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Chapter 5
Making Marine Spatial Planning Matter

Wesley Flannery

Abstract Over the last decade, Marine Spatial Planning (MSP) has become one of the key components of marine governance. In the European Union, member states are working towards the development of their first plans under the Maritime Spatial Planning Directive. Internationally, UNESCO and the European Commission have launched their MSP Global initiative to speed up the implementation of MSP around the world. MSP is also framed as being a key mechanism for sustainably realising the benefits of the Blue Economy and emerging Green Deals. During this same period, however, a substantial body of critical academic work has emerged that questions whether the implementation of MSP will transform unsustainable marine governance and management practices. This scholarship illustrates that the current trajectory of many MSP initiatives is to preserve the *status quo* and that they fail to adequately address longstanding marine governance issues. Drawing on Flyvbjerg's vital treatise on phronetic social science, this chapter will explore: where is MSP going; who gains and loses, and how they do so; is this desirable, and if not, what can be done to make MSP matter? I particularly focus on mechanisms of winning and losing, characterising them as key tensions in MSP processes that can be unsettled to make MSP more transformative.

5.1 Introduction

Demand for marine space has significantly increased over the last two decades. The increased pressure on marine space has been particularly driven by the expansion of spatially-fixed activities such as wind farms and aquaculture development (Schütz and Slater 2019). The average size and number of offshore wind farms have increased substantially, with, for example, a 22% annual growth rate in the number of offshore farms in the North Sea between 2008 and 2018 (Xu et al. 2020). Animal aquaculture production increased on average by 5.3% annually between 2001 and

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2018 (FAO 2020). Demand for marine space will intensify in the coming years as new energy and aquaculture technologies are scaled up. This will include the adoption of floating wind farm technology, which will enable arrays to be located further offshore, and greater deployment of tidal and wave energy devices. Furthermore, technologies such as floating solar are progressing at speed and will create additional demand for marine space. Offshore aquaculture will also become more common.

The rapid growth in spatially fixed activities has obvious socio-spatial consequences. There is concern that the growth of these activities may displace others such as fishing (Lester et al. 2018; Young et al. 2019), placing considerable pressure on ocean biodiversity. Marine Spatial Planning (MSP) has been developed as a way of tackling possible conflict among stakeholders and reducing negative environmental impacts that may emerge from the intensification of marine space usage. MSP has rapidly achieved a dominant position within discourses about improving marine governance (Toonen and van Tatenhove 2013). These discourses tend to position MSP as fundamentally different to existing sectoral and fragmented management approaches (Douvere 2008). In contrast to the top-down, piecemeal, reactive, and issue-driven approaches that preceded it, MSP is envisaged as holistic, participatory, and proactive, with the potential capacity to address a multitude of issues simultaneously across sectors and marine spaces.

Although MSP has the potential to reform existing marine management regimes, assessments of MSP in practice illustrate that it is failing to radically transform marine governance (Fairbanks et al. 2019). There is evidence that MSP initiatives have neglected to: address issues such as the continuation of uncoordinated sectoral and fragmented management (Alexander and Haward 2019; Piwowarczyk et al. 2019a); adequately resolve sectoral conflicts, address the dominance of powerful sectors or fully understand trade-offs between sectoral objectives (Flannery et al. 2018; Sander 2018; Tafon 2018; Aschenbrenner and Winder 2019; Cohen et al. 2019; Flannery et al. 2019; Schutter and Hicks 2019; Tafon et al. 2021); fail to include non-economic and/or non-spatial uses, such as diverse stakeholder values (Strickland-Munro et al. 2016) and traditional and cultural uses of the sea (McKinley et al. 2019); or foster meaningful social and governance changes (Gissi et al. 2019; Kelly et al. 2019; Saunders et al. 2020). This indicates that the implementation of MSP may do little more than preserve the *status quo* and frustrate rather than facilitate the urgent reform of unsustainable marine management processes.

Given the rapid rollout of MSP initiatives across the world (Ehler 2020), including, potentially to the high seas (Wright et al. 2019; Toonen and van Tatenhove 2020), and the fact that it will feature in SDG, Ocean Decade, and climate change strategies (Ntona and Morgera 2018; Noble et al. 2019; Frazão Santos et al. 2020; Calado et al. 2021; Gilek et al. 2021; Reimer et al. 2021), it is critically important to develop actions that can reclaim MSP's transformative potential (Clarke and Flannery 2020). There is, therefore, an urgent need to understand both how the transformative capacity of MSP has become blunted as it moves from concept to practice, and how this can be corrected. This is not to suggest that all MSP initiatives are failing or that there has been no reformation of unsuitable practices. Rather,

I argue there is a need to reflect on the emerging body of literature that raises issues of MSP in practice and to think strategically about how we insert transformative differences into ongoing and emerging MSP initiatives (Boucquey et al. 2019).

Drawing on the central questions for phronetic social science as developed by Flyvbjerg (2001), I review recent academic literature to identify key issues with the implementation of MSP. For Flyvbjerg, phronetic social science "relates to the practical wisdom that comes from familiarity with the contingencies and uncertainties of various forms of social practice embedded in complex social settings" (Schram 2004 p.442). Phronetic social science aims to help publics question the relationships of knowledge and power in specific settings and to produce practical solutions that can implement change. The adoption of Flyvbjerg's (Flyvbjerg 2001) approach is appropriate for the task of understanding how MSP may have failed to achieve the transformation of marine management and for developing ameliorating actions. Adapting Flyvbjerg's (Flyvbjerg 2001) approach, I review recent academic literature to ask: where is MSP going; who wins and loses, and through which mechanism; is this desirable, and if not, what can be done to make MSP better? I particularly focus on the mechanisms of winning and losing and argue that five issues create an illusion of progressive change within MSP. Like Scraff et al. (Scarff et al. 2015) I characterise these issues as being key tensions (Flyvbjerg et al. 2016) in MSP processes that may provide avenues to instigate more transformative forms of MSP. "In phronetic research, tension points are power relations that are particularly susceptible to problematization and thus to change, because they are fraught with dubious practices, contestable knowledge, and potential conflict" (Flyvbjerg et al. 2012, p. 288). The five tensions I identify include the tensions between participation and legitimisation; rationality and partiality; socio-political issues and technological solutions; future orientation and path dependency; and conflict management and silencing. I describe these issues as tensions as they illustrate a strain between the promise of MSP and what it has become in practice. Focusing on tensions can reveal how governing processes serve particular interests, and where and how differences can be inserted to address unjust processes and undesirable outcomes. While recognising that there will always be a gap between concept and practice, focusing on these key tensions can instigate actions that can move MSP back towards what it originally promised.

5.2 Where Is MSP Going?

To understand where MSP is going, we must consider its origins, the issues it was conceptualised as addressing, why its uptake has been relatively quick, and how it has been translated into practice. Until relatively recently, marine governance and management were very disaggregated. Marine governance predominately adopted a sectoral approach, with distinct marine activities being governed and managed separately. This approach made it difficult to evaluate the synergistic, antagonistic and/or cumulative impacts of decisions made in one sector on other sectors. This issue

was sometimes compounded by spatially and temporally fragmented marine governance, with the governance of contiguous marine areas (e.g., territorial sea and Exclusive Economic Zone) being partitioned across different governance entities, levels, and timeframes (O'Hagan et al. 2020). Such a sectoral and fragmented approach was ill-suited to sustainably addressing key management issues that were being exacerbated due to the expansion of human activities in the marine environment. Addressing both the immense environmental challenges emanating from growing human use of the marine environment, while facilitating an increased demand for marine space and avoiding user conflicts, necessitated the development of integrated marine governance approaches.

