in the UK, it would be implemented through a series of voluntary bodies. In Scotland this was the task of the Scottish Coastal Forum. The Scottish Coastal Forum was established in 1996 to "encourage debate at national level on coastal issues"[iii]. It consisted of seven Local Coastal Partnerships that were voluntary partnership groups of localised interests, mostly registered as charity organisations (see figure 5). These Local Coastal Partnerships welcomed anyone interested in their region to debate marine and coastal management issues and they shared management ideas with the partnerships in other regions. The Scottish Coastal Forum took on the responsibility of delivering ICZM for which each of its member Local Coastal Partnerships created Regional Policy Statements: "a mechanism to ensure all stakeholders can be involved in ensuring a balance of development, use and resource protection for the coastal and estuarine environment"[iv].

Figure 5. The seven Local Coastal Partnerships. Taken from the Scottish Government website: http://www.gov.scot/Topics/marine/seamanagement/regional/Scottish-Coastal-Forum

7.1. Regional MSP

At the time of writing three regional marine plans for inshore waters exist in Scotland, though these have emerged from different processes. The Shetland Marine Spatial Plan (now in its fourth edition: the Shetland Islands Marine Spatial Plan 2015) and the Clyde Marine Spatial Plan 2010 both originated in the 2006 Scottish Sustainable Marine Environment Imitative (SSMEI). The SSMEI aimed to "test and trial different approaches to marine management and to share any data and stakeholder engagement concerns" (Hull, 2013: 518). The Shetland Islands Marine Spatial Plan has now been made statutory meaning that it must be consulted as 'Supplementary Guidance' to the Shetland Local Development Plan.

The first regional marine plan to test procedures under the Marine (Scotland) Act 2010 was that for the Pentland Firth and Orkney Waters (PFOW) area off the Northeast coast of the Scottish mainland. The map in figure 6 shows the location of Orkney and the 12 nautical mile planning boundary.

Figure 6. Map showing the location and extent of the strategic area for the Pentland Firth and Orkney Waters (PFOW) Pilot Plan. Adapted from The Plan Scheme (MS(a), 2012: 1).

The non-statutory plan, referred to hereon in as the 'Pilot Plan', provides decision-making guidance for local inshore waters and has been integrated into the local Orkney Local Development Plan compiled by the Orkney Islands Council (OIC). The inshore waters around Orkney host a wide range of human activities and marine life, and the marine economy is

essential to the islands. The leading marine industries according to 2012 figures include pelagic and demersal fisheries (5,280 thousand tonnes live weight and £7.2m value), shellfish fisheries (3,440 thousand tonnes live weight and £6.5m value), and salmon farming (11,694 thousand tonnes, value not available) (OIC, 2013). The area also has busy shipping lanes that facilitate inter-island transport and bring large numbers of tourists to Orkney.

The main reason to prepare a plan for the area was because of the need to reconcile these existing uses of marine space, including marine conservation, with a rapidly growing marine renewable energy sector. Orkney lies between the tidal systems of the Atlantic Ocean to the West and the North Sea to the East. This has made it a leading testing and development site for wave and tidal flow energy devices. There is a potential to harness an estimated 1.6 Gigawatts (GW) from these sources, which "represents in excess of 1000 large devices moored or fixed close to shore" (Kerr et al., 2014: 119).

The PFOW Pilot Plan was drafted by a small Working Group comprised of staff from Marine Scotland, the Orkney Islands Council and the Highlands Council, with support from an Advisory Group[3]. In 2012 the Marine Scotland published the 'Plan Scheme', which "sets out step by step how the pilot plan will be prepared and outlines the opportunities for stakeholders to get involved" (MS(a), 2012: 1). The Plan Scheme included the map shown in figure 6 of the 'strategic area' for planning and I shall return to this point later on. It is worth noting that there was no Local Coastal Partnership in place for the PFOW region, and the Pilot Plan was not drafted by a Marine Planning Partnership.

In this thesis so far I have introduced MSP, including the functional and inherent value of stakeholder engagement, which is tied in to wider planning theory; the notion that MSP practices are linked to existing social, political and cultural systems; the potential value of studying MSP in the context of what we know about modern governance; the role of power; the methodologies applied; and an outline of Scotland's MSP system. The next section presents a summary of results from the questions posed in the three research papers.

[3] The Advisory Group consisted of representatives from Scottish Natural Heritage (SNH), the Scottish Environment Protection Agency (SEPA), Historic Environment Scotland, the Royal Yachting Association (RYA), Orkney Harbour, Scrabster Harbour, and Highlands and Islands Enterprise (HIE)

8. Results

In paper 1 I posed the question "how does MSP contribute to making the strategic planning area of the Pentland Firth and Orkney Waters governable, and who will govern it?" (Smith, 2015: 133). In response to the first part of this question, MSP practices were found to improve the governability of the marine environment through the creation of various types of spaces.

8.1. Creating map spaces

The 2012 Plan Scheme for the PFOW Pilot Plan included a 'strategic area' for which the plan would be devised (see figure 6). The strategic area provides a focus for planning: a space to be planned. Planning in the PFOW region shows how "space is created, communicated, and options for filling it are discussed" (Smith, 2015: 133 - paper 1). This space could now be filled "with various forms of use and non-use" (Ibid: 141). Crucially, a map can be used to generalise and to present amalgamated trends in data. Thus it can create a reality as easily as represent one (Smith & Brennan, 2012). MSP appears to rely on this process, both for practical planning reasons, and, more fundamentally, to present the sea as a 'plannable' space.

An example of what it looks like to fill the space this way is shown by the map in figure 7, where GIS software has been used to show the locations of aquaculture and marine energy sites in the strategic area. The map was produced by Marine Scotland Science on behalf of the PFOW Working Group as part of the Regional Locational Guidance that helps decide where to site renewable energy installations. In this case the zones marked on the map represent finfish farms, shellfish farms, shellfish water protected areas, tidal sites, wave sites, wind plan options, wave plan options, and tidal plan options. A process can now begin of deciding how these sites will be managed, located, or perhaps reassigned for other uses based on what is known about how they impact one another and the natural environment. During this process knowledge gaps can be identified for which further scientific research can be sanctioned.

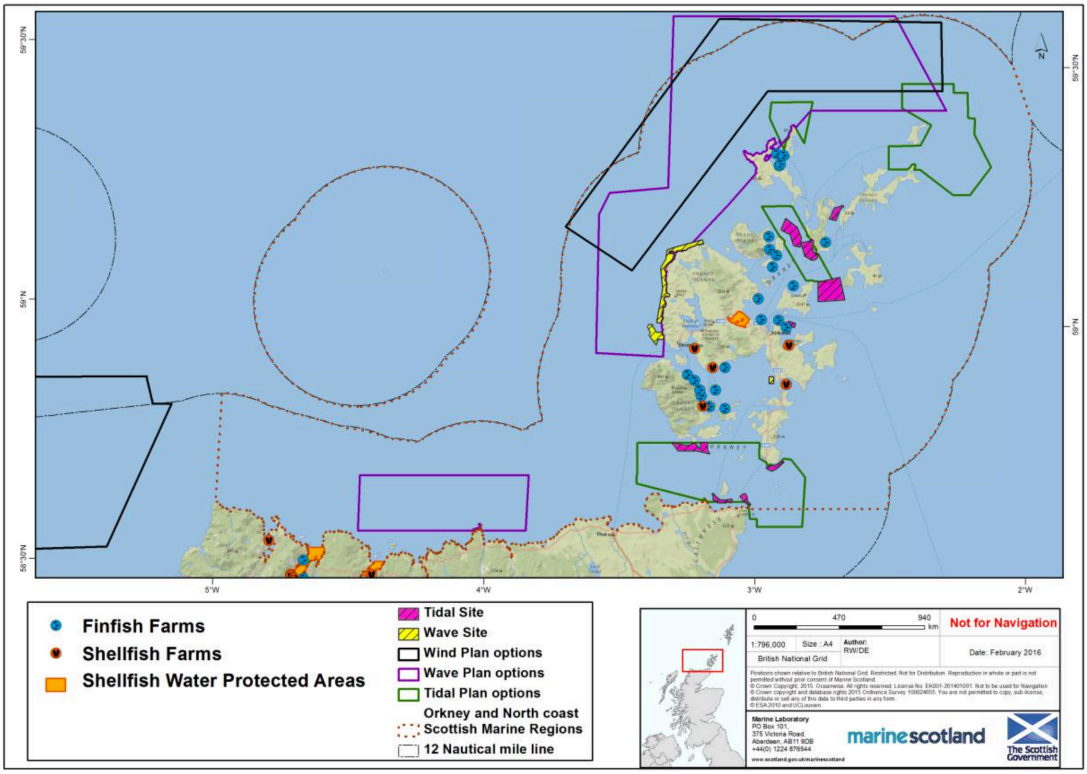

Figure 7. Aquaculture farms and Shellfish Water Protected Areas in the PFOW area and locational guidance for marine renewable sites (including future options). (MS(b), 2016: 13).

