

# Chartered waters? Tracking the production of conservation territories on the high seas

Noella J. Gray 

---

## Introduction

From bleached reefs to declining fish stocks and plastic garbage patches, recent research and news headlines suggest that the oceans are in a state of crisis. The crisis is often explained using the “overuse narrative” of the oceans (Steinberg 2008), which highlights how historic human interactions with the oceans have followed a “frontier mentality”. Specifically, the oceans have often been treated as a resource frontier that is paradoxically characterised by both abundance and emptiness; marine resources are seen as abundant, available to be exploited as efficiently and maximally as possible, while marine space is vast and empty, available to absorb waste and pollutants. The recent, rapid decline in marine biodiversity, and its consequences for ecosystem function and services, is a result of this frontier mentality and a key feature of the oceans crisis (Sala and Knowlton 2006).

While responses to the various elements of the “oceans crisis” are many and diverse, scientists and conservationists overwhelmingly advocate for marine protected areas (MPAs), especially no-take areas, as the preferred tool for marine biodiversity conservation (Gray 2010). The IUCN defines protected areas, including marine protected areas, as any “clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated

ecosystem services and cultural values” (Dudley 2008, p.8). The number and spatial extent of MPAs worldwide has increased dramatically in recent years (UNEP-WCMC and IUCN 2016). This increase is emblematic of a broader proliferation of conservation territories, defined by Zimmerer (2006, p.65) as “human-designed spaces of nature protection and resource management”. Conservation territories are spatial interventions premised on legal and/or other institutional systems that rework human-environment relations and resource access and control

in particular ways. An MPA is thus both a form of territory (Chmara-Huff 2014) and an object of governance (Jentoft *et al.* 2007). In this paper, I examine the long-term, international effort to enable establishment of MPAs in areas beyond national jurisdiction (“the high seas”), a process that is significant both for its potential to rework the high seas frontier mentality to include conservation and for its implications for the concept of territory.

MPAs play a central role in international marine biodiversity conservation efforts (Gray 2010; Gray *et al.* 2014). The Parties to the Convention on Biological Diversity have set a target of 10 per cent of global oceans protected within MPAs by 2020 (CBD 2010a), a target that is also integrated into the United Nations Sustainable Development Goal 14 for the Oceans. Marine protected areas currently cover 6.97 per cent of the global ocean; this includes coverage of 16.03 per cent of coastal and marine areas *within* national jurisdictions, but

Noella J. Gray is an Associate Professor in the Department of Geography at the University of Guelph, Ontario, Canada. Her research examines the politics of marine conservation and governance across scales. Email: grayn@uoguelph.ca

only 1.18 per cent of areas *beyond* national jurisdiction (the high seas) (UNEP-WCMC and IUCN 2018). Of the currently listed 15,604 MPAs in the World Database on Protected Areas, only nine sites are on the high seas (UNEP-WCMC and IUCN 2018). These nine high seas MPAs have been established through two regional agreements: the OSPAR Commission has established seven sites in the Northeast Atlantic; and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) has established two sites, including the 1.55 million km<sup>2</sup> Ross Sea MPA in 2017. Thus, while biodiversity conservation on some parts of the high seas is possible using existing sectoral and regional agreements, scholars and conservationists argue that there is a need for a more cooperative, integrated, multi-sectoral approach (Ardron *et al.* 2014; Gjerde *et al.* 2016). However, the overarching legal framework for the oceans – the United Nations Convention on the Law of the Sea (UNCLOS) – does not currently provide a legal mechanism for establishing marine protected areas or otherwise ensuring marine biodiversity conservation in areas beyond national jurisdiction. Thus, with a few exceptions, MPAs lack institutional and legal support to function as objects of governance for the high seas. No longer just the “last frontier of exploitation” (Merrie *et al.* 2014, p.19), the high seas are now also “Earth’s last conservation frontier” (Gjerde *et al.* 2016, p.56).

Multiple actors have been working towards closing this high seas “governance gap” (Gjerde 2008) for more than a decade, including through the UN “Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction” (known as “the BBNJ working group”) and the subsequent Preparatory Committee on the development of an international legally binding instrument under the United Nations Convention on the Law of the Sea (hereafter “the Implementing Agreement”) on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (“the PrepCom”). On 24 December 2017, after almost a decade of formal consultation through the BBNJ working group and the PrepCom, the United Nations General Assembly adopted Resolution 72/249, committing to develop an Implementing Agreement under UNCLOS in order to better

enable biodiversity conservation in areas beyond national jurisdiction (United Nations 2018a). The draft text of this agreement identifies a “package” of issues, including MPAs and other area-based management tools, as well as benefit-sharing for marine genetic resources, environmental impact assessments, and capacity building and technology transfer (United Nations 2018a; see also Druel and Gjerde 2014; Gjerde *et al.* 2016). If adopted, it will be the culmination of a long-term, organised effort to advance biodiversity conservation on the high seas.

There are many ways to tell this story of high seas conservation. Most scholars have focused on establishing the need for a legally binding instrument and outlining its key functions and components (Ardron *et al.* 2014; Druel and Gjerde 2014; Gjerde *et al.* 2016). In contrast, my interest here is not in whether and how such a legal instrument will be achieved, what it should contain, or why it is necessary. Rather, I seek to examine how, in their efforts to arrive at (or oppose) such an instrument, various actors have co-produced high seas conservation territories as a potential object of governance. Co-production refers to the ways in which “knowledge-making is incorporated into practices of state-making, or of governance more broadly, and, in reverse, how practices of governance influence the making and use of knowledge” (Jasanoff 2004, p.3). I argue that specific kinds of knowledge and representations – namely, biophysical science and geospatial technologies of visualisation – are simultaneously constituting the high seas and efforts to conserve them in terms of territory. Actors engaged in these knowledge-making practices are creating an “imaginative geography” (Said 1978; see also Gregory 1995; Toonen and Bush 2018) of the high seas, which underpins efforts to develop a legal regime that could support the establishment of high seas conservation territories. The paper demonstrates how diverse actors work to produce territory in non-state spaces through both technical and legal means (Elden 2010), and directs attention to the consequences of this – in terms of how territory is understood, what kinds of knowledge count in its construction, and how its governance is envisioned. It also reveals the ways in which the production of territory on the high seas both reflects and informs a shift in the “frontier mentality” of the oceans – from resource frontier to a conservation and science frontier.

## Science and the co-production of territory

Territory and territoriality offer an opening for analysing the production of conservation territories on the high seas. Territory is conventionally understood as a bounded space, within which a particular actor or group, typically a state, exercises control (Elden 2010). Territoriality refers to the way actors behave in relation to territory, in an effort to delineate, control, and claim authority over bounded space (Elden 2010; Sasken 2013; Steinberg 2009). However, territory cannot be taken as pre-given; it is a “political technology” that must be produced through technical and legal means (Elden 2010). This production is always historically contingent; as Braun (2000, p.28) notes, “what counts as ‘territory with its qualities’ does not precede its construction”. Territory is not an “inert thing”, it is an emergent and constantly transforming concept that can only be understood in relation to the social processes of territoriality that produce it (Delaney 2005). Any attempt to understand MPAs on the high seas must grapple with the question of how territory is produced – through which strategies and practices of “representation, appropriation, and control” (Elden 2010, p.6).