Although integrated approaches to marine management have a long history (Eger et al. 2021), MSP has risen to become the dominant marine management paradigm. As a concept, MSP is framed as a rational, place-based response to the issues that have arisen from sectoral and fragmented management (Ehler and Douvere 2009). MSP has been defined as "a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process" (Ehler and Douvere 2009, p. 18). It is viewed as a way of addressing long-standing marine issues and achieving a range of objectives, including reducing cumulative negative impacts from marine activities (Kirkfeldt and Andersen 2021); implementing ecosystem-based management (Douvere 2008; Lombard et al. 2019); achieving sustainable Blue Growth (Gustavsson and Morrissey 2019; Hassan et al. 2019; Gerhardinger et al. 2020; Guerreiro et al. 2021; Luhtala et al. 2021; Surís-Regueiro et al. 2021); managing stakeholder conflict and enhancing participation (Ritchie and Ellis 2010; Yates et al. 2015; Smythe and McCann 2019; Morzaria-Luna et al. 2020); and facilitating a transition to a local carbon society (Wright 2015; Hoegh-Guldberg et al. 2019; Dundas et al. 2020; Stelzenmüller et al. 2021b).

The broad appeal of MSP is partly due to it being so fundamentally different from the sectoral and fragmented regime. But this does not fully explain its rapid uptake globally. Other integrative and transformative alternatives had been developed, including, for example, integrated coastal zone management, but these have not been supported as enthusiastically in policy and stakeholder discourses. For some, MSP's dominant status is simply due to it being a logical idea whose time has come (Ehler 2018). Adopting this view, the global embracement of MSP is seen as being appropriate at this moment; the rapid adoption of MSP is simply the outworking of increasing demands for marine space and the recognition that this demand could not be sustainably managed through existing regimes. As I have argued elsewhere Flannery and McAteer (2020), I believe that this reasoning only partly explains the current popularity of MSP and that its conceptual simplicity and purported rationality also contribute to its broad appeal.

The enthusiastic uptake of MSP may also be a result of it being more accessible and acceptable than other solutions, such as ecosystem-based management. Spatial planning is a relatively intuitive and familiar concept that can be communicated easily through policy discourses. Drawing on this familiarity, dominant discourses

often portray MSP as an uncomplicated, inherently rational, and unbiased process that will simplify governance. Though MSP is regularly referred to as an ecosystem-focused approach (Foley et al. 2010), in practice it tends to be less concerned with environmental issues than other ecosystem management concepts (Macpherson et al. 2020). MSP may, therefore, be perceived as being a comparatively value-neutral concept when compared to these other approaches (Flannery and McAteer 2020). MSP is also more accessible to non-specialists than ecosystem-focused approaches, which have been critiqued for being exclusionary and privileging specific forms of knowledge (Díaz et al. 2018; Stefansson et al. 2019). Furthermore, prevailing policy discourses have adopted asocial and apolitical framings to advance MSP as an inherently "rational" means of achieving balanced management in the future (Tafon 2018). As will be outlined below, spatial planning processes are not rational and should be understood as power-laden processes wherein actors compete to shape the future of specific spaces (Tafon 2018, 2019). I argue, therefore, that we should view the dominance of MSP as a result of it being both a concept whose time has come (Ehler 2018) and due it the oversimplification of the socio-political nature of spatial planning and the problems it will address (Slater and Claydon 2020). This view is supported by recent studies that illustrate the considerable gap between how MSP has been conceptualised and how it has been implemented (Jones et al. 2016; Santos et al. 2018; Zuercher et al. 2022a).

MSP is now underway in about 50% of the nation states that have maritime waters (see Ehler (2020) for a review of MSP initiatives worldwide). While this illustrates its rapid and wide adoption, a significant and expanding body of research raises questions about its effectiveness in practice (Ritchie and Ellis 2010; Jones et al. 2016; Smith and Jentoft 2017; Smith 2018; Tafon et al. 2018; Boucquey et al. 2019; Fairbanks et al. 2019; Tafon 2019; Campbell et al., 2020). Although assessments of the effectiveness of MSP processes are dependent on local contextual factors and the selection of specific evaluative frameworks (Stojanovic and Gee 2020), a set of similar issues have been reported across different initiatives. For example, several MSP processes have been implemented in ways that are less than holistic, excluding key sectors, such as small-scale fisheries (Janßen et al. 2018; Piwowarczyk et al. 2019b; Said and Trouillet 2020) or issues, such as climate change (Rilov et al. 2020) or failing to incorporate conservation measures (Katsanevakis et al. 2020; Trouillet 2020; Kirkfeldt and Andersen 2021). Rather than being a forward-orientated process, MSP initiatives have been critiqued for merely giving spatial effect to past decisions, such as energy licenses (Jones et al. 2016; Clarke and Flannery 2020) or for being top-down processes focused on key economic sectors (Guerreiro et al. 2021). MSP initiatives have also been critiqued for reflecting existing power relations (Aschenbrenner and Winder 2019; Flannery and McAteer 2020; Páez et al. 2020; Ramírez-Monsalve and van Tatenhove 2020), and for being ambiguous both in terms of future objectives (Sander 2018; Clarke and Flannery 2020; Zuercher et al. 2022b), and monitoring processes (Stelzenmüller et al. 2015; O'Leary et al. 2019; Flannery and McAteer 2020; Stelzenmüller et al. 2021a). Although the uptake of MSP has been impressive, how it has been implemented

raises questions about its effectiveness to move marine governance into a different paradigm.

To return to the questions posed at the start of this section, I argue that MSP emerged as a genuine, yet socially naïve and oversimplified answer to the inadequacies of the existing management system. As it moves towards implementation, MSP has been further simplified, erasing, or ignoring the complex socio-political context of marine spaces (Flannery et al. 2016) and the ontological assumptions that underpin prevailing approaches to ocean management (Peters 2020). There is broad acceptance that the sectoral and fragmented management regime was ill-suited to managing the increasing demand from marine space and associated pressures and conflicts. However, the popular framing of MSP as neutral, rational, and capable of producing win-win solutions, means that the form of MSP that has emerged, and that will likely be implemented more broadly in the future, is reductive, asocial, and apolitical. Continuing in this vein will mean that MSP will lose credibility as a transformative governance approach (Flannery and McAteer 2020). This retrograde direction of travel is not an inherent failure of the concept of MSP, but rather, reflects inattention to issues of power within the original literature, and an approach to implementation that fails to address the socio-political complexity of marine spaces. The broad adoption of MSP does, however, offer opportunities for doing marine governance differently (Boucquey et al. 2019; Karnad and St. Martin 2020). For example, spatialising marine governance can empower marginalised stakeholders and communities. It is crucial, therefore, to identify key tension points in existing and emerging MSP processes, and to develop actions that can unsettle their suppression of more radical and progressive forms of MSP.

5.3 Who Wins and Loses, and Through Which Mechanisms?

It is difficult to evaluate who, exactly, is winning and losing in MSP processes as they are so new and the impacts of plans are yet to be fully evaluated. However, as outlined above, academic evaluations do seem to indicate that MSP has not transformed marine governance or delivered significant social or governance changes. The winners can, therefore, be thought of as those who are resistant to radical change and who believe their interests are best served through MSP implementation that falls short of its transformative potential. On the other hand, the losers can be considered those who would benefit from a fundamental transformation of the governance regime. From a review of the literature, MSP appears to repackage the *status quo* by failing to address five interrelated tensions: 1. participation – legitimisation; 2. rationality – partiality; 3. socio-political issues – technological solutions; 4. future-orientated – path-dependent; and 5. conflict management – silencing.