8.2. Creating three-dimensional spaces

Maps are often supplemented by images of what the demarcated zones might contain. This helps to objectify a marine zone as a three-dimensional space and helps participants in MSP processes to imagine what occupies this space. Images of how the sea is used, how it might be used in the future, and what condition it is in, are particularly effective for this. Paper 1 demonstrates how this happens at public events. Common examples in the PFOW area included graphic representations of the marine energy devices being developed by energy companies. These would be present on the tables and display boards at public engagement events, as shown in paper 1 (Smith, 2015: 139). An example image is given in figure 8, which depicts what tidal turbines might look like anchored to the seabed. Given that most people are unable to experience the submarine environment at first hand, this is a common technique for shaping perceptions of it, and perceptions of how it might be used or preserved. Simple and well-presented data and images have the power to capture the imagination. However, these images themselves are not anchored to the seabed. They can be used in a range of different spaces that MSP creates, such as planning spaces.

Figure 8. Image showing what tidal turbines might look like on the seabed. Institute of Mechanical Engineers 2017: https://www.imeche.org/news/news-article/tidal-turbine-giant-atlantis-to-enter-the-french-market Last accessed 10/01/2018.

8.3. Creating planning spaces

The influence of maps and diagrams becomes apparent when observing the role that they play in a planning space. These are the physical spaces where people meet to discuss and tackle planning challenges. Figure 9 shows photographs of this in progress: a local consultation event on the *Planning Issues and Options* document for the PFOW marine spatial plan held in Thurso on 4th July 2014. This document was produced by the Working Group and was the focus of attention in the first public consultation on marine spatial planning in the PFOW area. The photographs show how local residents, planners, scientists, and stakeholders are distributed in groups to discuss the various questions designed to improve the final Pilot Plan. During these exercises they themselves begin to make reference to maps, images and diagrams. One planner commented on the number of maps available for reference during consultations where "maps are just generally spread out on the tables" (25/04/2013). Another example is shown in paper 1 where general information on local marine planning issues is displayed for the public on display boards (Smith, 2015: 139). Participants at consultations use maps to communicate with one another about the strategic planning area, and as reference points when providing written consultation responses, such as with the three local fishermen pictured below.

Figure 9. Stakeholders participating in a consultation on the Planning Issues and Options paper, Thurso, 4th July 2014. Left, the discussion groups, right, three written responses. Source: author's collection.

8.4. Creating an online space

The internet is used to extend planning spaces. Marine Scotland organises the data used in MSP under the categories of physical characteristics; clean and safe; healthy and biologically diverse; productive; climate change; monitoring; administrative; regions; national marine plan, which originate in the UK's High Level Marine Objectives (HM-Government, 2009). Under these headings the Marine Scotland Information portal "provides access to descriptions and information about the Scottish marine environment while providing links to datasets and map resources that are made available by Marine Scotland and Partners"[v]. As indicated, the data is most useful to MSP when displayed spatially, showing locations, distributions and movements. This is done through the National Marine Plan interactive (NMPi), which is also based on GIS technology and allows users to view data layers on a map.

Anybody can access this tool for free and registered users can submit their own data to be considered for inclusion in the database. I have used the tool myself as a teaching resource. Regular email alerts are sent out to users when new data sets are added, or existing ones are updated. The role of the NMPi is not only significant because it serves as a functional tool for marine space users, scientists and planners, but also because the general public can immerse themselves in Scotland's marine and coastal environment and practice filling marine spaces. It can be said that this contributes to the mentality of space because anybody can try their hand at planning Scotland's seas from the comfort of their own homes. The NMPi is also linked to data presented in the 2011 Marine Atlas, of which hard copies were sent to all schools in Scotland (Smith & Jentoft, 2017 - paper 2). Figure 10 shows a screenshot of what the NMPi mapping tool looks like, with information displayed about recreational SCUBA diving sites, the 12 nautical mile boundary, and power cables.

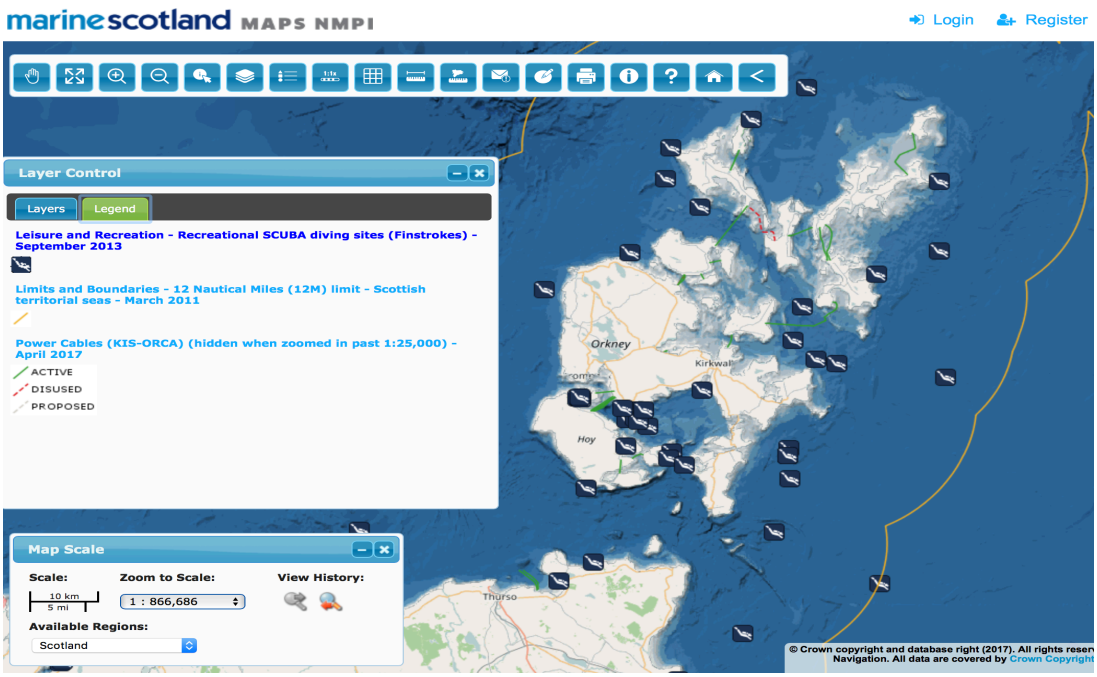

Figure 10. Sample map showing the use of marine space around Orkney and the Pentland Firth. Created through the NMPi: http://www.gov.scot/Topics/marine/seamanagement/nmpihome Last accessed 02/01/2018.

8.5. Co-evolution

For the PFOW region at least, it seems that the three vital elements of governmentality, MSP itself, and the governance system seem to co-evolve as depicted in figure 11. These three elements appear to mutually reinforce one another, with the process being facilitated through symbolic representations of governance processes known as governance objects (Johnsen & Hersoug, 2014). These might 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" (Smith, 2015: 140-1 - paper 1). Visual representations used in physical planning spaces and online help to underpin both a spatial vocabulary and a governmentality – or people reflecting on their willingness to be governed – that help make marine planning more real. For many at consultation events these props were a quick way to understand the challenges that will be tackled through MSP, and to raise important issues or concerns. In the case of marine renewable energy, for example, they helped some locals raise the point that "it's about putting manmade things into the natural environment" (Smith, 2015: 139).