Territory is often taken as the physical basis for state power (Elden 2010). Modern states are premised on “territorial state sovereignty” – sovereign control of the space bounded by national borders (i.e., territory), which is recognised both internally by the state’s subjects and externally by other states (Steinberg 2009). Under UNCLOS this premise has extended to the territorial sea of states; as a result, “MPAs are traditionally associated with notions of territorial control and state jurisdiction” (Scott 2012, p.851). An immediate dilemma arises: the production of conservation territories (MPAs) on the high seas is a seemingly impossible project, given the link between territory and the state. The high seas are, by definition, areas beyond national jurisdiction and beyond the control of individual states. If no one can be excluded and nothing can be on the “outside”, can the high seas be understood in terms of territory? Steinberg (2009, p.472) argues that “geographies of territoriality must examine not just the . . . space constructed inside the territories of sovereign states but also the spaces on the outside that are designated as not being amenable to this organization of space”.

In this paper I am interested in efforts to make “unamenable space” (the high seas) amenable to the spatial logic and ideas of control and management associated with the concept of territory (Steinberg 2009).

However, such an analysis must acknowledge that territory is not associated exclusively with modern nation-states; although territory has come to be synonymous with sovereign state space, this equivalence is problematic for several reasons. First, it falls into the “territorial trap” (Agnew 1994), which falsely assumes that states are fixed units of bounded, sovereign space that act as “containers for society”. In contrast, Havice (2018) draws on the case of tuna fisheries in the Pacific to demonstrate how states can assert a dynamic, more-than-territorial sovereignty enabled by the mobility of migratory tuna, fishing vessels, and global capital. Second, there are numerous territorial configurations both within states (political subdivisions, lots of private property, parks) and encompassing multiple states or parts of states (e.g., the European Union, transboundary protected areas) (Delaney 2005; Lunstrum 2013). Moreover, some emergent territorial formations operate within the terrain of nation-states, while simultaneously evading (partially or entirely) the legal institutions of the nation-state (Sasken 2013). For example, Vandergeest and Unno (2012) show how a transnational aquaculture eco-certification scheme imposes an extraterritorial form of resource governance, creating a “certification territory” that reinforces state management even as it undermines state sovereignty. Finally, private actors (e.g., private corporations, non-governmental organisations (NGOs), not just states, may help to define, produce, and control state territory; this is particularly salient for conservation territories, in which non-governmental organisations (NGOs) are expanding their control in cooperation with state actors (Corson 2011; Lunstrum 2013). Ultimately, what matters is what (and who) counts as “in” or “out” of the bounded spaces of territories, why, and how particular actors achieve territorial authority (Delaney 2005). I will build on this work by examining how both state and non-state actors simultaneously work to produce territory on the high seas (i.e., calculated spaces in “non-state space”), and engage in territoriality – an attempt to coordinate action towards these spaces for conservation, defining what and who count as “in” and “out”.

The effort to produce conservation territories on the high seas must be understood in relation to a broader history of oceans governance over the past 500 years, which has been marked by “alternating currents for and against division and territorial enclosure” (Steinberg 1999, p.254). Oceans have historically been weakly territorialised relative to land. However, in recent decades there has been a shift toward enclosure of the oceans by states, along with a rising interest in environmental protection and “rational” management of marine resources (Fairbanks *et al.* 2018; Mansfield 2004; Scott 2012; Steinberg 2001). Ocean enclosures include a variety of spatial practices, such as the establishment of 200 nm exclusive economic zones (EEZs), state claims to outer continental shelves, the rapid increase in marine protected areas, and the development of marine spatial planning, as well as aspatial forms of enclosure such as individual transferable quotas for fisheries, a kind of private property in the sea (Mansfield 2004). In sum, the oceans present an important opportunity to think about the production of territory (Fairbanks *et al.* 2018).

In examining various actors’ efforts to assert control over the high seas for the purpose of biodiversity conservation, I am interested in territoriality not just as strategies of spatial control, but also as “ways of world making informed by ... historically contingent ways of knowing” (Delaney 2005, p.12). Many scholars have explored how ways of knowing inform the production of territory. Perhaps most notable is the role played by cadastral mapping and land surveying on land (Elden 2010; Scott 1998) and geological sciences for the subsurface (Braun 2000). Territory can be conceived as a “political technology” that requires techniques for both measurement (technical, scientific) and control (legal) (Elden 2010). Modern states have been masters of implementing this political technology, as Scott (1998) illustrates in relation to early scientific forestry in Germany and cadastral and agricultural reform in pre-revolutionary Russia. Producing territory thus requires significant scientific labour, which is often undertaken by or for states in order to ensure that natural resources are measured and controlled in a way that enables capital accumulation (Braun 2000; Painter 2010; Parenti 2015). However, not all knowledge is produced with regard to economic potential or utility, and not all spaces are equally known (Braun 2000).

If scientific and technological projects and developments have been critical for producing territory on land, they have been as or more important in the production of current understandings of ocean space (Laloe 2016; Lehman 2016). Indeed, attention to the evolving role of science, technology, and digital representations of the oceans in informing knowledge and governance of them is critical (Campbell *et al.* 2016; Lehman 2017). For example, Toonen and Bush (2018) illustrate the ways that specific technologies and related information flows (e.g., fish attraction devices, drones, and satellite vessel monitoring systems) inform the territorialisation of the oceans in new and imaginative ways. To be clear, the focus on imaginative geographies does not undermine scientific knowledge of the high seas or imply that it is not “real”. Rather, it draws attention to “something *more* than what appears to be merely positive knowledge” (Said 1978, p.55), to how ocean space is made “seeable” in particular ways that inform “changing constellations of power, knowledge and geography” (Gregory 1995, p.447). I build on recent work exploring the role of science in representing, knowing, and governing the oceans by interrogating the role science and technology have played in the effort to create an imaginative geography of the high seas as a conservation frontier.

## Method

This paper draws on data collected through collaborative ethnography (CEE) at five international conservation meetings. CEE builds on multiple ethnographic approaches, including rapid ethnographic assessment, team ethnography, and institutional or organisational ethnography, in order to study international environmental meetings as sites where the politics of global biodiversity conservation are both enacted and made visible to observers (Campbell *et al.* 2014). I have participated in five CEEs at large international environmental meetings over the past ten years (see Table 1). Some of the results of this work have been published elsewhere, including an analysis of the dominance of MPAs as preferred international conservation tools (Gray 2010; Gray *et al.* 2014). This paper builds on this work by using multiple events as windows into the processes that facilitate the co-production of territory and science and technology on the high seas. I draw on participant observation notes from

TABLE 1. Data collection sites

Year	Host organisation or convention	Meeting and location	Sessions observed*
2008	International Union for the Conservation of Nature (IUCN)	World Conservation Congress (WCC), Barcelona, Spain	Workshops, roundtable discussions, plenary sessions, contact group for Motion 067 (re accelerating progress to establish MPAs)
2010	Convention on Biological Diversity (CBD)	Conference of the Parties (COP), Nagoya, Japan	Side events, negotiations related to the marine decision (CBD Decision X/29)
2012	United Nations (UN)	Conference on Sustainable Development ('Rio+20'), Rio de Janeiro, Brazil	Side events, special oceans events, and meetings of the oceans and seas contact group
2014	International Union for the Conservation of Nature (IUCN)	World Parks Congress (WPC), Sydney, Australia	Marine-themed sessions, special events, workshops, and presentations; plenary sessions
2016	International Union for the Conservation of Nature (IUCN)	World Conservation Congress (WCC), Honolulu, USA	Marine-themed sessions, special events, workshops, and presentations; plenary sessions; opening ceremony; contact groups for Motions 049 (re advancing high seas conservation) and 053 (re increasing MPA coverage)

\*High seas conservation did not feature in all the sessions observed; however, observations of sessions related to other aspects of marine conservation helped to inform the analysis. Details of specific events are included in the "Results" section.

all five of these events, including formal negotiations (during working groups and contact groups) as well as informal side events (panel discussions and presentations by scientists, NGO representatives, and government experts), and other relevant events (e.g., press briefings, speeches, workshops, social events).