5.3.1 Participation – Legitimisation

The adoption of MSP is advocated as a way to enhance participation in marine governance and to produce win-win outcomes for stakeholders (Pomeroy and Douvere 2008; Carneiro 2013). Participation is framed as being central to effective MSP as it will give local communities a voice in planning processes, objective setting, and planning decisions. Participation in MSP will also: reduce user conflict; enhance participants' knowledge of the environment and their impacts; allow for different forms of knowledge to be included in planning processes; enhance trust in planning processes; and increase the legitimacy and acceptance of planning decisions (Pomeroy and Douvere 2008; Douvere and Ehler 2009; Ehler and Douvere 2009). In theory, by spatialising marine governance, MSP should broaden the constituency of stakeholders who participate in marine governance, moving participation beyond narrow sectoral silos and towards more shared mechanisms of planning and decision-making, which includes processes of space- or place- making.

While advocates are correct to highlight the potential positive impacts of participation, how governments have implemented MSP appears, in many cases to fall short of core participatory planning principles. MSP initiatives have been evaluated as being top-down, centralised processes (Scarff et al. 2015; Jones et al. 2016), that reassert rather than address longstanding community power dynamics (Flannery et al. 2018). Broad-scale and tokenistic participatory processes are common within existing MSP initiatives. Local and less powerful actors are reported as being engaged in tokenistic ways (Jones et al. 2016; Smith and Jentoft 2017). Within these MSP processes, power can be mobilised to marginalise particular groups of marine actors and "herd their participation and ways of knowing toward achieving limited policy outcomes" (Tafon 2018, p. 258). Furthermore, several participatory approaches that governments have used in MSP initiatives, such as townhall-style meetings, tend to take place during the latter stages of planning processes and seldom have a real impact on plan objectives (Flannery et al. 2018; Quesada-Silva et al. 2019). These processes are highly tokenistic, focusing on providing the appearance of inclusion and allowing governments to fulfil participatory obligations without meaningfully engaging with the public. This may mean "that MSP is not facilitating a paradigm shift towards publicly engaged marine management, and that it may simply repackage power dynamics in the rhetoric of participation to legitimise the agendas of dominant actors" (Flannery et al. 2018, p. 32).

5.3.2 Rationality – Partiality

Dominant policy discourses have framed MSP as being inherently rational. The adoption of space as a governance mechanism is a way of making rational decisions about how and where development should occur (Douvere 2008). This reasoning reinforces the perception that there is an unproblematic spatial configuration that

can be formulated to organise the many actors who compete for locations. This is, however, a highly asocial and apolitical conceptualisation of spatial planning. Comprehensive and rational planning is framed in a way that is distant from power and as having the capacity to produce broadly accepted outcomes. As Smith and Jentoft (2017, p. 34) assert, "as the theoretical foundation of Marine Spatial Planning was being laid, the issue of power was arguably not sufficiently problematized". MSP is neither neutral nor inherently rational, and like many other procedures it can, without due attention being given to power dynamics, produce unjust management outcomes that benefit some to the detriment of others (Jentoft 2017). The naïve framing of MSP as rational is founded on an uncritical understanding of the power dynamics with spatial planning. This does not mean that MSP processes cannot be made more equitable, just that greater attention needs to be paid in practice to different forms and mechanisms of power (Tafon et al. 2019; Ramírez-Monsalve and van Tatenhove 2020) and how they shape MSP processes and outcomes.

5.3.3 Socio-Political Issues – Technological Solutions

MSP has been advanced as a way of resolving a wide range of socio-political issues in the marine environment. For example, MSP is seen as a way of addressing the democratic deficit in marine governance and as a way of addressing issues such as coastal poverty. Although MSP may be able to address these topics, in practice they have tended to be pushed aside in favour of less complex issues. This may be because the spatial turn in marine governance has been accompanied by a rise in the use of geotechnologies. These geotechnologies seek to make marine space more understandable and governable but have been misapplied in ways that overgeneralise complex issues (Trouillet 2019).

The development of a Geographic Information System (GIS) database is a key part of MSP (Gimpel et al. 2018). These databases can help planners and stakeholders conceptualise marine areas and the issues within them (Shucksmith and Kelly 2014). A suite of decision-making tools has also been developed (Pınarbaşı et al. 2019). These tools can, for example, help diagnose the spatial interaction between activities, focus on cumulative effect assessments, or be part of decision support systems (Stelzenmüller et al. 2013). These databases and tools can contribute to evidence-based decision-making in MSP. Although the development of these databases and tools can benefit MSP and contribute to the development of more progressive and sustainable futures, in practice, many of them have come to be an end in themselves or are employed in ways that obscure, rather than resolve, complex socio-political marine issues (Smith and Brennan 2012; Trouillet 2019). For example, the complexity of social-ecological relations in the marine environment is increasingly simplified through the use of mapping technologies (Smith and Brennan 2012) and captured in geospatial databases (Boucquey et al. 2019),

creating problematic conceptualisations of relationships as being fixed and two-dimensional (Steinberg and Peters 2015). These GIS databases are analysed by technical experts to make 'rational' decisions about marine issues that have been disembodied from their social contexts. In this manner, MSP has been reduced to a mere technocratic exercise of allocating space efficiently, dulling its potential for envisaging alternative marine futures.

5.3.4 Future-Orientated – Path-Dependent

In contrast with the reactive management regime that preceded it, MSP is considered to be a future-oriented process that allows the public and stakeholders to shape actions that could lead to a more desirable future (Ehler 2018). To achieve this, MSP processes should focus on envisioning sustainable future socio-political and environmental scenarios and develop plans to realise them. This means that management regimes must move beyond a narrow focus on the present. What the future is to be for a particular marine area is likely to be highly contested and must also acknowledge the historical tension between traditional marine uses and new and emerging activities and how they may be resolved or exacerbated in the future. MSP must consider issues beyond sectoral trends and potential trade-offs. This should include issues such as climate change and how it may impact specific social-ecological systems and the diverse adaptive capacities of different communities (Santos et al. 2020, 2022).

Evaluations of MSP in practice illustrate, however, that many are adopting path-dependent rather than future-orientated approaches to plan development (Jones et al. 2016; Kelly et al. 2019; Clarke and Flannery 2020). For example, the fragmented licensing and management regimes, the complexity of which gave rise to MSP, will remain in place even as nation states begin to implement MSP. By entrenching historic practices while claiming to be future-orientated, many MSP processes create an artifice of progressive change while doing very little to address urgent marine issues (Jones et al. 2016). These issues have arisen as many MSP initiatives have been grafted onto existing governance structures and policy frameworks without due consideration being given to their capacity to deliver transformative change. This approach fails to address institutional and policy issues that undermine efforts at transformative change (Kelly et al. 2018), meaning that MSP is often implemented in a path-dependent manner, resulting in it becoming merely the spatialisation of the existing regime or in very incremental changes being implemented. Therefore, broader consideration needs to be given to how marine futures are imagined (Merrie et al. 2018; Spijkers et al. 2021) and realised in MSP processes (Gissi et al. 2019; Kelly et al. 2019).