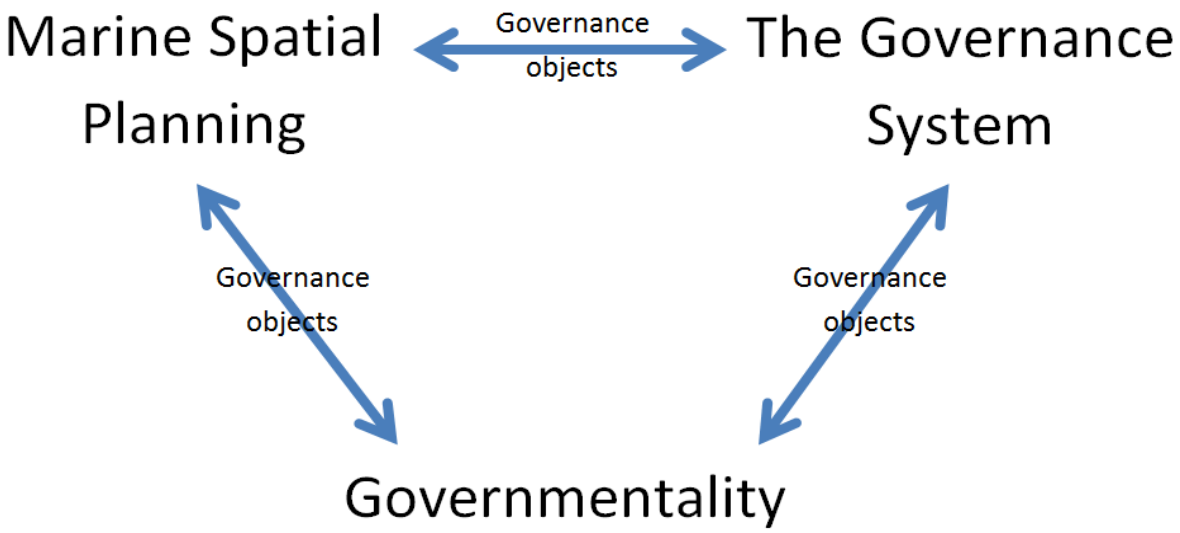

Figure 11. The co-evolution of Marine Spatial Planning, the governance system and governmentality as facilitated by governance objects. Adapted from Smith (2015 - paper 1).

These findings shed some light on how governance objects might help form a specific form of governmentality tailored to MSP. Given that governance objects – such as maps – can seemingly have considerable influence on people (Smith & Brennan, 2012), it seems natural to consider who governs.

8.6. Who governs?

The question of who governs is not a straightforward one, especially in the context of complex modern governance systems. But it does allow us to consider the range of actors who are allowed to contribute in some way to planning. In paper 1 the question is directed at the creation of the Pilot Plan for the PFOW region. It is interesting to note that the Pilot Plan was not created by a Marine Planning Partnership but by a Working Group, and there was no preceding Local Coastal Partnership in place. The answer to who governs MSP in the region appears relatively straightforward, with Marine Scotland and the Orkney Islands Council (OIC) enjoying strong governing roles. As the Directorate of the Scottish Government responsible for the integrated management of Scotland's seas this is to be expected of Marine Scotland. However, the OIC plays an increasingly important role as it tries to "manoeuvre itself into a central position in MSP" (in Smith, 2015: 136 - paper 1). The OIC provides the link to land use planning, for which it is responsible, and in its Orkney Local Development Plan already addresses the need for integration between these two systems (Smith, 2015 - paper 1). By facilitating a lot of the routine processes for MSP, such as consultations, and through its understanding of local cultures and norms, the OIC also provides a significant

level of 'institutional capital' (Haughton et al., 2010). However, the OIC does not have all of the necessary financial and human resources available for planning the inshore waters and would need to outsource some of its new responsibilities through the type of public-private partnerships and policy networks that typify modern governance systems.

Also, the strong governance role played by the OIC might not be replicable by councils in other Scottish Marine Regions. Many of Scotland's islands are a culturally unique and have a strong sense of identity (McKinlay & McVittie, 2007). A demand for greater autonomy over MSP processes on the islands is tied into the specific cultures of those islands, their remote geographical locations, and their great dependence on how the seas and coasts are used. The *Our Islands – Our Future* campaign discussed in paper 1 demonstrates this point. This was a campaign to bring greater planning and decision making powers to Scotland's island councils. It was led by the councils of Shetland, Orkney and 'Comhairle nan Eilean Siar' representing the Western Isles, and is tied to the broader European subsidiarity principle, i.e. that decisions should be taken as closely as possible to the citizen. The campaign has been important for attracting support for introducing an 'Islands Bill' that would bring greater control for these councils over local matters. It is an example of the impact of partnership work and how an informal governance arrangement can emerge to affect change in formal governance systems. It also demonstrates how 'a public' can emerge and define itself through issue-based engagement.

The question of who governs in the PFOW region – and in Scottish MSP more generally – becomes a bit more difficult to answer when we consider the role of the Crown Estate. This topic is handled most explicitly in papers 1 and 3 and the results are combined below. It is useful to first examine the roles of stakeholders and the public.

8.7. The role of stakeholders in MSP

The second question of this thesis asks: how is MSP in Scotland set up to bring stakeholders to the table early? In paper 2, *Marine Spatial Planning in Scotland – Levelling the playing field?* (Smith & Jentoft, 2017), two questions were posed to tease out answers to this. Firstly, "to what extent is the diversity of stakeholders considered in engagement of MSP in Scotland? And secondly, what does the system do to address existing power struggles between these?" (Smith & Jentoft, 2017: 34) The aim of the paper was to consider how MSP is performing in Scotland in terms of the guiding principles of good governance, especially those of participation and transparency.

The main point of contention in the findings was the narrow range of stakeholders chosen at key points during the formation of MSP in Scotland, in particular when creating objectives for the National Marine Plan. A clear line can be traced from the UK High Level Marine Objectives set in 2009 and the way that MSP is being implemented in Scotland. The system seems to be built upon the UK's and Scottish Government's prioritisation of blue growth initiatives where these are realisable, especially in the marine energy and aquaculture sectors.

On the one hand this can be seen as a necessary arrangement for MSP to facilitate growth in Scottish marine industries. MSP is reliant on strong leadership and clarity on who will be making the final decisions (Ehler & Douvere, 2009), but this needs to be carefully balanced with pressure to ensure that MSP remains transparent and participatory. With broad stakeholder engagement occurring late in the planning process in Scotland, the meta-order of governing, i.e. the guiding images, values and principles (Kooiman, 2003), had already been decided. The stakeholders who helped decide on this meta-order were those who have already been engaged in decades of maritime activities and the associated conflicts and power struggles, so it reflects the current status quo. In paper 2 we consider these stakeholders in terms of their salience, as judged by the power they have, the urgency of their needs, and the legitimacy of their concerns (Mitchell et al., 1997). The salience of a "definitive" stakeholder is high as all three attributes are deemed to be present, two are present in a moderately salient, or "expectant", stakeholder, whereas in a "latent" stakeholder exhibits only one of the attributes. The stakeholders involved in the formative phases of MSP in Scotland in April 2010 – those who came to the table early (Gopnik et al., 2012) – ranked highly in these terms and can be described as definitive. Again, this can be regarded as necessary for MSP because they best understand maritime activities. But this form of stakeholder identification assumes that others won't feel as much of an impact from the decisions taken, or are less qualified to inform these decisions.