In addition to participant observation notes, I draw on eight semi-structured interviews with actors who are directly involved in high seas science and conservation and who have participated in these international events (including one representative of an intergovernmental organisation, identified as IO1; three representatives of NGOs identified as NGO1-3; one government delegate/negotiator, identified as G1; and three scientists, identified as S1-3).<sup>1</sup> Finally, the analysis is informed by relevant documents (e.g., reports of meetings published by *Earth Negotiations Bulletin*).

I analysed all of these materials (participant observation fieldnotes, interview transcripts, documents) by inductively coding for examples and perceptions of: (1) scientific and technical representations of the high seas as amenable to territorialisation and spatial control; and (2) discussions of enhancing legal control of the high seas for biodiversity conservation, including assertions of authority or challenges to them. This

analysis involves identifying international meetings first and foremost as sites where this territorialisation is happening, and second, examining how territory-making happens in these venues through the conduct, discussion, performance, circulation, and uptake of scientific and technical practices, as well as through debate over appropriate processes and mechanisms for conserving the high seas.

## Tracking the co-production of high seas conservation territories

The idea of creating MPAs on the high seas is credited to Maxine McCloskey, who introduced the concept at the Fifth World Wilderness Congress in 1993 (McCloskey 2000; Thiel and Koslow 2001). She tied the idea to recent advances in science, noting that until very recently, "practically nothing was known about [the high seas]" (McCloskey 2000, p.246). She identified a lack of scientific knowledge and the absence of a clear legal framework for high seas conservation as key barriers (McCloskey 2000). The idea of high seas MPAs gained traction through the 1990s, and through several key international events and publications in the early 2000s (e.g., Thiel and Koslow, 2001; WWF/IUCN 2001). These reports reviewed existing scientific



knowledge about high seas ecosystems and threats to them alongside analyses of the existing legal regime, in order to begin identifying areas that might need protection and mechanisms for doing so. Since these early discussions, scientists, legal scholars, and conservation practitioners (e.g., those working in NGOs and government agencies) have coupled the lack of a coherent legal framework for high seas conservation with a lack of necessary scientific knowledge as the foundational challenges for advancing high seas MPAs as an object of governance. Put differently, both the technical and legal means of producing territory were insufficient.

In 2003, IUCN and other partners hosted a workshop to move “Towards a strategy for high seas marine protected areas” (Gjerde 2003). One of the three priority actions this expert workshop identified was “International recognition of the concept of high seas marine protected areas” (Gjerde 2003, p.2), noting that “meetings [of international and regional organisations] provide a useful platform” to build this recognition (Gjerde 2003, p.18). Various actors, including scientists, NGOs, and some states, have thus made a concerted effort to produce high seas conservation territories over time, in and through the policy arena of international meetings. In the following sections I examine these actors’ efforts, focusing specifically on calculative practices designed to measure and demarcate the high seas as a space in need of conservation, and legal techniques designed to make these spaces amenable to control and management. I also highlight challenges to these efforts, which underscore the work required to produce territory.

### *Making territory on the high seas – science, calculative techniques, and visualisation*

To produce conservation territories, it is first necessary to imagine the high seas as a space in need of conservation and amenable to area-based conservation tools. One image figured prominently at the 2008 World Conservation Congress (WCC), covering the wall of a large display in the main conference venue near the “Ocean Pavilion” (see Figure 1). Taken from a then recent scientific publication (Halpern *et al.* 2008), the image compares common representations of the oceans (especially the high seas) as vast expanses of blue – “a perfect

and absolute blank” (Anderson and Peters 2014) – with a map showing the cumulative human impact on the global ocean in varying degrees of yellow, orange and red. (Blue, the colour reserved for “very low impact”, is notably almost absent from the map.) The map communicates spatial differentiation in threats to ocean ecosystems, which suggests that certain areas may require conservation action.

More than just passive decoration for an event space, this map has played an active role in the production of an imaginative geography of the high seas. At the 2008 WCC, the map featured again in a side event entitled “Ocean governance in the 21st century: gauging the law and policy tides”. The NGO representative showing the map used it to justify high seas conservation efforts, while also noting how little we know about deep sea and high seas ecosystems. The critical role of this map became evident when it reappeared in numerous sessions across multiple events, including CBD-COP10 and Rio+20. For example, during a side event at Rio+20 entitled “Towards an agreement for protecting the high seas”,<sup>2</sup> three of the four panelists (including NGO senior staff and government staff engaged in high seas policy or advocacy) showed this map to justify the need for an UNCLOS Implementing Agreement that would enable the establishment of high seas MPAs. One NGO panelist commented, while projecting the map, “it’s getting worse, it’s not getting better”. Multiple actors use this representation of the oceans to create an imaginative geography of the high seas as needing area-based conservation.

Oceans visualisations continued to mature and proliferate at the 2014 World Parks Congress (WPC), moving beyond the map of cumulative impacts that had featured so prominently in past events. Several novel ocean visualisations, enabled by scientific and technological developments, were on display. Private firms that have innovated ocean visualisation technologies, such as the Google Ocean Data Viewer and the Catlin Seaview Survey, demonstrated the capabilities of these visual tools in the middle of the main pavilion, on large screens, to large and attentive crowds. Google now plays an important role in “seeing the seas”; Helmreich (2011) refers to Google Ocean as the “simultaneously dystopian and utopian diagram of the sea”, given its ability to both reveal and conceal oceanic features.



FIGURE 1. A map of cumulative human impact on the oceans, displayed near the Oceans Pavilion at the 2008 World Conservation Congress [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

A private-NGO partnership between Google and Skytruth (private firms) and Oceana (an NGO) selected the 2014 WPC as the site of their public launch of “Global Fishing Watch”, software that enables the visualisation of global industrial fishing activity. In public demonstrations of this tool, its developer showed how standard satellite views of the ocean as “empty blue” could instead be populated with bright yellow and orange dots for every fishing vessel at sea (see Figure 2). The excitement in the audience crowded around the large screen was palpable when this image appeared, evidence of the power of remote sensing technologies for “constructing both geographical information and geographical imagination” (Shim 2014, p.152).