5.3.5 *Conflict Management – Silencing*

One of the key things that MSP is celebrated for is its capacity to address conflict among competing activities. Growth in marine activities brings with it an increased possibility of conflict amongst and within sectors. The holistic, integrated, and participatory nature of MSP is seen as a way to avoid or minimize conflicts and maximize synergies across interests (Douvere and Ehler 2009). MSP initiatives can do this by examining potential future scenarios to identify who benefits and who loses from planning potential decisions (von Thenen et al. 2021) and develop actions to resolve potential conflicts (de Koning et al. 2021; Steins et al. 2021).

The approach to understanding conflict in both MSP literature and practice is very limited. A key issue is that both narrowly conceive of 'conflict' in spatial terms. As Arbo and Thuy (2016) have argued, this is seldom an of contending parties being in direct conflict with one another, and more an issue of competing spatial claims being submitted to governance agencies. Furthermore, focusing on spatial competition avoids acknowledging more challenging forms of conflicts such as those concerned with the distribution of costs, benefits, rights, and obligations. Limiting MSP to spatial conflict management limits what it could achieve and prevents important discussions about other issues that should feature in plans (e.g. poverty alleviation, equity, justice, climate change adaptation, etc.). This may mean that MSP initiatives perpetuate more insidious conflicts that have shaped marine governance and created specific winners and losers in terms of the benefits and costs of management decisions. By failing to engage with conflict beyond spatial competition, MSP narrowly focuses on the final stages of policy implementation (e.g. allocating space to specific activities) and silences or excludes broader debates about how the benefits on the marine environment should be realised and by whom.

5.4 Is This Desirable, and What Can Be Done to Make MSP Matter?

The concept of MSP holds considerable transformative potential. This includes the possibility of addressing longstanding issues that have arisen from sectoral and fragmented approaches and the prospect of reducing the democratic deficit in marine governance. Academic evaluations indicate, however, that the translation of the MSP concept into practice fails to realise this potential. Failure to adopt more radical or progressive forms of planning means that MSP in practice leans towards preserving the *status quo* and, more than likely, producing the same winners and losers as the previous fragmented and sectoral regime (Bennett et al. 2019). This is not desirable and corrective actions should be developed and implemented by those interested in advancing progressive and radical forms of MSP. The key tensions outlined above provide opportunities to reclaim the potential of MSP. These tensions are interrelated, and productive action in one may have a positive impact on

the others. Ideally, however, it would be preferable to develop actions that cut across all five tensions.

These tensions can be targeted through three interconnected actions: fostering greater stakeholder empowerment; politicizing MSP; and developing alternative and uncomfortable knowledge. To date, most MSP initiatives have tended to adopt tokenistic and power-blind forms of participation. Meaningful engagement cannot be achieved without acknowledging and addressing power asymmetries, especially those that prevent less powerful stakeholders from exercising an influence on decision-making (Greenwood and Van Buren III 2010). MSP initiatives need to be moved away from participation methods that ignore or reproduce these asymmetries and towards forms of engagement that recognise the uneven capacity across stakeholders to meaningfully engage with planning processes. To do this, MSP initiatives must start by recognising the different forms (Tafon et al. 2019) and mechanisms (Ramírez-Monsalve and van Tatenhove 2020) of power that can influence planning processes and outcomes, and by assessing stakeholder capacity to meaningfully engage with the planning initiative. Resources must then be provided to build stakeholder capacity before planning processes begin.

Capacity building will need to be targeted to the needs of specific stakeholders, but, given that MSP is here to stay, more general capacity-building initiatives should also be initiated. It may be useful to mirror initiatives from urban planning such as Planning Aid (RTPI 2020) and advocate planners (Flannery et al. 2016; Saunders et al. 2020; Tafon et al. 2018) that can provide support to stakeholders. Such intermediaries could focus on providing stakeholders with the necessary planning skills to make meaningful contributions to MSP processes. The capacity of planning teams to engage with stakeholders and to foster truly integrative planning processes should also be evaluated and addressed (Ansong et al. 2019; Vince and Day 2020).

There is a difference, however, between capacity building to engage with existing, skewed procesess and empowering stakeholders to change them. It is necessary, therefore, to develop mechanisms that facilitate stakeholder reflection about current processes and empower them to challenge existing discourses (van Tatenhove 2017). This can be done by politicizing MSP, which would entail debate about the very purpose of MSP and how it can be implemented in ways that serve a broader public good. Enabling deliberation within the limited remit of existing governance structures would probably fail to engender progressive changes. Mechanisms must be provided to enable stakeholders and governance institutions to engage in broader discussions about the structural and procedural changes needed to achieve more progressive MSP objectives. These discussions must include reflections on the purpose of MSP, how it can facilitate a break with past practices, and how to overcome structural barriers to transformative change. Reforming MSP is unlikely to feature highly on the political agenda and, therefore, different mechanisms of politicisation must be developed. This could be accomplished through, for example, long-term visioning exercises aimed at imagining radically different marine futures, supported by reflective processes for exploring and implementing the governance changes need to realise these visions. This could be facilitated by adopting a transition management approach to designing and implementing governance regime changes

(Kelly et al. 2018; Rudolph et al. 2020) and could incorporate more explicit processes for reflection and learning on an ongoing basis (Keijser et al. 2020). Any effort to change existing governance regimes must seek to deliberately include marginalised and excluded stakeholders (Tafon et al. 2021) and seek to empower them to engage meaningfully with these processes.

Empowering stakeholders to engage with and/or to politicise MSP regimes may mean that they will have to acquire the capacity to develop and mobilise alternative knowledge. By alternative knowledge, I am referring to knowledge that has not typically been captured by existing MSP processes and could include, for example, traditional and cultural knowledge, knowledge that illustrates the socio-ecological complexity of specific marine spaces, or uncomfortable knowledge (Rayner 2012) such as insights into corrupt planning practices, that have been excluded from planning processes. By producing and making use of alternative knowledge, stakeholders can begin to counter the prevailing discourses within marine governance. This may include, for example, countering how the marine problem is constructed (Ritchie and McElduff 2020), demonstrating to whose benefit and in whose interest existing problematisations serve (Ntona and Schröder 2020), or broadening the conceptualisation of social sustainability within MSP (Gilek et al. 2021).

The mechanisms of empowerment, politicisation, and knowledge production are clearly intertwined and can work together to rebalance the key tensions in MSP so that more progressive and novel forms are put into practice. Stakeholder empowerment will enable them to politicise MSP and counter processes that use participation to merely legitimise plans. Empowering them to develop and mobilise new or alternative knowledge will enable them to counter the assumed rationality of MSP and to better frame socio-political issues in ways that cannot be subsumed by the misapplication of geotechnologies. This new knowledge can also be developed in such ways that it can work with established geotechnologies to better illustrate the complexity of marine areas (St. Martin and Olson 2017). New knowledge about the 'marine issue' can be mobilised to develop progressive visions for the future of marine spaces and to foster real debate about how these might be realised in fair and just ways. However, none of these mechanisms will succeed if we fail to recognise that MSP is a concept whose time has come but that we need to develop alternative pathways to implementation for it to really matter.

5.5 Conclusion

The global uptake of MSP demands that attention is paid to understanding how it is being implemented and how it can be made better or to matter more. Evidence reported from recent evaluations indicates that MSP is not realising its transformative potential and that action needs to be taken to steer MSP towards something better. Focusing on key tensions may provide opportunities to insert different logic, knowledge, and power relations into ongoing and emerging MSP processes.

Action and research that focuses on empowering stakeholders, politicizing MSP processes, and developing alternative and uncomfortable knowledge, may provide opportunities to rebalance these tensions towards more novel and progressive forms of MSP.