This analysis points not only to the importance of stakeholder identification, but also of engagement timing. In another example it is shown that by the time wider consultation was undertaken on the National Marine Plan in 2013 its contents were regarded as largely decided. Again, this might be viewed as a practical solution to planning problems: to get the main marine sectors to contribute most to the plan. However, late public engagement might create some difficulties at a later stage. If the basis upon which marine development proposals are considered (i.e. the plan) lacks broad support, then individual projects might cause more

public opposition. These are potential 'transaction costs' (Jentoft & Chuenpagdee, 2009; Birnbaum, 2016). One of the stated objectives of MSP is to streamline marine consenting and licensing process. However, should a 'transaction cost' such as opposition to a plan arise at a later stage then the objective of streamlining these actions will be undermined. Despite this risk, there seems to be a tendency to work with definitive stakeholders early in plan conception, and during priority setting. This was the case for PFOW strategic area, where there were concerns about the process "getting bogged down" by the opinions of too many participants, thus stifling progress (in Smith & Jentoft, 2017: 38 - paper 2).

Rather than referring to this as 'getting bogged down' we choose in the paper to adopt the concept of 'enriching' the debates (Ritchie & Ellis, 2010). In the early stages of preparing the plan, an enriched debate might contribute to the legitimacy of MSP and guard it against some of the later complications mentioned above. Thus we are inspired by Chuenpagdee and Jentoft (2007) in their discussion of fisheries co-management to think about 'step zero' in MSP, i.e. who plans the planning? At step zero broader participation might mean the difference between asking, for example, "these are the current and emerging sectors accessing and using marine resources, how do we manage their activities?" and "what vision do we have, as a nation or a region, of the future of our seas and coasts?" We argue that the second question is equally important for creating a legitimate marine planning system, and widely accepted planning outcomes. However, this kind of question is largely absent from MSP in Scotland. A clear reason for this is that broader engagement is resource intensive. It takes a lot of time and money to find out what vision a region might be able to agree on for the use or non-use of natural resources. As explained in the paper, "[t]his point was indeed acknowledged in the 'lessons learned' report following the creation of the PFOW pilot plan [49]. There was an expressed desire to reach beyond the "usual suspects" during the engagement process (such as developers, Non-Governmental Organisations, government agencies etc.) and perhaps conduct polls on the streets to establish a fuller range of key issues" (Smith & Jentoft, 2017: 39). To ponder what the people on the streets might say is to consider the role of the public in MSP. This is the focus of question 3 and paper 3.

8.8. The role of the public in MSP

The third research question in this thesis asked: "what opportunities exist for public participation in MSP processes in Scotland?" In paper 3, *Good governance and the role of the public in Scotland's marine spatial planning system* (Smith, 2018), I return to the definition of MSP as a 'public process' and consider what this means in a system in which power is

centralised and in which certain actors play very important roles. As stated in the introduction to this thesis, other studies have pointed out that MSP processes tend to be top-down, lack meaningful participation, and do not facilitate publically engaged marine management (Jones et al., 2016; Flannery et al., 2018). These findings inspired the central question of paper 3, namely, "with MSP processes in Scotland purporting to encourage public participation, what are the practical barriers or limits to this?"

The paper examines the existing opportunities for the public to engage in MSP processes in Scotland and is less focused on one specific planning region. The role of the Marine Planning Partnerships as a concept is scrutinised more closely. Whilst it appears that this system helps to regionalise MSP processes in Scotland, the simple fact remains that central government still retains statutory decision-making authority, which affirms the top-down nature of the system and warrants a critique of how local views will feed into decision making. It appears that local input can only occur through public consultations, and the timing of these goes some way to determining how impactful they can be. Others have noted that this distinguishes MSP in Scotland from a co-decision-making system (Johnson et al., 2016).

The example used in paper 3 is the Clyde Marine Planning Partnership (CMPP). As the delegate in planning activities, it is the responsibility of the CMPP to produce and publish a Statement of Public Participation. This statement outlines the opportunities that will be given for public engagement. So the CMPP, to which membership is restricted, decides *when* public consultations will take place. Given that it held several closed meetings in the build up to public events, it is also in a strong position to decide *what* the public will be consulted on. In addition to this, one fairly open and informal channel of public debate has been removed through the institutionalisation of MSP, namely the voluntary Local Coastal Partnerships that made up the Scottish Coastal Forum. Although these will form the basis of some Marine Planning Partnerships, such as in the Clyde, in their new format they will have strict membership criteria and an official constitution. Whilst not discussed in the paper, it is worth noting that the CMPP website now includes a member login, and at the time of writing the 'consultations and events' page informs us "as further events are planned, details will be posted here"[vi]. The 'step zero' in regional MSP occurs just out of reach of the public, among CMPP members with a demonstrable interest in the coast and inshore waters, operating under centralised authority. On another side note, there isn't another body set up to facilitate public input in MSP in Scotland. For example, the Marine Strategy Forum was set up in 2009 and meets twice a year to provide advice on key strategies and priorities but does not plug that

gap. Overall, the governance arrangements in Scotland are indicative of a system designed to inform the public of a process (and its outcomes), rather than to recognise the public as legitimate stakeholders and make an effort to bring them to the table early.

Limitations to public involvement in MSP must also be understood in the context of the important role played by the Crown Estate. The Crown Estate is a unique organisation that is central to marine governance in Scotland. It therefore features in all three of the papers in this study, but most prominently in papers 1 and – especially – paper 3. Briefly, the Crown Estate is a statutory body that is run under the provisions of the Crown Estate Act 1961. It administers a property portfolio across the UK (the estate) worth around £14.1 billion[vii] and is mandated by the Act to generate a profit on this. Importantly for this project, it also owns approximately 50% of the foreshore in Scotland and almost the entire inshore seabed[4], and is the primary negotiator for leases to companies wishing to develop projects in inshore waters, such as for marine renewables. The Crown Estate is sometimes likened to a landlord, and in relation to the aquaculture industry has in the past been dubbed a de facto planning authority (Peel & Lloyd, 2008).

The Crown Estate still faces criticisms over its commitment to environmental protection, the transparency of its operations, its questionable proximity to planning, and the level of decision making input by local communities (Commons, 2012; LRRG, 2014). In the (admittedly unique) case of the PFOW region MSP was designed to help plan the renewable energy developments that were already in full swing. However, planners were playing catch up to the actions of the Crown Estate, with one interviewee commenting that "the cart had bolted before the horse" (in Smith, 2015: 137). So although actors such as the OIC have taken a lead on planning, industry – in collaboration with the Crown Estate – are leading the way with what is actually happening. Although this happens under strict consenting and licensing procedures, there is little doubt that the Crown Estate is tasked with achieving growth in certain marine industries and sets the tone for marine management in certain areas. This was made abundantly clear in its 2013 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" (Ibid: 138).

[4] The foreshore is defined in Scots law as the area between the high and low water marks of ordinary spring tides.

In paper 1 I also discuss Crown Estate's own web-based Marine Resource System (MARs). This is a GIS platform similar to the NMPi and provides "a wide range of data, maps and analysis facilities to aid in the planning of the marine environment" (in Smith, 2015: 138). However, it is not accessible to the public, but rather to "selected partners" (Ibid.). In this sense it can be viewed as an industry-only marine planning tool that operates alongside the official MSP system. It is difficult to tell whether this would enhance MSP processes, perhaps by carrying some of the workload, but it does point to the influence of private sector actors over marine management decisions, with stakeholders being carefully vetted and the public completely excluded. These actions behind closed doors also add to the widespread unfamiliarity with what it is that the Crown Estate actually does. One employee told how they were often sent to conferences to explain what it is that they actually do (Smith, 2018: 6). A lack of transparency is unlikely to instil confidence in its role in MSP. There are plenty who say of the Crown Estate that we "need to get it talked about"; that "streamlining the planning process though MSP helps the Crown Estate to increase revenue more quickly"; and that consultation on its operations is little more than a "bolt-on" at a late stage of the decision-making process (in Smith, 2018: 6). The results support the notion that "Marine Scotland had been too preoccupied with reacting to the steady release of renewable energy leases and licences by the Crown Estate and that the licensing system had been shaped by developers' needs" (Hull, 2013: 519-520).