Global Fishing Watch serves two important functions related to the production of territory. First, by visualising a specific threat to high seas biodiversity and ecosystems, it draws further attention to the high seas as a space in need of conservation. It enables users to “see” the high seas in a novel yet restricted way, offering a simplification and narrowing of vision (Scott 1998) that focuses specifically

on industrial fishing as a threat. It also illustrates the utility of conservation territories, by showing the absence of fishing vessels in particular MPAs within EEZs (see the circular blue shapes amid the orange dots on the right of Figure 2; see also McCauley *et al.* 2016). NGOs use such visualisations to appeal to both decision-makers and the general public, to communicate the need for and value of conservation territories. One NGO interviewee at the 2014 WPC said:

Things like this Global Fisheries [*sic*] Watch are really nifty to bring to public attention – where vessels are fishing and how many there are and to look at potential incursions into exclusive economic zones, how many fishing vessels are in the high seas. So it’s a vital public awareness raising tool. (NGO3)

Another NGO interviewee commented similarly: “It’s hard to get really exciting images . . . for an organisation like [name of NGO], images are very important. They tell the story much more immediately than words. The problem with the high seas is it’s big and blue and looks the same whichever day you look at it” (NGO2). By

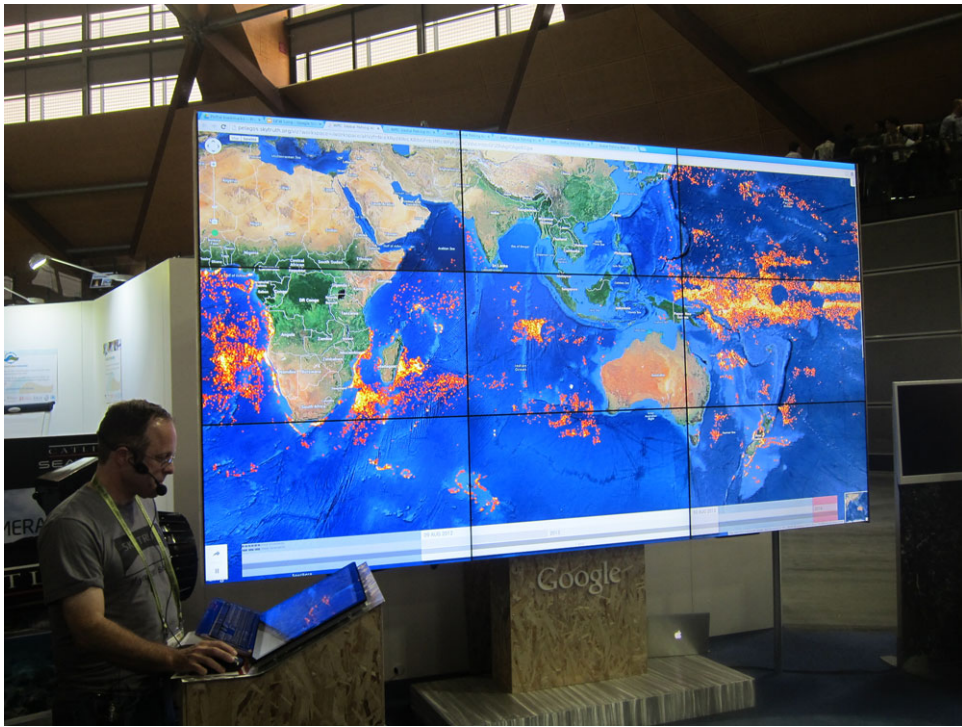


FIGURE 2. A live demonstration of Global Fishing Watch in the main pavilion at the 2014 World Parks Congress [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

visualising the high seas as differentiated and under threat, tools such as Global Fishing Watch help NGOs to advocate for conservation territories on the high seas.

Second, Global Fishing Watch helps to connect the technical aspect of territory – in this case, the calculative practice of monitoring spatial activities of fishing vessels – with the legal aspect of control (Elden 2010). One of the biggest practical critiques of high seas MPAs is how they would ever be enforced, even if the authority to establish and enforce them were agreed. In addition to visualising fishing activity on the high seas, tools such as Global Fishing Watch are useful for providing data related to monitoring the movement of individual vessels, which could potentially be tied to the enforcement of rules (e.g., no-take rules restricting fishing within conservation territories). Although Global Fishing Watch may not be directly or immediately useful for MPA surveillance or enforcement (Toonen and Bush 2018), it does provide what one interviewee (NGO3) described as a “proof of concept” that such tools could be used to enforce territory. However,

as another interviewee explained, “there’s a lot of different technologies now that can survey remote areas for a fraction of the price of traditional methods, like planes and boats . . . But do we have the will? Do we have the will from agencies to use these new scary tools?” (NGO1). These novel ways of seeing have produced an imaginative geography of the high seas that suggest they can – and should – be spatially controlled for conservation. However, as this quote suggests, the production of conservation territory requires not just calculative techniques of mapping, visualisation, and demarcation, but also connecting these calculative practices to legal techniques of control.

### *Making territory on the high seas – encouraging, asserting and challenging spatial control*

The negotiation of an Implementing Agreement to UNCLOS that is focused on conservation of biodiversity in areas beyond national jurisdictions represents the outcome of a long-term, coordinated



effort by a group of NGOs, scientists, and some states to assert a new kind of legal control over the high seas. Speaking during a side event at the 2008 WCC, an NGO conservation advocate remarked that “we are a long way from an effective and complete legal regime” for high seas biodiversity conservation and characterised the high seas as a “public trust”, noting that “the time has come for a more communitarian approach”. Such comments point to the need to consider who should be responsible for, and who should benefit from, conservation on the high seas, although they stop short of explicitly territorialising the high seas by suggesting a particular institutional arrangement that could claim authority on behalf of a world “public”.

As an NGO (which is itself an umbrella organisation for more 1,300 members, including both state agencies and other NGOs) the IUCN cannot assert legal control over the high seas. Instead, it attempts to influence the activities of states and intergovernmental organisations through its activities, including Resolutions agreed to at IUCN meetings. For example, Resolution 4.031 of the 2008 WCC called on states to support efforts to establish high seas MPAs as well as efforts to use scientific criteria to identify “ecologically and biologically significant areas” (EBSAs) in need of protection through the CBD, among other actions (IUCN 2009). Resolution 4.045, which focused on MPAs generally, also called on states to “promote the creation of effectively managed MPAs beyond national jurisdictions, in accordance with international law” (IUCN 2009). Such resolutions draw attention to issues, orient the work of the IUCN, and provide support for actors who cite such Resolutions when trying to influence other, related processes, such as those undertaken by the CBD. As one interviewee commented, “I think what a lot of these broad scale resolutions and recommendations are really about is providing impetus and motivation” (S1).

Multiple interviewees spoke about building momentum and political support for the idea of high seas conservation, implicitly recognising that the production of territory takes time. For example, one interviewee commented that “momentum builds up from each meeting, often the outcomes of one then feed into and drive the next meeting of the process. So there is a pathway” (NGO2). Another NGO representative commented that the

Resolutions and Decisions that come out of these international meetings are “a stepping stone. It may not be everything you need, but they’re very important conveyers of continuing political will” (NGO3). Conservation advocates purposefully use these international meetings to build support for the concept of high seas MPAs, working towards an ultimate goal of a clear legal regime that enables the establishment of high seas conservation territories.

At the 2008 WCC, high seas MPAs were accepted as necessary objects of governance (as indicated in the Resolutions cited above) that require additional scientific research, legal reform, and advocacy to enable their establishment. At the Tenth Conference of the Parties to the Convention on Biological Diversity (CBD-COP10) in 2010, in contrast, the Parties did not broadly accept high seas MPAs as a legitimate object of governance. Whereas IUCN resolutions are non-binding, the CBD is a legally-binding international agreement (though one with “soft” tendencies; see Harrop and Pritchard 2011); states are thus much more attentive to the processes and language to which they agree. The CBD had previously adopted a set of scientific criteria for identifying EBSAs (CBD 2009). At COP10, there was extensive debate in the marine contact group over the process through which the CBD would actually use these criteria to identify and build an inventory of EBSAs – in other words, how biological data would be compiled, who would compile it, and who would draw lines on a map based on this data.<sup>3</sup> Some delegates characterised this as a strictly scientific exercise, while others insisted it is a political process (Gray *et al.* 2014).