References

Alexander K, Haward M (2019) The human side of marine ecosystem-based management (EBM): "sectoral interplay" as a challenge to implementing EBM. Mar Policy 101:33–38. https://doi.org/10.1016/j.marpol.2018.12.019

Ansong J, Calado H, Gilliland PM (2019) A multifaceted approach to building capacity for marine/maritime spatial planning based on European experience. Mar Policy 132:103422. https://doi.org/10.1016/j.marpol.2019.01.011

Arbo P, Thuy PTT (2016) Use conflicts in marine ecosystem-based management – the case of oil versus fisheries. Ocean Coast Manag 122:77–86. https://doi.org/10.1016/j.ocecoaman.2016.01.008

Aschenbrenner M, Winder GM (2019) Planning for a sustainable marine future? Marine spatial planning in the German exclusive economic zone of the North Sea. Applied Geogr 110:102050. https://doi.org/10.1016/j.apgeog.2019.102050

Bennett NJ, Cisneros-Montemayor AM, Blythe J, Silver JJ, Singh G, Andrews N, Calò A, Christie P, Di Franco A, Finkbeiner EM, Gelcich S (2019) Towards a sustainable and equitable blue economy. Nat Sustain 2(11):991–993. https://doi.org/10.1038/s41893-019-0404-1

Boucquey N, Martin KS, Fairbanks L, Campbell LM, Wise S (2019) Ocean data portals: performing a new infrastructure for ocean governance. Environ Plan D Soc Space 37(3):484–503. https://doi.org/10.1177/0263775818822829

Calado H, Pegorelli C, Frazão Santos C (2021) Maritime spatial planning and sustainable development. In: Leal Filho W et al (eds) Life below water. Springer, Cham, pp 1–11. https://doi.org/10.1007/978-3-319-71064-8_122-1

Campbell LM, St Martin K, Fairbanks L, Boucquey N, Wise S (2020) The portal is the plan: governing US oceans in regional assemblages. Maritime Studies 19(3):285–297

Carneiro G (2013) Evaluation of marine spatial planning. Mar Policy 37:214–229. https://doi.org/10.1016/j.marpol.2012.05.003

Clarke J, Flannery W (2020) The post-political nature of marine spatial planning and modalities for its re-politicisation. J Environ Policy Plan 22(2):170–183. https://doi.org/10.1080/1523908X.2019.1680276

Cohen PJ, Allison EH, Andrew NL, Cinner J, Evans LS, Fabinyi M, Garces LR, Hall SJ, Hicks CC, Hughes TP, Jentoft S (2019) Securing a just space for small-scale fisheries in the blue economy. Front Mar Sci 6. https://doi.org/10.3389/fmars.2019.00171

de Koning S, Steins N, van Hoof L (2021) Balancing sustainability transitions through state-led participatory processes: the case of the dutch north sea agreement. Sustainability 13(4):1–16. https://doi.org/10.3390/su13042297

Díaz S, Pascual U, Stenseke M, Martín-López B, Watson RT, Molnár Z, Hill R, Chan KM, Baste IA, Brauman KA, Polasky S (2018) Assessing nature's contributions to people. Science 359(6373):270–272

Douvere F (2008) The importance of marine spatial planning in advancing ecosystem-based sea use management. Mar Policy 32(5):762–771. https://doi.org/10.1016/j.marpol.2008.03.021

Douvere F, Ehler CN (2009) New perspectives on sea use management: initial findings from European experience with marine spatial planning. J Environ Manag 90(1):77–88. https://doi.org/10.1016/j.jenvman.2008.07.004

Dundas SJ, Levine AS, Lewison RL, Doerr AN, White C, Galloway AW, Garza C, Hazen EL, Padilla-Gamiño J, Samhouri JF, Spalding A (2020) Integrating oceans into climate policy: any green new deal needs a splash of blue. Conserv Lett 13:1–12. https://doi.org/10.1111/conl.12716

Eger SL, Stephenson RL, Armitage D, Flannery W, Courtenay SC (2021) Revisiting integrated coastal and marine management in Canada: opportunities in the Bay of Fundy. Front Mar Sci 8. https://doi.org/10.3389/fmars.2021.652778

Ehler CN (2018) Marine spatial planning: an idea whose time has come. In: Yates KL, Bradshaw CJA (eds) Offshore energy and marine spatial planning. Routledge, Oxon/New York, pp 6–17

Ehler CN (2020) Two decades of progress in marine spatial planning. Mar Policy 132:104134. https://doi.org/10.1016/j.marpol.2020.104134

Ehler C, Douvere F (2009) Marine spatial planning: a step-by-step approach. UNESCO, Paris

Fairbanks L, Boucquey N, Campbell LM, Wise S (2019) Remaking oceans governance: critical perspectives on marine spatial planning. Environ Soc Adv Res 10(1):122–140. https://doi.org/10.3167/ares.2019.100108

FAO (2020) The state of world fisheries and aquaculture 2020. Sustainability in action., FAO. https://doi.org/10.4060/ca9229en

Flannery W, McAteer B (2020) Assessing marine spatial planning governmentality. Marit Stud 19(3):269–284. https://doi.org/10.1007/s40152-020-00174-2

Flannery W, Ellis G, Ellis G, Flannery W, Nursey-Bray M, van Tatenhove JP, Kelly C, Coffen-Smout S, Fairgrieve R, Knol M, Jentoft S (2016) Exploring the winners and losers of marine environmental governance/marine spatial planning: cui bono?/?More than fishy business?: epistemology, integration and conflict in marine spatial planning/marine spatial planning: power and scaping/surely not all. Plan Theory Pract 17(1):121–151. https://doi.org/10.1080/14649357.2015.1131482

Flannery W, Healy N, Luna M (2018) Exclusion and non-participation in marine spatial planning. Mar Policy 88:32–40. https://doi.org/10.1016/j.marpol.2017.11.001

Flannery W, Clarke J, McAteer B (2019) Politics and power in marine spatial planning. In: Zaucha J, Gee K (eds) Maritime spatial planning. Palgrave Macmillan, London, pp 201–217

Flyvbjerg B (2001) Making social science matter. Cambridge University Press. https://doi.org/10.1017/CBO9780511810503

Flyvbjerg B, Landman T, Schram S (2012) Important next steps in phronetic social science. In: Flyvbjerg B, Landman T, Schram S (eds) Real social science: applied Phronesis. Cambridge University Press, Cambridge. https://doi.org/10.1017/CBO9780511719912

Flyvbjerg B, Landman T, Schram S (2016) Tension points: learning to make social science matter. Available at:. http://ssm.com/abstract=2721321. Accessed 8 May 2021

Foley MM, Halpern BS, Micheli F, Armsby MH, Caldwell MR, Crain CM, Prahler E, Rohr N, Sivas D, Beck MW, Carr MH (2010) Guiding ecological principles for marine spatial planning. Mar Policy 34(5):955–966. https://doi.org/10.1016/j.marpol.2010.02.001

Gerhardinger LC, de Andrade MM, Corrêa MR, Turra A (2020) Crafting a sustainability transition experiment for the Brazilian blue economy. Mar Policy 120:104157. https://doi.org/10.1016/j.marpol.2020.104157

Gilek M, Armoskaite A, Gee K, Saunders F, Tafon R, Zaucha J (2021) In search of social sustainability in marine spatial planning: a review of scientific literature published 2005–2020. Ocean Coastal Manage 208:105618. https://doi.org/10.1016/j.ocecoaman.2021.105618