If MSP processes are perceived to restrict public input in decision making, and are seen to favour the actions of certain key actors, then it is worth considering what the reaction might be. In paper 3 I take a look inland to the land use planning system in Scotland, which has faced criticisms along these lines in the past. I reflect on the consequences of this, and consider any lessons that might be learnt in MSP. The paper does acknowledge the considerable differences between the marine and land use planning systems. They operate in spaces with distinct access and use rights, for example, and land use planning is decentralised in Scotland, being administered by local authorities with central government only stepping in as a last resort. But, fundamentally, they both make claims to involving the public in the decisions taken over the use and non-use of space. The procedures for this are well tested in land use planning, and occur on a case-by-case basis. This is not to say that injustices do not exist, or that the system works faultlessly (see Pacione, 2013), but there is a structural mechanism in place for the public to air its opinions about proposed land use changes.

Where these opportunities are perceived to be missing, or where the land use planning system is deemed unrepresentative and unfair in Scotland, two noteworthy things have happened. Firstly, communities have sought alternative ways to increase their influence over determining land use patterns, and there are viable options available to them for this. They might set up a Development Trust, which utilise the skills and strengths of the community to make local plans and aspirations come to fruition. Or in some cases communities might look to purchase land so that they can assume more direct control of its use, often under the governance of locally formed decision-making committees, and with advice from the national organisation Community Land Scotland. Whilst planning regulations and processes must still be followed in these cases, the point stressed in paper 3 is that these begin with a vision that has come from the local community itself, and has been scrutinised locally.

Secondly, there is sustained pressure for the land use planning system to undergo reform. This usually occurs under a broader 'land reform' process. In the most recent round of land reforms the topic of the status and powers of Scotland's communities took centre stage, which was evident in the emerging Community Empowerment (Scotland) Act 2015 and the Land Reform (Scotland) Act 2016. The continual scrutiny and reform of land use patterns (and the way these are decided) is relevant to MSP because it demonstrates the importance of adaptability. The land use planning system has existed for more than a century and has been continually changed and adapted in this time to meet contemporary political, social, economic and environmental challenges and, crucially, to satisfy public demands. As noted by Gilliland and Laffoley (2008), "[m]any land use planning systems have evolved and improved over time, including the steps in the planning process and procedures for consultation and participation, and this should be expected of MSP" (p. 788).

The opportunities for public engagement in MSP in Scotland can be described as 'tokenistic' according to the Arnstein (1969) model used in the paper. At the highest (most participatory) levels there are degrees of citizen power where the public gains responsibilities over aspects of public policy. Public consultation for MSP in Scotland cannot be put in this category. This is partly down to the actions of the Crown Estate and the fact that ultimate powers for planning in Scotland's marine regions are retained by central government. With seemingly limited chances for genuine public participation in marine spatial planning at present, the key to its longevity might depend on meeting this expectation and adapting accordingly. The alternative might be a trend towards communities finding innovative and informal ways to increase their influence over decisions as they begin to "rebel against a

centrally driven process which allows national objectives to override local ones" (Johnson et al., 2016: 291).

9. Discussion

The three central research questions of this thesis all relate to the function of MSP as a governance mechanism. In this section I return to the original research questions, the theoretical basis of this thesis and, with examples from the results, discuss the way people are organised.

9.1. Has MSP contributed to the increased governability of complex marine environments?

Question one centred on the contribution made by MSP to the governability of complex marine environments. A major way that MSP helps to increase the governability of complex marine environments is through the creation of space. Space is not only important to the actual marine management decision outcomes achieved through planning (i.e. of helping to decide what goes where), but also to help get a better grip of the management situation through a variety of other spaces, which include planning spaces, marine spaces, and visual representations of what the latter might contain. It can be said that the visual representations of marine environments and of human interactions with these help cultivate a 'mentality of space'. Planners, scientists, stakeholders, and local residents create – and are exposed to – visual representations of what the sea is and what it could become. At most MSP meetings and consultations big maps are "laid out on the table" (Smith, 2015: 138). Participants share their interpretations of the maps and images and also problematize their own experiences and conduct in relation to them. This is a powerful technique that seems to contribute to a governmentality that supports MSP. In this context the maps and technical diagrams can be interpreted as the technologies of power (Foucault et al., 2003), where things and processes are handled indirectly through a system of representation (Holm, 1996). By inviting a range of actors to reflect on their position, views and conduct in relation to MSP, these technologies of power and systems of representation help to make a large and unpredictable environment more governable.

Previous research has shown how technologies of power have helped to order the people involved in MSP. Smith and Brennan (2012) have shown that for planning on the West coast of Scotland "[m]aps have become an obligatory passing point (OPP) for all involved in the management and use of Scotland's seas. Politicians, scientists and large

corporations are able to "impose and stabilise the other actors" that they define, a process that Callon also describes as their being 'locked into place'" (p. 214). One sign of their being locked into place is the growing prominence of a 'spatial vocabulary' for MSP, "such as is already well established in terrestrial planning in the UK" (Healey, 2004: 534). It is partly through the combination of a mentality of space, governance objects, and the resulting spatial vocabulary that the MSP framework "renders reality thinkable" (Moisio & Luukkonen, 2015: 6), and becomes anchored in society. If MSP helps to render reality thinkable then it can be said to increase the governability of complex marine environments. It provides entry points into the challenges at hand and invites participants into the process. In theory, MSP provides the complete package for increasing the governability of our coasts and seas through systems of representation: the vocabulary, the space to discuss, and the chance to integrate disparate maritime sectors. The governability toolbox provided by MSP is well stocked. But is it enough to just provide the tools and say, "go and plan the sea"?

We might say that the tools do indeed give us a more structured means of interacting with and tackling the marine problem. But it can also be said that the holistic approach of MSP also works to make the marine problem more complex. The integrated management of maritime activities for which we strive to meet a certain level of consensus on decisions made is not an easy task. Compromises have to be made. Although compromises are not new in marine management, these will potentially have to be made on a greater scale than before, and by more stakeholders. This is because MSP focuses more on the interactions between maritime sectors and more thought is given to how the management decisions made for one sector might affect other marine space users. In addition to this, members of the public need to be carefully informed of developments along the way, as these might look at maps of potential marine renewable energy sites, for example, and ask "so, this is another done deal?" (Smith, 2015: 141). Given the vast amounts of data and participants required to reach decisions through MSP, and the large numbers of people who are affected, it seems reasonable to suggest that while MSP does appear to increase the governability of marine environments, it also creates many new challenges to governability. One of the challenges lies in convincing all involved that the process is truly participatory and transparent.

To help us turn our attention to the topics of participation and transparency it is useful to consider the diagram in figure 11, which shows the component parts of MSP. The function of the diagram is to provoke debate about how MSP, the governance system and governmentality work together to help increase the governability of a complex environment.

It is designed to invite critical thought about the interactions between actors involved in MSP, and on mentalities, thinkable realities, vocabularies, the process of governing and on being governed, of being locked into place, and of obligatory passing points. From here it is possible to scrutinise who is participating in MSP, how are they permitted to do this, how are they persuaded to do this, and under what terms. More importantly we might ask, who *isn't* participating? In short, if we believe that MSP has indeed increased the governability of complex socio-ecological marine systems, then who is governing?

On one level the answer to who governs can be quite simple. In well defined areas there will most commonly be a clearly appointed body to lead MSP. This is the case for the PFOW area discussed in paper1. The Orkney Islands Council is well placed to take a leading role in governing MSP processes. So it seems that one way that MSP is used to increase the governability of marine environments is through the clear appointment of leaders and through clearly defining where statutory power lies. In this way MSP is used to structure marine management processes. But governance is multifaceted and can work in more subtle ways. The Leviathan isn't all knowing, as is demonstrated by the role of the Crown Estate. By asking "another kid, another block?" in paper 1 (Smith, 2015: 137) attention is drawn to some of the actions of the Crown Estate that run parallel to MSP and even overlap in some instances, this is despite it having no statutory planning powers. The Crown Estate also busies itself with creating spaces and mobilising technologies of power, such as through its online GIS platform MARs, to which access is strictly regulated. With the Crown Estate so closely involved in both seabed lease negotiations questions can arise over its proximity to planning and, consequently, about the location of power in MSP. Without statutory powers the influence of the Crown Estate over planning is less direct. By identifying opportunities for development in marine areas it simply contributes to the MSP workload, and helps define planning needs. One thing we learn from this case is that the governability of marine environments is fluid and can be continuously re-designed by a range of actors. We are also reminded that the governed subject is not a rational, self-governing agent but something that is recreated as a set of beliefs and desires. It is useful to scrutinise how these beliefs and desires are created. How do objectives and priorities in MSP become important? At what point were blue growth targets deemed important? These questions can be asked of other MSP systems. But it is also important to consider the role played by stakeholders, which leads us on to the second research question.