If territory is a “political technology” comprising techniques for both measure and control (Elden 2010), then the CBD’s work on EBSAs illustrates the challenges of combining these techniques with respect to the high seas. Some delegates saw identifying EBSAs as only a technique of measuring (in this case, ecologically and biologically significant features at sea); others believed such techniques are complicit in the exercise of control. Because neither the CBD nor any of its Parties have the authority to exercise territorial control on the high seas, some states also objected to any CBD-sanctioned attempts to engage in spatially explicit measurement of this space beyond national jurisdictions. As one interviewee explained:

So this conflict materialises because . . . there is an areal component in the definition of those ecologically and biologically significant areas. For a group of countries this areal component of the definition meant defining areas of the high seas and that cannot be done unless it is done under the guidance of the United Nations General Assembly. (IO1)

Ultimately, the Parties did agree to call for a series of regional workshops to identify EBSAs (both within and beyond national jurisdictions) (CBD 2010b), strictly as a scientific exercise. However, the underlying aim of moving towards legal control of these spaces for conservation remained, particularly for NGOs and other conservation advocates. As another interviewee commented, “if a regional workshop produces areas that regional authorities want to protect then all the better . . . You can’t say thou shalt designate MPAs from this [EBSA] workshop, but I certainly hope it’ll lead to that” (NGO1).

Thus, while states did not accept high seas MPAs at CBD-COP10 as a means of controlling the high seas available to the Parties (and therefore as an object of governance), they did agree to support the EBSA process as a form of “measurement”. The EBSA process facilitated by the CBD has since supported a series of regional workshops, in which state representatives and scientists have come together to identify and build an inventory of sites using scientific criteria (CBD no date); although identification of these sites does not obligate management, it does provide a clear example for how and where the boundaries of conservation territories could be drawn.<sup>4</sup> Several interviewees commented on the importance of advancing this scientific effort, particularly under the umbrella of the CBD, as a way to ultimately move toward legal control over high seas conservation territories (IO1, NGO2, NGO3, S2). For example, one interviewee said:

Essentially the CBD has identified these areas . . . that they think are worthy of enhanced management, but there’s no ability to enhance that management so it lights a fire under somebody else to figure out how to do that. (S2)

Another interviewee commented on the important role civil society played in galvanising support for the EBSA process by pushing states to ensure that the CBD Decision directed the Parties to fund regional EBSA workshops. “We [civil society] can be catalysts . . . we’re bringing together a process . . . It’s just getting things going” (NGO1).

This momentum carried through to the Rio+20 meeting, where the oceans had a strong presence on the agenda and the mood amongst marine conservationists was generally positive and congratulatory, leading one politician to dub it the “Oceans Summit” (Campbell *et al.* 2013).<sup>5</sup> The high seas specifically were the subject of much attention, as advocates hoped that governments would commit to negotiate an Implementing Agreement under UNCLOS. Although the draft text of the Rio+20 outcome document included language to this effect, a few Parties were unwilling to agree to it; the final outcome document committed them only to deciding, by the end of the 69th session of the UN General Assembly in 2015, whether to develop such an agreement (United Nations 2012). Although NGOs and some states were disappointed with this result (Campbell *et al.*, 2013; Howard 2012), one government delegate who participated in negotiating the text of the outcome document (and whose government was supportive of calling for the Implementing Agreement) had a different view. He noted:

the reality of a lot of these multi-lateral negotiations is it is incrementalism, so in order to see progress you need to look at a very long time frame . . . the BBNJ stuff [call for Parties to negotiate an Implementing Agreement] didn’t go as far as a lot of people – states, non-states, civil society – really wanted but . . . I think it is a step forward. (G1)

While high seas conservation may not have received the support that advocates desired, through a commitment to move forward on an Implementing Agreement, the Rio+20 meeting did serve to build awareness of the concept of high seas conservation territories (through side event presentations) and to move a “step forward” in the path towards enabling legal control on the high seas for biodiversity conservation.

In 2015, as requested in the Rio+20 outcome document, the UN General Assembly reached a decision to develop an Implementing Agreement under UNCLOS and to establish a preparatory committee (PrepCom) to make recommendations on a draft text of this agreement. One component of this draft agreement includes provision for the use of area-based management tools, including MPAs, with several parties noting the need to use a science-based approach in the establishment of these areas (Earth Negotiations Bulletin 2017). The 2016 World Conservation Congress coincided with

the second of four PrepCom sessions, and many of the scientists, legal scholars, and NGO actors involved in high seas conservation participated in discussions at the WCC, drawing attention of WCC attendees to the PrepCom process specifically and high seas science and conservation more generally.

One side event, organised by several university-based researchers and NGOs, stood out as distinct in challenging rather than reinforcing an imaginative geography of the high seas as amenable to territorialisation through an international legally binding Implementing Agreement. This event, titled “What can Indigenous peoples and local communities contribute to the governance of marine biodiversity beyond national jurisdiction?”, was novel in its attention to Indigenous people and local communities, rather than states, intergovernmental organisations, NGOs, and scientific institutions as relevant actors in high seas conservation. The organisers of this roundtable discussion sought input and support for a technical position paper to inform the PrepCom process.<sup>6</sup> A facilitator circulated an iPad around the audience of approximately 40 participants, showing a map of the waves of migration of Indigenous peoples across the Pacific over the past several thousand years. He explained that there has “not been much input to this [PrepCom] process from Indigenous people” and that, given the impact of the decline of migratory species on Indigenous peoples, together with the rich knowledge and cultural connections that Indigenous people have with the ocean, “our voice should be there, culture should be there. We need to insert it strategically: that is what we are trying to do here”.

Several participants in the roundtable, all of whom self-identified as belonging to a particular Indigenous group, resisted this idea. Although they shared concern for the condition of the oceans, and spoke to their particular knowledge of and cultural connection to them, they resoundingly rejected the western-led process and underlying conceptions of jurisdictions and authority, and expressed concern for the potential appropriation of Indigenous knowledge in the territory-making exercise that is now emerging through the UN process. As one participant noted, it “is not about conservation. It is about jurisdictions. We oppose these more recent ideas of jurisdiction”. Acknowledging this concern, one of the session organisers suggested that the roundtable participants may nonetheless want to

assert the importance of the high seas for Indigenous peoples, and note rejection of control by nation-states. However, the organisers’ desired response of participant support for such a statement was not forthcoming; another participant responded:

We need to insert a clause in this report, we do not want our knowledge appropriated. We reject modern jurisdictions. Can we suggest they consider ancient jurisdictions and management techniques?