Gimpel A, Stelzenmüller V, Töpsch S, Galparsoro I, Gubbins M, Miller D, Murillas A, Murray AG, Pınarbaşı K, Roca G, Watret R (2018) A GIS-based tool for an integrated assessment of spatial planning trade-offs with aquaculture. Sci Total Environ 627:1644–1655. https://doi.org/10.1016/j.scitotenv.2018.01.133

Gissi E, Fraschetti S, Micheli F (2019) Incorporating change in marine spatial planning: a review. Environ Sci Policy 92:191–200. https://doi.org/10.1016/j.envsci.2018.12.002

Greenwood M, Van Buren HJ III (2010) Trust and stakeholder theory: trustworthiness in the organisation–stakeholder relationship. J Bus Ethics 95(3):425–438

Guerreiro J, Carvalho A, Casimiro D, Bonnin M, Calado H, Toonen H, Fotso P, Ly I, Silva O, da Silva ST (2021) Governance prospects for maritime spatial planning in the tropical Atlantic compared to EU case studies. Mar Policy 123:104294. https://doi.org/10.1016/j.marpol.2020.104294

Gustavsson M, Morrissey K (2019) A typology of different perspectives on the spatial economic impacts of marine spatial planning. J Environ Policy Plan 21:1–13. https://doi.org/10.1080/1523908X.2019.1680274

Hassan D, Ashraf MAA, Alam MA (2019) Institutional arrangements for the blue economy: marine spatial planning a way forward. *journal of ocean and coastal economics* 6(2). https://doi.org/10.15351/2373-8456.1107

Hoegh-Guldberg O, Northrop E, Lubchenco J (2019) The ocean is key to achieving climate and societal goals. Science 365(6460):1372–1374. https://doi.org/10.1126/science.aaz4390

Janßen H, Bastardie F, Eero M, Hamon KG, Hinrichsen HH, Marchal P, Nielsen JR, Le Pape O, Schulze T, Simons S, Teal LR (2018) Integration of fisheries into marine spatial planning: quo vadis? Estuar Coast Shelf Sci 201:105–113. https://doi.org/10.1016/j.ecss.2017.01.003

Jentoft S (2017) Small-scale fisheries within maritime spatial planning: knowledge integration and power. J Environ Policy Plan 19(3):266–278. https://doi.org/10.1080/1523908X.2017.1304210

Jones PJ, Lieberknecht LM, Qiu W (2016) Marine spatial planning in reality: introduction to case studies and discussion of findings. Mar Policy 71:256–264. https://doi.org/10.1016/j.marpol.2016.04.026

Karnad D, St. Martin K (2020) Assembling marine spatial planning in the global south: international agencies and the fate of fishing communities in India. Marit Stud 19(3):375–387. https://doi.org/10.1007/s40152-020-00164-4

Katsanevakis S, Coll M, Fraschetti S, Giakoumi S, Goldsborough D, Mačić V, Mackelworth P, Rilov G, Stelzenmüller V, Albano PG, Bates AE (2020) Twelve recommendations for advancing marine conservation in European and contiguous seas. Front Mar Sci 7:1–18. https://doi.org/10.3389/fmars.2020.565968

Keijser X, Toonen H, van Tatenhove J (2020) A "learning paradox" in maritime spatial planning. Marit Stud 19(3):333–346. https://doi.org/10.1007/s40152-020-00169-z

Kelly C, Ellis G, Flannery W (2018) Conceptualising change in marine governance: learning from transition management. Mar Policy 95:24–35. https://doi.org/10.1016/j.marpol.2018.06.023

Kelly C, Ellis G, Flannery W (2019) Unravelling persistent problems to transformative marine governance. Front Mar Sci 6:1–15. https://doi.org/10.3389/fmars.2019.00213

Kirkfeldt TS, Andersen JH (2021) Assessment of collective pressure in marine spatial planning: the current approach of EU member states. Ocean Coast Manag 203:105448. https://doi.org/10.1016/j.ocecoaman.2020.105448

Lester SE, Stevens JM, Gentry RR, Kappel CV, Bell TW, Costello CJ, Gaines SD, Kiefer DA, Maue CC, Rensel JE, Simons RD (2018) Marine spatial planning makes room for offshore aquaculture in crowded coastal waters. Nat Commun 9(1):945. https://doi.org/10.1038/s41467-018-03249-1

Lombard AT, Dorrington RA, Reed JR, Ortega-Cisneros K, Penry GS, Pichegru L, Smit KP, Vermeulen EA, Witteveen M, Sink KJ, McInnes AM (2019) Key challenges in advancing an ecosystem-based approach to marine spatial planning under economic growth imperatives. Front Mar Sci 6. https://doi.org/10.3389/fmars.2019.00146

Luhtala H, Erkkilä-Välimäki A, Eliasen SQ, Tolvanen H (2021) Business sector involvement in maritime spatial planning – experiences from the Baltic Sea region. Mar Policy 123(June 2020):104301. https://doi.org/10.1016/j.marpol.2020.104301

Macpherson E, Urlich SC, Rennie HG, Paul A, Fisher K, Braid L, Banwell J, Ventura JT, Jorgensen E (2020) "Hooks" and "anchors" for relational ecosystem-based marine management. Mar Policy. https://doi.org/10.1016/j.marpol.2021.104561

McKinley E, Acott T, Stojanovic T (2019) Socio-cultural dimensions of marine spatial planning. In: Zaucha J, Gee K (eds) Maritime spatial planning. Palgrave Macmillan, London, pp 151–174

Merrie A, Keys P, Metian M, Österblom H (2018) Radical ocean futures-scenario development using science fiction prototyping. Futures 95:22–32. https://doi.org/10.1016/j.futures.2017.09.005

Morzaria-Luna H, Turk-Boyer P, Polanco-Mizquez EI, Downton-Hoffmann C, Cruz-Piñón G, Carrillo-Lammens T, Loaiza-Villanueva R, Valdivia-Jiménez P, Sánchez-Cruz A, Peña-Mendoza V, López-Ortiz AM (2020) Coastal and Marine Spatial Planning in the Northern Gulf of California, Mexico: consolidating stewardship, property rights, and enforcement for ecosystem-based fisheries management. Ocean Coast Manag 197(July):105316. https://doi.org/10.1016/j.ocecoaman.2020.105316

Noble MM, Harasti D, Pittock J, Doran B (2019) Linking the social to the ecological using GIS methods in marine spatial planning and management to support resilience: a review. Mar Policy 108:103657

Ntona M, Morgera E (2018) Connecting SDG 14 with the other sustainable development goals through marine spatial planning. Mar Policy 93:214–222. https://doi.org/10.1016/j.marpol.2017.06.020

Ntona M, Schröder M (2020) Regulating oceanic imaginaries: the legal construction of space, identities, relations and epistemological hierarchies within marine spatial planning. Maritime Studies 19(3):241–254

O'Hagan AM, Paterson S, Le Tissier M (2020) Addressing the tangled web of governance mechanisms for land-sea interactions: assessing implementation challenges across scales. Mar Policy 112:103715. https://doi.org/10.1016/j.marpol.2019.103715

O'Leary BC, Stewart BD, McKinley E, Addison PF, Williams C, Carpenter G, Righton D, Yates KL (2019) What is the nature and extent of evidence on methodologies for monitoring and evaluating marine spatial management measures in UK and similar coastal waters? A systematic map protocol. Environ Evid 8(1):1–9. https://doi.org/10.1186/s13750-019-0178-y