9.2. Do MSP processes bring stakeholders to the table early?

Question two helped to expose some structural barriers to participation in Scotland, such as exist in other MSP systems in Europe (Jones et al., 2016; Flannery et al., 2018). The apparent exclusivity of the Marine Planning Partnership arrangement is one example. These allow stakeholders to come to the table early, but these stakeholders are chosen on the oversimplified terms, something that Pomeroy and Douvere (2008) warned of. The participatory practices in Scotland's new MSP system are modelled strongly around the definitive stakeholder, and it is these who shape the guiding images, values and principles, i.e. the meta-order of governing according to Kooiman (2003). The result is that well-established power relations between stakeholders are allowed to spill over into the new management regime, and priorities that were set for Scotland's marine environment before MSP was introduced have been allowed to remain in place, such as with meeting blue growth targets. One view on this arrangement is that MSP has done little to level the playing field and acts more as a vehicle for realising the aspirations of government and of achieving growth in certain sectors: a form of 'business as usual' with a new name. Seen in this way, the question of how MSP affects the governability of the marine environment takes another twist. It might be said that increased order and governability can calm discontent about changes to the use of marine space. Governors can now point to a structured process through which decisions were made without drawing too much attention to flaws in the way the process was governed, thus continuously recreating the subject as someone who believes in and desires organised marine planning processes. Any limits set on stakeholder engagement might be explained as an attempt to avoid 'getting bogged down'. But as we become more experienced with MSP more questions are likely to be asked about how not wishing to get bogged down might equate to sidestepping democratic responsibilities. The rigidly scheduled public consultation process in Scotland too easily determines not only what is debated, and when, but also by whom. This leaves plenty of scope for step zero debates to be held early on behind closed doors. In Scotland this is a two-tiered problem with the institutionalisation of MSP practices. Firstly, in the retention of decisive powers by central government and, secondly, in the late public consultations at regional level.

An implementation gap does seem to persist in MSP (Koehn et al., 2013), possibly because of the tension between the need for strong leadership (Ehler & Douvere, 2009) – or top-down guidance – and the need to provide opportunities for genuine participation and bottom up processes. The inherent value of allowing bottom-up input to MSP provides quite a

convincing argument on the grounds of improved (democratic) credibility. But the functional benefits are also clear to see in reducing the danger of failure in a command and control approach in ecosystem based management (Katsanevakis et al., 2011). Limiting stakeholder input into planning decisions at an early stage does help to streamline the process but this benefit would be lost later on through the potential transaction cost of resistance to decision outcomes. If stakeholder engagement processes are perceived to be failing consistently then people might feel alienated from future engagement attempts (Fletcher et al., 2014). So yes, as I argue in paper 2, stakeholders are brought to the table early in MSP in Scotland, but more research is needed to help us understand who these stakeholders are and what their intentions are for planning. This seems to apply to other countries engaged in MSP as outlined in section 3.3 above. All have struggled to some extent strike a balance between top-down and bottom-up approaches. So further analysis of these issues in any country is useful in helping us understand the factors that affect participation and transparency in MSP. With a better understanding it may be possible to improve procedures.

9.3 What opportunities exist for public participation in MSP processes?

In Scotland consultations are the main form input into MSP available to the public. The results of this study cast doubt onto how meaningful this input is because of the questionable timing and extent of consultations. As the governance theory-based analysis illustrates in paper 2, institutional arrangements of MSP in Scotland seem designed to inform members of the public of planning priorities and outcomes, rather than to invite the public to help formulate these (Smith & Jentoft, 2017). Once again the modus operandi of the Marine Planning Partnerships is partly to blame here, creating opportunities for step zero negotiations in planning to occur behind closed doors. The timing and content of public consultations can then be carefully orchestrated. They might be orchestrated in the interest of clarity or of providing guidance to the public, or because of a will to limit discussions on options for the use of marine space, but either way step zero remains out of reach to all but a narrowly defined group of stakeholders. As discussed in the paper, the Crown Estate – with its mandate to maximise financial return on Scotland's seabed – could be seen to benefit from limiting how public MSP processes are. There is plenty of support for reviewing this situation (Smith, 2018: 6) and remembering that MSP is about more than just securing seabed leases for marine energy developments (Hull, 2013).

The long term success of MSP in Scotland will depend on maintaining public support in it. It follows that the planning processes need to be scrutinised and the system continually

improved. For an example of what might happen if this does not occur I turn in the paper to the perceived injustices in how decisions on the use and non-use of terrestrial space in Scotland. The growing interest in both the Development Trusts and community land buyouts can be indicative of resistance to a natural resource governance regime. Both of these movements are driven by the desire to regain some control over decision making and ensure that land use patterns address the needs and views of communities. They employ a local governance infrastructure to support decision making and both help to ensure that these decisions can enjoy a "majority local backing and be based on a vision agreed upon through local decision making institutions. As a result they are less likely to run into public opposition and can more closely reflect the will of the people" (Smith, 2018: 7). It can be said of these governance arrangements that they demonstrate the capacity of modern, informal governance entities, based on civic engagement, to challenge a formal governance framework. Development Trusts and community land buyouts are essentially examples of emerging forms, mechanisms, locations, styles and capacities of governance (Kersbergen & Waarden, 2004). They are also good examples of groups self-defining in response to a political issue (Dewey, 2012) and of the re-politicisation of society (Van Tatenhove, 2011).

In MSP's 'terrestrial cousin' (Kidd & Ellis, 2012) Scottish communities constantly fight for greater involvement. Communities have been at the centre of debates in Scotland's most recent land use planning reforms. One example comes from the Planning (Scotland) Bill that was introduced to the Scottish Parliament on 4th December 2017 (Parliament, 2017). At the time of writing it is difficult to say just how far reaching the eventual changes will be, but the rights of communities to affect planning outcomes are ever present. Among several proposals that might benefit communities, the Bill suggests, for example, that these be encouraged to prepare 'Local Place Plans' and submit them to the relevant planning authority. The Local Place Plans can be used to propose developments or changes to land use. Although these will have to conform to Local Development Plans, they have the potential to offer greater input by local residents. Local Place Plans provide an opportunity for communities to engage with assigning the use of space, which further embeds the act of planning in the social. It seems that there is an opportunity to copy this new role for communities in MSP too. MSP also has social outcomes and impacts, and so it seems deserving of society's input. It is true that the land use and marine planning systems differ from one another in most countries but it is possible to acknowledge the differences between them, and still recognise that they are both essentially about deciding on what people are allowed to do with space. MSP cannot

afford to neglect the cultural aspect of a socio-ecological system and can learn a lot from the problems faced in other public policy areas where the "new political culture no longer places much faith in solutions imposed from above" (Van Driesche & Lane, 2002: 283).

Thus we are reminded of the suggestion by Gilliland and Laffoley (2008) that MSP must follow the lead of land use planning systems in evolving and improving participatory procedures. Although MSP in Scotland is relatively young, and it is being used to avoid a potential 'land grab' at sea in the wake of blue growth, it can draw from the experiences of the way terrestrial planning is governed. At this early stage there might still be an expectation that marine plans will provide direct 'blueprints' that can simply be implemented in inshore marine areas, as was the case for land use plans before they began to incorporate broader socio-political factors. Healey's (2003) description of plans as serving a more flexible role as a series of principles and norms that set the tone for complex negotiations may be a stage at which marine planning practitioners have not yet arrived. MSP in Scotland does not yet resemble negotiative, collaborative planning.