Similar to some negotiators (government representatives) at CBD-COP10, Indigenous participants in this session challenged the premise that nation-states should assert territorial control over the high seas. However, in contrast with government negotiators, these participants are building on historical (and ongoing) struggles against a variety of forms of state-led territorial control, including over terrestrial and inshore ocean spaces.<sup>7</sup> This exchange highlights that although the high seas are beyond the jurisdiction of any single nation-state, efforts to territorialise the high seas through an UNCLOS Implementing Agreement (and any associated area-based conservation tools) reinforce the authority of states and state-led processes. While participants in this session did not critique the UN PrepCom process specifically, they did contest the narrow vision of high seas conservation as a process grounded exclusively in western legal institutions.<sup>8</sup>

## Discussion and conclusion

Over the next two years, states will participate in an intergovernmental conference on marine biodiversity of areas beyond national jurisdiction, with the goal of developing an international legally binding instrument under UNCLOS (United Nations 2018b). The inclusion of area-based management tools (including MPAs) as one of the “package” of items being negotiated indicates that the United Nations and its member states have accepted a territorial logic as part of the imaginative geography of the high seas conservation frontier. Multiple state and non-state actors have worked towards this moment by combining the technical and legal means of producing territory to formalise MPAs as an object of governance for the high seas. There are several consequences of these efforts, including: the construction of a particular imaginative geography of the high seas; the privileging of certain kinds of knowledge (and knowledge-making processes)

in the production of high seas territories; an understanding of high seas territory as the realm of nation-states; and both opportunities and constraints for how high seas biodiversity governance is envisioned.

First, a range of scientific and technical representations have laid the foundations for an imaginative geography of the high seas as a space that is both in need of conservation action and amenable to the spatial logic of management typically reserved for state territory (Steinberg 2009). The idea that high seas biodiversity needs conserving, and understanding of possibilities for achieving this using area-based management tools like MPAs, has been developed through the production, circulation, and uptake of a variety of calculative practices and representations, including the iconic 2008 map of cumulative human impacts on marine ecosystems, the CBD's database of EBSAs, and the Global Fishing Watch tool. Numerous other scientific and technical advances have increased knowledge of, and the ability to see, the high seas. For example, interviewees spoke of the power of satellite tracking data and three-dimensional visualisations of ocean ecosystems, among others, for putting "a face on the high seas" (NGO3) for policy-makers.

Taken together, these scientific findings, databases, maps, and other digital representations create an image of the high seas that is more than "merely positive knowledge", it is a way to "designate, name, point to, fix" (Said 1978, p.73). To describe the high seas in terms of imaginative geography is thus to acknowledge, on one hand, this achievement. Like climate and climate change, marine biodiversity on the high seas, and threats to it, are made visible and knowable through science and technology. As one interviewee explained, the high seas are otherwise "big and blue and always look the same". Scientific and technical innovations have made the previously invisible (e.g., migratory pathways, ecologically and biologically significant areas, high seas fishing activity) visible, and potentially also governable. On the other hand, these representations reproduce a seemingly objective and complete "view from nowhere", disguising the "always partial nature of ocean knowledge" (Lehman 2017, p.76). For example, interviewees familiar with the EBSA process commented on its partiality, explaining that although the workshops engaged a range of regional experts, they were necessarily limited by the number of participants

and their expertise. The inventory of EBSAs suggests a comprehensiveness that informed observers recognise is misleading (16).

To diagnose scientific knowledge of the high seas as partial and incomplete is not to suggest that complete and comprehensive knowledge is the goal. Rather, it points to a second consequence of this imaginative geography of the high seas, namely the privileging of certain kinds of knowledge and knowledge-making processes. Similar to the technoscientific perspective of climate change, the reduction of high seas biodiversity conservation to measures such as cumulative impacts, EBSAs, and fishing effort erases humans, conceals uneven power relations, and constructs "certain understandings of place and space" that "overgeneralize or erase people in an emphasis on physical science" (O'Lear 2016, p.10). People are largely absent from the imaginative geography of the high seas. Although humans are implicit in representations of cumulative human impact and global fishing activity, as an undifferentiated source of "threats" or "reduced to (identifiable) dots on a map" (Toonen and Bush 2018, p.8), the subjects of high seas conservation remain vague and under-specified. In addition to identifying the governance principles for a new Implementing Agreement (Gjerde 2008) and considering trends and potential surprises in human uses of areas beyond national jurisdiction (Merrie *et al.* 2014), it is also important to consider the way(s) that humans are conceptualised in relation to the high seas and whether alternative ways of knowing (from social sciences and humanities, Indigenous knowledge systems) may contribute to defining and advancing high seas conservation efforts.

A third consequence of the production of high seas conservation territories is the assumed authority of nation-states working collectively within the legal framework of UNCLOS. If the Parties to UNCLOS agree to a new Implementing Agreement that enables establishment of MPAs and other conservation territories on the high seas, then they will extend their legal control. However, as the analysis has demonstrated, this assertion of authority has been a long-term process and is not without opposition. The question of who decides what counts as territory on the high seas has been contested. For example, multiple states opposed efforts to identify EBSAs through the CBD, asserting that decisions regarding spatial control of the high seas must be



made under the auspices of the UN General Assembly and UNCLOS (as they will be through the Implementing Agreement). Indigenous participants at the 2016 WCC challenged the underlying idea that states should have authority over the high seas, even if this is unlikely to shift formal inter-state negotiations. It is also possible that particular states will not agree to the Implementing Agreement, or will question the territorial authority of the Parties to UNCLOS should they agree to a process for establishing high seas MPAs.

Regardless of the outcome of the Implementing Agreement, the case of high seas conservation contributes to work that decouples the concept of territory from the sovereign state. The high seas remain outside of state territory, if territory is taken as synonymous with the physical extent of the (singular) state. However, by expanding the exercise of spatial control on the high seas under UNCLOS, the Implementing Agreement will reinforce the role of states in governing the high seas. Multiple actors have produced this historically contingent form of territory through the iterative performance of strategies and practices of representation and control in numerous international venues, over many years. Moving forward, the particularities of how states cooperate to exercise spatial authority on the high seas will determine not just conservation outcomes, but also how the underlying conceptualisation of territory evolves.

Finally, the production of territory on the high seas leads to both opportunities and constraints for how high seas biodiversity science and governance are envisioned and practised. Whereas historically both the legal and calculative techniques associated with producing territory were under the purview of states, high seas conservation territories will be produced by a range of actors. If imagining the high seas for conservation means demarcating and appropriating space, and claiming it for conservation – then who produces knowledge about the space, who controls it, how, and for whose benefit? A key task for states negotiating the Implementing Agreement will be to decide how to answer these questions for any new high seas conservation territories.

The co-production of science and territory on the high seas means that “whose territory” is a function of “whose science”. In addition to enabling new ways of seeing the oceans (Toonen and Bush 2018), the rise of remote sensing tech-

nology has also facilitated a diversification of the oceanographic scientific community (Lehman 2017). As states negotiate the “package” of issues that is part of the Implementing Agreement, there is an opportunity to ensure that territorialisation (the establishment of area-based conservation measures) is tied directly to capacity-building and technology transfer, such that any new territories are underpinned by a diverse, global, transparent, and democratised science, rather than an imperial science.

The increasing role of private actors (e.g., NGOs, firms) in controlling information about the high seas also offers possibilities for demanding accountability from states, at the same time that it raises concerns regarding the transparency and accountability (or lack thereof) of these private actors (Toonen and Bush 2018). Ocean enclosures have often been associated with the extension of state power and the privatisation of spaces and resources for the benefit of private capital, although alternative possibilities, in which communities are empowered and environments protected, can be found (Fairbanks *et al.* 2018). If states agree to a legal regime that enables them to claim and appropriate the high seas, both imaginatively and materially, for conservation, then it will be important to examine on whose behalf, and whether and how such claims counter alternative conceptualisations of the high seas as an extractive frontier.