Páez DP, Bojórquez-Tapia LA, Ramos GCD, Chavero EL (2020) Understanding translation: co-production of knowledge in marine spatial planning. Ocean Coast Manag 190:105163. https://doi.org/10.1016/j.ocecoaman.2020.105163

Peters K (2020) The territories of governance: unpacking the ontologies and geophilosophies of fixed to flexible ocean management, and beyond: the territories of governance. Philos Trans R Soc B Biol Sci 375(1814):20190458. https://doi.org/10.1098/rstb.2019.0458rstb20190458

Pınarbaşı K, Galparsoro I, Borja Á (2019) End users' perspective on decision support tools in marine spatial planning. Mar Policy 108:103658. https://doi.org/10.1016/j.marpol.2019.103658

Piwowarczyk J, Gee K, Gilek M, Hassler B, Luttmann A, Maack L, Matczak M, Morff A, Saunders F, Stalmokaite I, Zaucha J (2019a) Insights into integration challenges in the Baltic Sea region marine spatial planning: implications for the HELCOM-VASAB principles. Ocean Coast Manag 175:98–109. https://doi.org/10.1016/j.ocecoaman.2019.03.023

Piwowarczyk J, Matczak M, Rakowski M, Zaucha J (2019b) Challenges for integration of the Polish fishing sector into marine spatial planning (MSP): do fishers and planners tell the same story? Ocean Coast Manag 181:104917. https://doi.org/10.1016/j.ocecoaman.2019.104917

Pomeroy R, Douvere F (2008) The engagement of stakeholders in the marine spatial planning process. Mar Policy 32(5):816–822. https://doi.org/10.1016/j.marpol.2008.03.017

Quesada-Silva M, Iglesias-Campos A, Turra A, Suárez-de Vivero JL (2019) Stakeholder participation assessment framework (SPAF): a theory-based strategy to plan and evaluate marine spatial planning participatory processes. Mar Policy 108. https://doi.org/10.1016/j.marpol.2019.103619

Ramírez-Monsalve P, van Tatenhove J (2020) Mechanisms of power in maritime spatial planning processes in Denmark. Ocean Coast Manag 198:105367. https://doi.org/10.1016/j.ocecoaman.2020.105367

Rayner S (2012) Uncomfortable knowledge: the social construction of ignorance in science and environmental policy discourses. Econ Soc 41(1):107–125. https://doi.org/10.1080/03085147.2011.637335

Reimer JM, Devillers R, Claudet J (2021) Benefits and gaps in area-based management tools for the ocean Sustainable Development Goal. Nat Sustain 4(4):349–357. https://doi.org/10.1038/s41893-020-00659-2

Rilov G, Fraschetti S, Gissi E, Pipitone C, Badalamenti F, Tamburello L, Menini E, Goriup P, Mazaris AD, Garrabou J, Benedetti-Cecchi L (2020) A fast-moving target: achieving marine conservation goals under shifting climate and policies. Ecol Appl 30(1):1–14. https://doi.org/10.1002/eap.2009

Ritchie H, Ellis G (2010) "A system that works for the sea"? Exploring stakeholder engagement in marine spatial planning. J Environ Plan Manag 53(6):701–723. https://doi.org/10.1080/09640568.2010.488100

Ritchie H, McElduff L (2020) The whence and whither of marine spatial planning: revisiting the social reconstruction of the marine environment in the UK. Maritime Studies 19(3):229–240

RTPI (2020) About Planning Aid England. Available at: https://www.rtpi.org.uk/planning-advice/about-planning-aid-england/. Accessed 17 May 2021

Rudolph TB, Ruckelshaus M, Swilling M, Allison EH, Österblom H, Gelcich S, Mbatha P (2020) A transition to sustainable ocean governance. Nat Commun 11(1):1–14

Said A, Trouillet B (2020) Bringing "deep knowledge" of fisheries into marine spatial planning. Marit Stud 19(3):347–357. https://doi.org/10.1007/s40152-020-00178-y

Sander G (2018) Ecosystem-based management in Canada and Norway: the importance of political leadership and effective decision-making for implementation. Ocean Coast Manag 163:485–497. https://doi.org/10.1016/j.ocecoaman.2018.08.005

Santos CF, Agardy T, Andrade F, Crowder LB, Ehler CN, Orbach MK (2018) Major challenges in developing marine spatial planning. 132:103248. https://doi.org/10.1016/j.marpol.2018.08.032

Santos CF, Agardy T, Andrade F, Calado H, Crowder LB, Ehler CN, García-Morales S, Gissi E, Halpern BS, Orbach MK, Pörtner HO (2020) Integrating climate change in ocean planning. Nat Sustain 3:505–516. https://doi.org/10.1038/s41893-020-0513-x

Santos CF, Agardy T, Allison EH, Bennett NJ, Blythe JL, Calado H, Crowder LB, Day JC, Flannery W, Gissi E, Gjerde KM (2022) A sustainable ocean for all. npj Ocean Sustainability 1(1):1–2

Saunders F, Gilek M, Ikauniece A, Tafon RV, Gee K, Zaucha J (2020) Theorizing social sustainability and justice in marine spatial planning: democracy, diversity, and equity. Sustainability 12(6):1–18. https://doi.org/10.3390/su12062560

Scarff G, Fitzsimmons C, Gray T (2015) The new mode of marine planning in the UK: aspirations and challenges. Mar Policy 51:96–102. https://doi.org/10.1016/j.marpol.2014.07.026

Schram SF (2004) Beyond paradigm: resisting the assimilation of phronetic social science. Polit Soc 32(3):417–433

Schutter MS, Hicks CC (2019) Networking the blue economy in Seychelles: pioneers, resistance, and the power of influence. J Polit Ecol 26(1):425–447. https://doi.org/10.2458/v26i1.23102

Schütz SE, Slater AM (2019) From strategic marine planning to project licences – striking a balance between predictability and adaptability in the management of aquaculture and offshore wind farms. Mar Policy 110:103556. https://doi.org/10.1016/j.marpol.2019.103556

Shucksmith RJ, Kelly C (2014) Data collection and mapping – principles, processes and application in marine spatial planning. Mar Policy 50:27–33. https://doi.org/10.1016/j.marpol.2014.05.006

Slater AM, Claydon J (2020) Marine spatial planning in the UK: a review of the progress and effectiveness of the plans and their policies. Environ Law Rev 22(2):85–107. https://doi.org/10.1177/1461452920927340

Smith G (2018) Good governance and the role of the public in Scotland's marine spatial planning system. Mar Policy 94:1–9. https://doi.org/10.1016/j.marpol.2018.04.017

Smith G, Brennan RE (2012) Losing our way with mapping: thinking critically about marine spatial planning in Scotland. Ocean Coastal Manage 69:210–216. https://doi.org/10.1016/j.ocecoaman.2012.08.016

Smith G, Jentoft S (2017) Marine spatial planning in Scotland. Levelling the playing field? Mar Policy 84:33–41. https://doi.org/10.1016/j.marpol.2017.06.024

Smythe TC, McCann J (2019) Achieving integration in marine governance through marine spatial planning: findings from practice in the United States. Ocean Coast Manag 167:197–207. https://doi.org/10.1016/j.ocecoaman.2018.10.006

Spijkers J, Merrie A, Wabnitz CC, Osborne M, Mobjörk M, Bodin Ö, Selig ER, Le Billon P, Hendrix CS, Singh GG, Keys PW (2021) Exploring the future of fishery conflict through narrative scenarios. One Earth 4(3):386–396. https://doi.org/10.1016/j.oneear.2021.02.004