It might prove beneficial to diversify the negotiations and incorporate a broader range of voices. At the very least this might help deepen our understanding of the social impact of marine developments. The PFOW Pilot Plan process, for example, will only support developments where it can be demonstrated that "significant adverse effects on the well-being, quality of life and amenity of local communities have been avoided" (MS(c), 2016: 57). On the very same page of the plan there is a call for research to help "better understand the factors that contribute towards the well-being, quality of life and amenity of coastal communities" (Ibid.). Allowing these communities to provide more input into the various stages of plan development might be an alternative to researching the topic.

So what about the future? The Scottish MSP system can be used to demonstrate how greater community input might be achieved in the future. It involves inviting more open questions such as "what vision do we have, as a nation or a region, of the future of our seas and coasts?" (Smith, 2018: 39). It also involves making the governance system less exclusive and more porous to the flow of ideas and views, taking influences from theories of modern governance.

9.4. A porous governance system

The governance of marine environments in Scotland might be improved by maintaining and adapting the important role played by the Local Coastal Partnerships. Having been in place

for more than 20 years these forums bring important institutional capital to marine management issues, and are familiar to people who have engaged in these issues in the past. Figure 12 shows how this arrangement might complement the current governance system.

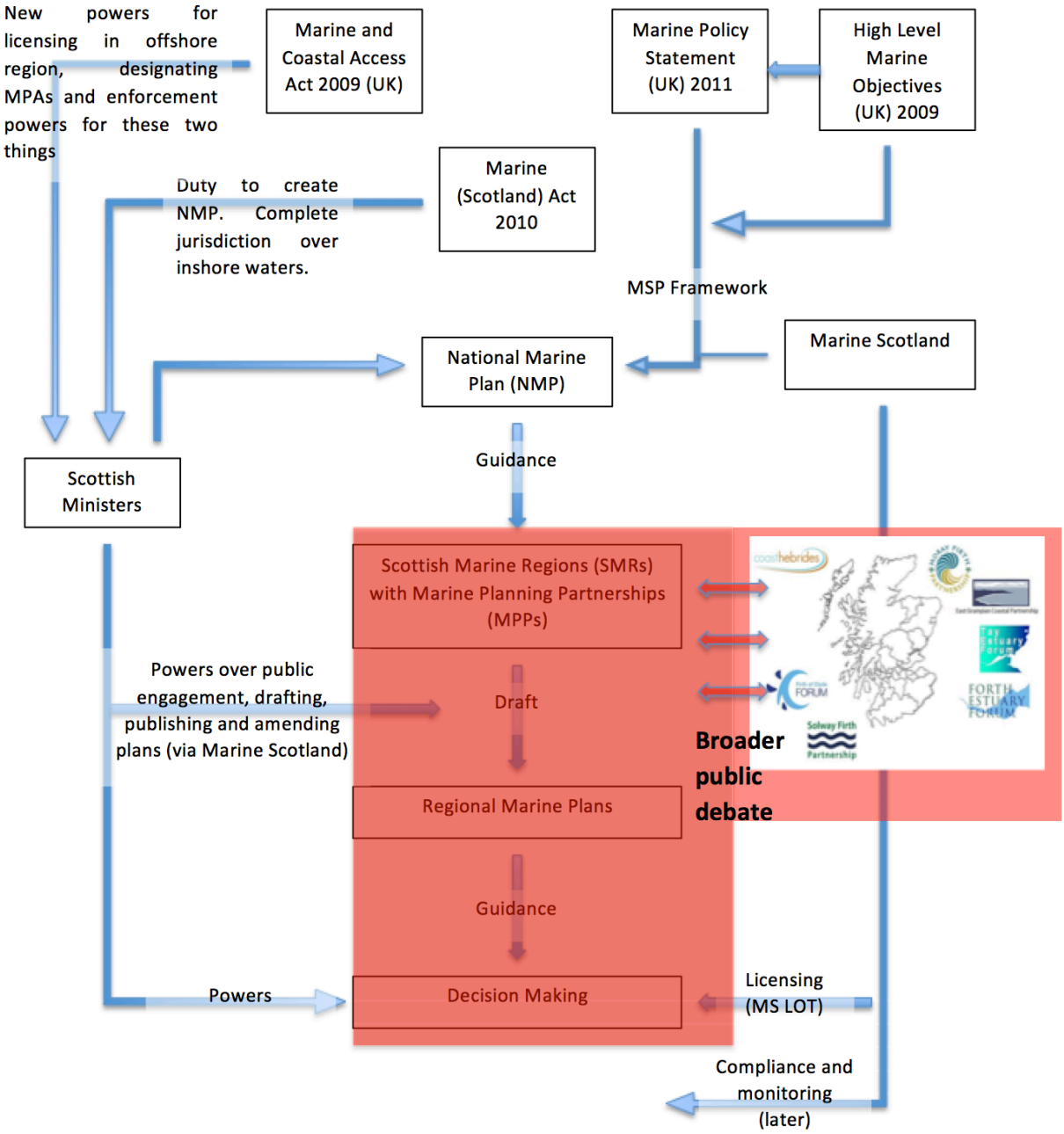

Figure 12. Adapted version of the governance system for MSP in Scotland to include a forum for broader public debate of marine planning issues.

The new Marine Planning Partnerships are different to Local Coastal Partnerships and, being comprised of experts in marine and coastal issues, it seems unlikely that they will focus much on the broader questions relating to Scottish society, culture and politics. With greater

input into MSP through active and engaging Local Coastal Partnership the public may raise issues that lie on the periphery of marine planning processes but are still important to them. Examples include the impact that regional development in specific maritime industries might have on, for example, local sustainable development, education, skills training, community wellbeing, public administration, and market trends. What could these changes mean for the long-term preservation of vulnerable marine resources? It is not possible to provide an exhaustive list here of issues that might be raised through more public debate, but it is also not necessary as that would be the function of the debates. Citizens could also be asked to share their views on participatory practices and transparency in marine planning, or even share their views on these topics in land use planning, from which valuable lessons might still be learned. This is where a governance system including MSP might benefit from Marine Planning Partnerships maintaining a degree of informality and openness, perhaps by keeping an element modelled on the more voluntary Local Coastal Partnerships. Some of the Marine Planning Partnerships have been created directly from the Local Coastal Partnerships but in this institutionalising process appear to have lost some of their openness (Smith, 2018).

The modified governance system depicted in figure 12 could encourage increased public debate on MSP issues that the Marine Planning Partnerships with their regulated memberships do not facilitate. It is worth noting that the Local Coastal Partnerships, represented with their logos in the diagram, are shown to be separate from the Marine Planning Partnerships in the Scottish Marine Regions. The aim of this was to depict a component that remains involved in, but also on the periphery of, MSP processes, and open to public debate, thus making the system more porous. Local residents could set the agenda for these debates, prompted by their own questions with guidance where required, allowing citizens to define their role and position in MSP through issue-based political engagement (Dewey, 2012). The ability of Scottish communities to do this has been evidenced through the Our Islands – Our Future campaign (Smith, 2015) and the Development Trusts and community land buyouts. Further research might explore ways for outputs from these Local Coastal Partnerships to be integrated into MSP.

Interestingly, this arrangement would meet a key recommendation of the original 2007 Advisory Group on Marine and Coastal Strategy (AGMACS) report, which suggested that Scotland should introduce a system of MSP with a statutory basis, but that this should have "the flexibility to incorporate a non-statutory framework of local stakeholder engagement and planning" (Scottish-Government, 2007). Research has already demonstrated that informal,

multi-stakeholder, participatory platforms can find spaces to operate even in a rigid and highly structured administrative environment (Moellenkamp et al., 2010). Increased flexibility might also help ease the problem of people being unable to attend consultations because of travel times and costs (Pomeroy & Douvere, 2008), perhaps allowing more individual and small group contributions. There would have to be some degree of flexibility in how these groups are set up given the differences between the eleven Scottish Marine Regions. These regions differ in terms of planning needs and challenges, and the existing governance infrastructure.