Since they were first discussed 25 years ago, high seas MPAs have evolved as an object of governance and a form of territory. This evolution has depended on the co-production of science and policy for the high seas. By charting the discussion of high seas conservation at a series of international meetings, I have demonstrated how scientists, NGOs, private firms, and state representatives have represented the high seas and made them increasingly legible for conservation. The result of this long-term, collective effort is an imaginative geography of the high seas in which conservation territories are both necessary and feasible. However, territory is never fixed, but constantly (re)produced; as states negotiate an Implementing Agreement, and proceed to establish high seas conservation territories, it will be important to attend to whose knowledge counts in measuring territory, who is included in relevant knowledge-making and decision-making processes, who asserts control and

how, and who benefits and loses from the territorial reconfiguration of the high seas.\*

## Acknowledgements

\*Collaborative event ethnography relies on collaboration in coordinating field work, collecting and analysing data, and thinking through meaning; this paper would not have been possible without the intellectual support of many colleagues who participated in various Collaborative Event Ethnographies. I would particularly like to thank Lisa

Campbell for comments on an early draft and Leslie Acton for contributing data and engaging in discussions about high seas conservation. I would also like to thank participants in the Oceans Frontiers workshop for comments on an early draft. Funding for the fieldwork that informed this paper came from: the Oak Foundation; the Advancing Conservation in a Social Context project, funded by the John D. and Catherine T. MacArthur Foundation; the US National Science Foundation (award nos. 1027194, 1027201, and 1560812); and the University of Guelph.

## Notes

1. I collected most of the data included in this paper myself. However, because the data were collected through CEE, a collaborative method, I also use data collected by others (including some participant observation notes and two interviews).

2. Side events are just that – events held on the ‘side’, i.e., not part of the formal sessions in which text is negotiated. They are hosted by various types of actors (state agencies, NGOs, intergovernmental organisations, research institutions); often a number of different partners co-host these events.

3. Contact groups are groups of Party delegates that negotiate the text of COP decisions. Once contact groups come to consensus on the decision text, it is voted on and formally adopted by the Parties. At the CBD, contact groups are open to

observers although only Parties may discuss text.

4. Although the EBSA workshops identified areas both within and beyond national jurisdictions, they are often associated with high seas conservation efforts.

5. The Minister of Environment from Denmark said this during a side event entitled “Global partnership for oceans: coming together for healthy and productive oceans”, hosted by the Prince of Monaco and attended by Ban Ki-moon, then Secretary General of the UN, as well as the President of Kiribati and government ministers from several other countries.

6. Side event #WCC.9748, 2 September 2016. Organisers of this session included a variety of NGO and academic groups: Conservation International; several IUCN Commissions and programmes;

United Nations University; the Nippon Foundation Nereus Program; the University of Wollongong; the Locally Managed Marine Areas (LMMA) Network; and the Office of the Pacific Ocean Commissioner.

7. Indigenous understandings of sea space have been, and continue to be, marginalised and rendered invisible through colonial practices and the imposition of western world-views. For discussion see Jackson (1995).

8. During the PrepCom Process, negotiators of the draft Implementing Agreement discussed the inclusion of traditional knowledge and Indigenous peoples and local communities (ENB 2017). However, participants in this WCC side event were wary of their knowledge being appropriated through processes over which they have no control.

## References

AGNEW, J., 1994. The territorial trap: the geographical assumptions of international relations theory. *Review of international political economy*, 1, 53–80.

ANDERSON, J. AND PETERS, K., 2014. ‘A perfect and absolute blank’: human

geographies of water worlds. *In*: Anderson, J. and Peters, K. eds *Water worlds: human geographies of the ocean*. Farnham, Surrey, UK: Ashgate.

ARDRON, J.A., RAYFUSE, R., GJERDE, K. AND WARNER, R., 2014. The sustainable use and conservation of biodiversity in

ABNJ: what can be achieved using existing international agreements? *Marine policy*, 49, 98–108.

BRAUN, B., 2000. Producing vertical territory: geology and governmentality in late Victorian Canada. *ECUMENE*, 7, 7–46.

- CAMPBELL, L.M., CORSON, C., GRAY, N.J., MACDONALD, K.I. *et al.*, 2014. Studying global environmental meetings to understand global environmental governance: Collaborative Event Ethnography at the Tenth Conference of the Parties to the Convention on Biological Diversity. *Global environmental politics*, 14, 1–20.
- CAMPBELL, L.M., GRAY, N.J., FAIRBANKS, L.W., SILVER, J.J. AND GRUBY, R.L., 2013. Oceans at Rio+20. *Conservation letters*, 6, 439–447.
- CAMPBELL, L.M., GRAY, N.J., FAIRBANKS, L., SILVER, J.J. *et al.*, 2016. Global oceans governance: new and emerging issues. *Annual review of environment and resources*, 41, 517–543.
- CBD, 2009. *Azores scientific criteria and guidance*, Montreal, Canada: CBD Secretariat.
- CBD, 2010a. *Decisions adopted by the conference of the parties to the Convention on Biological Diversity at its tenth meeting (Decision X/2, Annex IV)*. Nagoya, Japan: Convention on Biological Diversity.
- CBD, 2010b. *Decisions adopted by the Conference of the Parties to the Convention on Biological Diversity at its tenth meeting (Decision X/29)*.
- CBD, no date. Ecologically or Biologically Significant Marine Areas: special places in the world's oceans [Online]. Montreal, Canada: CBD Secretariat. <https://www.cbd.int/ebsa/> [accessed 27 August 2018].
- CHMARA-HUFF, F., 2014. Marine protected areas: territorializing objects and subjectivities. *EchoGéo*, 29, <http://echogeo.revues.org/14040>.
- CORSON, C., 2011. Territorialisation, enclosure and neoliberalism: non-state influence in struggles over Madagascar's forests. *Journal of peasant studies*, 38, 703–726.
- DELANEY, D., 2005. *Territory: a short introduction*. Malden, MA: Blackwell.
- DRUEL, E. AND GJERDE, K.M., 2014. Sustaining marine life beyond boundaries: options for an implementing agreement for marine biodiversity beyond national jurisdiction under the United Nations Convention on the Law of the Sea. *Marine policy*, 49, 90–97.
- DUDLEY, N., ed. 2008. *Guidelines for applying protected area management categories*. Gland, Switzerland: IUCN.
- ELDEN, S., 2010. Land, terrain, territory. *Progress in human geography*, 34, 799–817.
- EARTH NEGOTIATIONS BULLETIN, 2017. Summary of the fourth session of the Preparatory Committee on Marine Biodiversity beyond Areas of National Jurisdiction, 10–21 July 2017. *Earth Negotiations Bulletin*, 25(141). <http://enb.iisd.org/oceans/bbnj/prepcom4/> [accessed 20 March 2018].
- FAIRBANKS, L., CAMPBELL, L.M., BOUCQUEY, N. AND ST. MARTIN, K., 2018. Assembling enclosure: reading marine spatial planning for alternatives. *Annals of the American Association of Geographers*, 108, 144–161.
- GJERDE, K., 2003. *Towards a strategy for high seas marine protected areas. Proceedings of the IUCN, WCPA, and WWF experts workshop on high seas marine protected areas*, 15–17 January 2003, Malaga, Spain. Gland, Switzerland: IUCN.
- GJERDE, K.M., 2008. *Regulatory and governance gaps in the international regime for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction*. Gland, Switzerland: IUCN.
- GJERDE, K.M., REEVE, L.L.N., HARDEN-DAVIES, H., ARDRON, J. *et al.*, 2016. Protecting Earth's last conservation frontier: scientific, management and legal priorities for MPAs beyond national boundaries. *Aquatic conservation: marine and freshwater ecosystems*, 26, 45–60.
- GRAY, N.J., 2010. Sea change: exploring the international effort to promote marine protected areas. *Conservation and Society*, 8, 331–338.
- GRAY, N.J., GRUBY, R.L. AND CAMPBELL, L.M., 2014. Boundary objects and global consensus: scalar narratives of marine conservation in the Convention on Biological Diversity. *Global environmental politics*, 14, 64–83.
- GREGORY, D., 1995. Imaginative geographies. *Progress in human geography*, 19, 447–485.
- HALPERN, B.S., WALBRIDGE, S., SELKOE, K.A., KAPPEL, C.V. *et al.*, 2008. A global map of human impact on marine ecosystems. *Science*, 319, 948–952.
- HARROP, S.R. AND PRITCHARD, D.J., 2011. A hard instrument goes soft: the implications of the Convention on Biological Diversity's current trajectory. *Global environmental change*, 21, 474–480.
- HAVICE, E., 2018. Unsettled sovereignty and the sea: mobilities and more-than-territorial configurations of state power. *Annals of the American Association of Geographers*, 108, 1280–1297.
- HOWARD, B.C., 2012. Ocean advocates find silver linings after Rio+20 disappointment. *National Geographic Daily News*. <http://news.nationalgeographic.com/news/2012/06/120622-rio-20-oceans> [accessed 20 October 2012].
- IUCN, 2009. *Resolutions and recommendations of the World Conservation Congress, Barcelona, Spain*, 5–14 October 2008. Gland, Switzerland: IUCN.
- JACKSON, S.E., 1995. The water is not empty: cross-cultural issues in conceptualising sea space. *Australian geographer*, 26, 87–96.
- JASANOFF, S., 2004. The idiom of co-production. In: Jasanoff, S., ed. *States of knowledge: the co-production of science and social order*. New York: Routledge.
- JENTOFT, S., VAN SON, T.C. AND BJORKAN, M., 2007. Marine protected areas: a governance system analysis. *Human ecology*, 35, 611–622.
- LALOE, A.-F., 2016. *The geography of the ocean: knowing the ocean as a space*. New York: Routledge.
- LEHMAN, J., 2016. A sea of potential: the politics of global ocean observations. *Political geography*, 55, 113–123.
- LEHMAN, J., 2017. From ships to robots: the social relations of sensing