St. Martin K, Olson J (2017) Creating space for community in marine conservation and management: mapping 'communities at sea'. In: Levin P, Poe M (eds) Conservation in the Anthropocene Ocean. Elsevier, pp 123–141

Stefansson G, Punt AE, Ruiz J, Putten IV, Agnarsson S, Daníelsdóttir AK (2019) Implementing the ecosystem approach to fisheries management. Fish Res 216:174–176. https://doi.org/10.1016/j.fishres.2019.04.014

Steinberg P, Peters K (2015) Wet ontologies, fluid spaces: giving depth to volume through oceanic thinking. Environ Plang D Soc Space 33(2):247–264. https://doi.org/10.1068/d14148p

Steins NA, Veraart JA, Klostermann JE, Poelman M (2021) Combining offshore wind farms, nature conservation and seafood: lessons from a Dutch community of practice. Mar Policy 126(July 2020):104371. https://doi.org/10.1016/j.marpol.2020.104371

Stelzenmüller V, Lee J, South A, Foden J, Rogers SI (2013) Practical tools to support marine spatial planning: a review and some prototype tools. Mar Policy 38:214–227. https://doi.org/10.1016/j.marpol.2012.05.038

Stelzenmüller V, Fernández TV, Cronin K, Röckmann C, Pantazi M, Vanaverbeke J, Stamford T, Hostens K, Pecceu E, Degraer S, Buhl-Mortensen L (2015) Assessing uncertainty associated with the monitoring and evaluation of spatially managed areas. Mar Policy:151–162. https://doi.org/10.1016/j.marpol.2014.08.001

Stelzenmüller V, Cormier R, Gee K, Shucksmith R, Gubbins M, Yates KL, Morf A, Aonghusa CN, Mikkelsen E, Tweddle JF, Peccu E (2021a) Evaluation of marine spatial planning requires fit for purpose monitoring strategies. J Environ Manage 278(P2):111545. https://doi.org/10.1016/j.jenvman.2020.111545

Stelzenmüller V, Gimpel A, Haslob H, Letschert J, Berkenhagen J, Brüning S (2021b) Sustainable co-location solutions for offshore wind farms and fisheries need to account for socio-ecological trade-offs. Sci Total Environ 776:145918. https://doi.org/10.1016/j.scitotenv.2021.145918

Stojanovic T, Gee K (2020) Governance as a framework to theorise and evaluate marine planning. Mar Policy 120:104115. https://doi.org/10.1016/j.marpol.2020.104115

Strickland-Munro J, Kobryn H, Brown G, Moore SA (2016) Marine spatial planning for the future: using public participation GIS (PPGIS) to inform the human dimension for large marine parks. Mar Policy 73:15–26

Surís-Regueiro JC, Santiago JL, González-Martínez XM, Garza-Gil MD (2021) An applied framework to estimate the direct economic impact of Marine Spatial Planning. Mar Policy:127. https://doi.org/10.1016/j.marpol.2021.104443

Tafon RV (2018) Taking power to sea: towards a post-structuralist discourse theoretical critique of marine spatial planning. Environ Plan C Polit Space 36(2):258–273. https://doi.org/10.1177/2399654417707527

Tafon RV (2019) Small-scale fishers as allies or opponents? Unlocking looming tensions and potential exclusions in Poland's marine spatial planning. J Environ Policy Plan, 1–12. https://doi.org/10.1080/1523908X.2019.1661235

Tafon R, Howarth D, Griggs S (2018) The politics of Estonia's offshore wind energy programme: discourse, power and marine spatial planning. Environ Plan C Polit Space:1–20. https://doi.org/10.1177/2399654418778037

Tafon R, Saunders F, Gilek M (2019) Re-reading marine spatial planning through Foucault, Haugaard and others: an analysis of domination, empowerment and freedom. J Environ Policy Plan 21(6):754–768. https://doi.org/10.1080/1523908X.2019.1673155

Tafon R, Glavovic B, Saunders F, Gilek M (2021) Oceans of conflict : pathways to an ocean sustainability PACT oceans of conflict : pathways to an ocean sustainability PACT. Plan Pract Res 37:1–18. https://doi.org/10.1080/02697459.2021.1918880

Toonen HM, van Tatenhove JPM (2013) Marine scaping: the structuring of marine practices. Ocean Coast Manag 75:43–52. https://doi.org/10.1016/j.ocecoaman.2013.01.001

Toonen HM, van Tatenhove JPM (2020) Uncharted territories in tropical seas? Marine scaping and the interplay of reflexivity and information. Marit Stud 19(3):359–374. https://doi.org/10.1007/s40152-020-00177-z

Trouillet B (2019) Aligning with dominant interests: the role played by geo-technologies in the place given to fisheries in marine spatial planning. Geoforum 107:54–65. https://doi.org/10.1016/j.geoforum.2019.10.012

Trouillet B (2020) Reinventing marine spatial planning: a critical review of initiatives worldwide. J Environ Policy Plan 22(4):441–459. https://doi.org/10.1080/1523908X.2020.1751605

van Tatenhove JPM (2017) Transboundary marine spatial planning: a reflexive marine governance experiment? J Environ Policy Plan 19(6):783–794. https://doi.org/10.1080/1523908X.2017.1292120

Vince J, Day JC (2020) Effective integration and integrative capacity in marine spatial planning. Marit Stud 19(3):317–332. https://doi.org/10.1007/s40152-020-00167-1

von Thenen M, Hansen HS, Schiele KS (2021) A generalised marine planning framework for site selection based on ecosystem services. Mar Policy 124:104326. https://doi.org/10.1016/j.marpol.2020.104326

Wright G (2015) Marine governance in an industrialised ocean: a case study of the emerging marine renewable energy industry. Mar Policy 52:77–84. https://doi.org/10.1016/j.marpol.2014.10.021

Wright G, Gjerde KM, Johnson DE, Finkelstein A, Ferreira MA, Dunn DC, Chaves MR, Grehan A (2019) Marine spatial planning in areas beyond national jurisdiction. Mar Policy 103384:103384. https://doi.org/10.1016/j.marpol.2018.12.003

Xu W, Liu Y, Wu W, Dong Y, Lu W, Liu Y, Zhao B, Li H, Yang R (2020) Proliferation of offshore wind farms in the North Sea and surrounding waters revealed by satellite image time series. Renew Sust Energ Rev 133:110167. https://doi.org/10.1016/j.rser.2020.110167

Yates KL, Schoeman DS, Klein CJ (2015) Ocean zoning for conservation, fisheries and marine renewable energy: assessing trade-offs and co-location opportunities. J Environ Manag 152:201–209. https://doi.org/10.1016/j.jenvman.2015.01.045

Young N, Brattland C, Digiovanni C, Hersoug B, Johnsen JP, Karlsen KM, Kvalvik I, Olofsson E, Simonsen K, Solås AM, Thorarensen H (2019) Limitations to growth: social-ecological challenges to aquaculture development in five wealthy nations. Mar Policy 104(April 2018):216–224. https://doi.org/10.1016/j.marpol.2019.02.022

Zuercher R, Motzer N, Magris RA, Flannery W (2022a) Narrowing the gap between marine spatial planning aspirations and realities. ICES J Mar Sci 79(3):600–608

Zuercher R, Ban NC, Flannery W, Guerry AD, Halpern BS, Magris RA, Mahajan SL, Motzer N, Spalding AK, Stelzenmüller V, Kramer JG (2022b) Enabling conditions for effective marine spatial planning. Mar Policy 143:105141

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