Returning once more to the creation of space, online tools could be used to support public engagement in MSP. As described in the theoretical basis for this thesis, the flow of information has an important function in modern governance. In Scotland the National Marine Plan interactive (NMPi) is a fundamental part of MSP. Part of its appeal is that it can be updated and, therefore, remains adaptive. The data contained within it are continuously updated (Smith & Jentoft, 2017) so the platform suits the task of planning in a complex socio-ecological system. The fact that participation through the NMPi does not require actors to meet in one physical place can also be seen to stabilise MSP activities because the data can reach a much broader audience. Platforms such as the NMPi represent continuous and non-place-bound planning spaces, and they work to make MSP more compatible with alternative governance constellations, as diverse and nested centres of governance can exist and participate in negotiations, both formally and informally, in a variety of locations and at different levels. Among most groups and individuals these negotiations and exercises in planning will not result in real planning decisions because they lack the necessary authority, but partaking in these is enough to ensure that people are at least reflecting on their role and their level of understanding of MSP. Through self-reflection the citizen can become empowered with the ability to raise issues and to question decisions, even if they don't take these further, and if they do take issues further then they might be able to do so through the informal Local Coastal Partnerships.

It may not be necessary to maintain a strong distinction between 'stakeholder' and 'public' in a porous governance system. In our on-going analyses of MSP systems it might be useful to question the moments in which we define stakeholders, thus defining others as non-stakeholders. A planning system that hopes to keep up with a complex and fluid socio-ecological system in which needs, parameters, and possible solutions are constantly in flux might not be able to label 'stakeholders' and 'non-stakeholders' a priori, or exclude the

public. MSP is a 'public process' that has significant impacts on the future of a country's or region's marine conservation efforts and socio-economic developments. 'The public' is a flexible concept. Unfortunately, rigid planning traditions depend upon the identification of stakeholders quite early in the process. A modern approach that acknowledges modern forms of network governance might allow marine space and stakeholders to co-evolve during the process, and as mentioned above, the process is all-important in MSP. It might allow groups to define themselves through issue-based political engagement and make stronger claims to represent a voice (Sørensen, 2002).

In light of this recommendation we are encouraged to re-think the notion that those in the 'space of flows' govern the "flows of money, capital, and information, at the expense of the vast majority of ordinary people living their lives in the 'space of place'" (Mol, 2006: 499). Should we update the concept of 'ordinary people' here? It is 'ordinary people' who put constant pressure on land use planning procedures to be modernised and reformed, thereby achieving extraordinary things. It will be ordinary people who call for changes to MSP and help bring it closer to a system of planning though debate, i.e. of collaborative planning (Healey, 1992), and introduce stronger elements of co-decision making. It seems unnecessary to repeat the difficult lessons learned in the 1980s about how important the socio-cultural context of planning is.

10. Conclusion

Some of the more general points of contention in MSP exist in the Scottish system. At a time when efforts are being stepped up to evaluate the performance of MSP (e.g. Carneiro, 2013; Collie et al., 2013; Scarff et al., 2015; Smith, 2015; Jones et al., 2016; Flannery et al., 2018) case studies can provide details on how it might be improved. There appears to be some value in reflecting on what MSP *does* as a governance mechanism. It seems that it can do two opposing things. On the one hand it involves an unprecedented number of actors in marine management, including stakeholders, scientists, planners, politicians, NGOs, maritime industries, local councils, etc. Often new collaborations and even institutions are formed at various governance levels. This occurs in the way described by the theory of multi level governance, whereby modern governing is made possible through continuous negotiation involving nested governments at different territorial tiers. Research in the region of New England, USA suggests that "regional ocean planning is succeeding in building a network that spans agencies, sectors, and states" (Smythe, 2017: 20). In that study there is a core collaboration network for planning but also a broader network that is "low-density,

decentralized, large and diverse" (Ibid). Similar patterns are emerging in Scotland, albeit on a smaller scale, and a host of new governing actors are emerging at various territorial tiers. This is because decisions need to be informed by a detailed understanding of regional and local needs and circumstances. The mushrooming demands (Rosenau, 2004) of MSP are increasingly being met through dynamic research partnerships involving stakeholders (e.g. Kafas et al., 2017).

However, on the other hand, MSP is being used to maintain a tight grip on these processes in many places through centralised control. Whilst a larger and more diverse group of actors is now involved in marine management, and MSP is opening up new spaces for this to happen, it ultimately occurs in a very rigid decision-making, and decision-informing framework. In many instances MSP is still something that is done by experts operating within the field of marine management (Jay, 2010). All countries and regions should consider the extent to which – under the illusion of greater inclusion – MSP has succeeded in institutionalising – and thus legitimising – existing power structures as it seems to have done in Scotland (Smith & Jentoft, 2017).

This is a crucial point. MSP is politicising marine management issues on a larger scale than was previously the case. And with it comes a pressing need to analyse MSP from the perspective of democracy and good governance principles. Studies that focus on the danger of exclusion from MSP processes are very important (e.g. Flannery et al., 2018). Nearly a decade has passed since MSP was announced as "an idea whose time has come" (Ehler & Douvere, 2009: 7) so assessing the performance of supporting governance systems should be well under way. But this is an assessment that marine experts *cannot* make alone. Emphasising this fact might make marine topics more widely accessible, and facilitate more public debates about how MSP is performing in terms of democracy and its social outcomes. This is partly about finding common topics with other academic disciplines. Citizen science is one example, which is relevant for understanding and enhancing marine management and planning (Jarvis et al., 2015). And it is also about critiquing the balance between top-down and bottom-up governance, and the notion of subsidiarity. Without this scrutiny and without structural changes in governance systems where necessary – in order to create reliable channel for communities to express their views – MSP could lose credibility. Or community-led, informal, localised bodies might begin to challenge it. These bodies can emerge "wherever people and their organisations interact in order to solve societal problems and create new opportunities" (Kooiman, 2003: 7). Even within a rhetoric of broad participation,

the channels might simply not exist to allow it to happen. There is little dispute about the importance of participatory processes to MSP but there is still a way to go before it becomes a means to truly democratise the management of the seas.

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Appendix 1

Sample interview questions

PFOW Pilot Plan Working Group member

25/04/2013

How did you come to be involved in the PFOW Pilot Plan?

What were the biggest challenges in drafting the plan?

How did you prepare for stakeholder engagement?

What do you think is the public perception of marine renewables in the area?

What are some of the other main marine management issues?

Who would be in the marine planning partnership in the PFOW region?

How do you see the role of councils in marine planning?

What is the progress on setting up the Scottish Marine Regions?

Introduction to the papers

This section provides a brief introduction to the papers and describes how they relate to one another. Paper 1 provides a description and overview of MSP in Scotland. Drawing on the concept of governmentality the co-evolution of MSP, the governance system and governmentality is discussed. Furthermore, there is an examination of who governs in the case of the Pentland Firth and Orkney Waters Marine Spatial Plan. The Orkney Islands Council and Marine Scotland are shown to be capable governors of MSP activities, with the necessary institutional capital. However, the Crown Estate is also shown to play a significant governance role, as its activities appear to run alongside MSP. Finally, the paper considers the creation of various types of spaces to help anchor MSP in society.

In paper 2 the focus turns to the role of specific stakeholders, with the suggestion being that their relative power and influence remains in tact after the introduction of MSP to Scotland. That is to say that MSP does not 'level the playing field'. This paper draws on the good governance principles of participation and transparency and considers how and when stakeholders have opportunities to contribute to decision making. A select few stakeholders set many of the images, values and principles that guide MSP, whilst others were brought in too late to greatly affect these. In addition to this, the relative exclusivity of Marine Planning Partnerships is an example of how MSP can institutionalise and thus legitimise existing power relations.

Paper 3 (*Good governance and the role of the public in Scotland's marine spatial planning system* – under review in Marine Policy) considers the role of the public in this situation. With MSP being described as a 'public process', Scotland's citizens are considered as stakeholders in the decisions taken about the use and non-use of marine resources. The role of the Crown Estate is scrutinised further, with questions raised over the transparency of its operations. It is in this paper that I also draw comparisons with Scotland's terrestrial – or land use – planning system, reflecting on two specific aspects of this. Firstly, communities appear to be resisting the system through informal governance mechanisms when they feel unrepresented by it, and secondly, the system constantly adapts through reform process to

address its perceived flaws. The MSP system will have to reform along similar lines in order to avoid the same type of resistance.