- the world ocean. *Social studies of science*, 48, 57–79.
- LUNSTRUM, E., 2013. Articulated sovereignty: extending Mozambican state power through the Great Limpopo Transfrontier Park. *Political geography*, 36, 1–11.
- MANSFIELD, B., 2004. Neoliberalism in the oceans: “rationalization,” property rights, and the commons question. *Geoforum*, 35, 313–326.
- MCCLOSKEY, M., 2000. The high seas: is there room for wilderness? *USDA Forest Service Proceedings RMRS-P-14*, 246–248.
- MERRIE, A., DUNN, D.C., METIAN, M., BOUSTANY, A.M. *et al.*, 2014. An ocean of surprises – trends in human use, unexpected dynamics and governance challenges in areas beyond national jurisdiction. *Global environmental change*, 27, 19–31.
- O’LEAR, S., 2016. Climate science and slow violence: a view from political geography and STS on mobilizing technoscientific ontologies of climate change. *Political geography*, 52, 4–13.
- PAINTER, J., 2010. Rethinking territory. *Antipode*, 42, 1090–1118.
- PARENTI, C., 2015. The 2013 ANTIPODE AAG lecture: The environment making state: territory, nature, and value. *Antipode*, 47, 829–848.
- SAID, E.W., 1978. *Orientalism*. New York: Random House.
- SALA, E. AND KNOWLTON, N., 2006. Global marine biodiversity trends. *Annual review of environment and resources*, 31, 93–122.
- SASKEN, S., 2013. When territory deborders territoriality. *Territory, politics, governance*, 1, 21–45.
- SCOTT, J.C., 1998. *Seeing like a state: how certain schemes to improve the human condition have failed*. New Haven, CT: Yale University Press.
- SCOTT, K.N., 2012. Conservation on the high seas: developing the concept of the high seas marine protected area. *International journal of marine and coastal law*, 27, 849–857.
- SHIM, D., 2014. Remote sensing place: satellite images as visual spatial imaginaries. *Geoforum*, 51, 152–160.
- SILVER, J. J., GRAY, N.J., CAMPBELL, L.M., FAIRBANKS, L.W. *et al.*, 2015. Blue economy and competing discourses in international oceans governance. *Journal of environment and development*, 24, 135–160.
- STEINBERG, P.E., 1999. Navigating to multiple horizons: toward a geography of ocean-space. *Professional geographer*, 51, 366–375.
- STEINBERG, P.E., 2001. *The social construction of the ocean*. Cambridge, UK: Cambridge University Press.
- STEINBERG, P.E., 2008. It’s so easy being green: overuse, underexposure, and the marine environmentalist consensus. *Geography compass*, 2, 2080–2096.
- STEINBERG, P.E., 2009. Sovereignty, territory, and the mapping of mobility: a view from the outside. *Annals of the Association of American Geographers*, 99, 467–495.
- THIEL, H. AND KOSLOW, J.A., eds. 2001. *Managing risks to biodiversity and the environment on the high sea, including tools such as marine protected areas – scientific requirements and legal aspects. Proceedings of the expert workshop held at the International Academy for Nature Conservation Isle of Vilm, Germany, 27 February–4 March 2001*. Bonn: BfN-Skripten 43, German Federal Agency for Nature Conservation.
- TOONEN, H.M. AND BUSH, S.R., 2018. The digital frontiers of fisheries governance: fish attraction devices, drones, and satellites. *Journal of environmental policy & planning*. <https://doi.org/10.1080/1523908X.2018.1461084>
- UNEP-WCMC AND IUCN, 2016. *Protected planet report 2016*. Cambridge UK and Gland, Switzerland: UNEP-WCMC and IUCN.
- UNEP-WCMC AND IUCN, 2018. *World database on protected areas (WDPA)* [version March 2018]. Cambridge, UK: World Conservation Monitoring Centre. Available at: [www.protectedplanet.net](http://www.protectedplanet.net)
- UNITED NATIONS, 2012. The future we want. Resolution adopted by the General Assembly on 27 July. A/RES/66/288.
- UNITED NATIONS, 2018a. International legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. Resolution adopted by the General Assembly on 24 December 2017. A/RES/72/249.
- UNITED NATIONS, 2018b. *Intergovernmental conference on marine biodiversity of areas beyond national jurisdiction*. Available online at: <https://www.un.org/bbnj/> [accessed 10 May 2018].
- VANDERGEEST, P. AND UNNO, A., 2012. A new extraterritoriality? Aquaculture certification, sovereignty, and empire. *Political geography*, 31, 358–367.
- WWF/IUCN, 2001. *The status of natural resources on the high-seas*. Gland, Switzerland: WWF/IUCN.
- ZIMMERER, K.S., 2006. Cultural ecology: at the interface with political ecology – the new geographies of environmental conservation and globalization. *Progress in human geography*, 30, 63–78.



Copyright of International Social Science Journal is the property of Wiley-Blackwell and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.