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**AFTER ILULISSAT:  
ACHIEVING COHERENCY  
IN INTERNATIONAL ENVIRONMENTAL LAW FOR THE ARCTIC**

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## ABSTRACT

The thesis examines international environmental law in the Arctic, with particular relevance to the Arctic Ocean. It is argued that, notwithstanding the absence of a single treaty instrument for environmental protection and the rejection of a conservation-like preservation of the Arctic, international environmental law has sufficient cohering features for the law to be successfully applied.

The analysis begins with examination of the problems of environmental protection in the Arctic before addressing informal measures among Arctic Council states and assessing the extent of reception of international environmental law (IEL) into the region. The problems of defining IEL and its fragmentation are examined toward an objective of determining if the law has sufficient reconciling elements to allow for more efficient application in the Arctic Ocean. The role and influence of indigenous peoples in environmental governance and the application of IEL rules to the Arctic is examined.

Three cohering features of the law are advanced, namely, the phenomenon of regionally-cooperative and geography specific IEL rule-making, the particular features of the law of the sea that entail greater organization of IEL in ocean settings, and the emergent need to evaluate IEL for the success of its result. Several conclusions are discussed. A first is that IEL as a whole has reached the limits of its utility for environmental protection in the Arctic because of the underlying problem of global generation of pollutants and habitat loss unable as yet to be addressed in law and non-legal (political) responses. A second conclusion is that IEL is in a sufficient state of development to be applied effectively to accepted environmental problems within the Arctic despite the absence of an animating treaty framework. Such an outcome must rely on the continuing application of IEL's cohering features argued here. A third conclusion is that evaluation of the effectiveness of IEL rules in specific settings is necessary and part of the law's coherent application including in the Arctic.

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## ABSTRACT

La thèse examine le droit international de l'environnement dans l'Arctique, en particulier pertinence pour l'océan Arctique. On fait valoir que, malgré l'absence d'un instrument conventionnel unique pour la protection de l'environnement et le refus d'une préservation de l'Arctique semblable à une conservation, le droit international de l'environnement contient suffisamment de caractéristiques cohérentes pour que le droit puisse être appliqué avec succès.

L'analyse commence par un examen des problèmes de protection de l'environnement dans l'Arctique, avant d'aborder les mesures informelles prises par les états membres du Conseil de l'Arctique et par une évaluation de l'ampleur de la réception du droit international de l'environnement dans la région jusqu'à présent. Les problèmes de définition du droit et son fragmentation sont examinés dans le but de déterminer si la loi contient des éléments de rapprochement permettant son application plus efficace dans l'océan Arctique. Le rôle et l'influence des peuples autochtones et l'application des règles du droit international de l'environnement à l'Arctique sont examinés.

Trois caractéristiques cohérentes de la loi sont avancées, à savoir le phénomène de définition de règles du droit de l'environnement spécifiques aux régions et à la coopération régionale et géographique, les caractéristiques particulières du droit de la mer qui impliquent une plus grande organisation de la protection du droit dans des environnements océaniques, et la nécessité émergente d'évaluer le droit international de l'environnement pour le succès de son résultat. Quelques conclusions sont discutées. Une première est que le droit dans son ensemble a atteint les limites de son utilité pour la protection de l'environnement dans l'Arctique en raison du problème sous-jacent de la génération mondiale de polluants et de la perte de l'habitat qui n'a pas encore été traitée en droit ni par des mesures non politiques (politiques). Une deuxième conclusion est que le droit est dans un état de développement suffisant pour être appliquée efficacement aux problèmes environnementaux acceptés dans l'Arctique malgré l'absence d'un cadre de traité d'animation. Un tel résultat doit reposer sur l'application continue des caractéristiques de cohérence du droit international de l'environnement présentées ici. Une troisième conclusion est que l'évaluation de l'efficacité des règles du droit dans des contextes spécifiques, c'est-à-dire des régimes, est nécessaire et fait désormais partie de l'application cohérente de la loi, y compris dans l'Arctique.

Map 1 – The Arctic: Basic physiognomy (ArcGIS basemap of the Arctic region)





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## LIST OF ABBREVIATIONS & ACRONYMS

AAC	Arctic Athabaskan Council
ABA	Arctic Biodiversity Assessment
AC	Arctic Council
ABNJ	Areas Beyond National Jurisdiction (high seas)
ABS	Access and Benefit Sharing
ACAP	Arctic Contaminants Action Program Working Group (Arctic Council)
AJIL	<i>American Journal of International Law</i>
AFDI	<i>Annuaire français de droit international</i>
AMAP	Arctic Monitoring and Assessment Program Working Group (Arctic Council)
AMSA	Arctic Marine Shipping Assessment
AMSP	Arctic Marine Strategic Plan (Arctic Council)
AOR	Arctic Ocean Review
Arctic CAP	Arctic Contaminants Action Program (also ACAP)
ASEAN	Association of South East Asian Nations
ATCM	Antarctic Treaty Consultative Meeting
ATCP	Antarctic Treaty Consultative Party
ATS	Antarctic Treaty System
BAP	Bali action plan
BINU	Biodiversity Indicators for National Use
2010 BIP	2010 Biodiversity Indicators Partnership
BYIL	<i>British Yearbook of International Law</i>
CAFF	Conservation of Arctic Flora and Fauna Working Group (Arctic Council)
Can. YBIL	<i>Canadian Yearbook of International Law</i>
CBD	1992 Convention on Biological Diversity
CBDR	Common but differentiated responsibilities
CBMP	Circumpolar Biodiversity Monitoring Program (of the CAFF)
CCAMLR	1982 Convention for the Conservation of Antarctic Marine Living Resources
CCAS	1972 Convention for the Conservation of Antarctic Seals
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CEE	Comprehensive Environmental Evaluation
CEP	Committee for Environmental Protection (Antarctic – ATS member states)
CIESEN	Centre for International Earth Science Network
CITES	1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora
CJEU	Court of Justice of the European Union (formerly the ECJ)
CLC	1969 International Convention on Civil Liability for Oil Pollution Damage
CLCS	United Nations Commission on the Limits of the Continental Shelf
CMS	1979 Convention on the Conservation of Migratory Species of Wild Animals
CO <sub>2</sub>	Carbon dioxide
COP	Conference of the Parties
CSD	Commission on Sustainable Development



DIVERSITAS	International Programme of Biodiversity Science
DOALOS	(United Nations) Division for Ocean Affairs and the Law of the Sea
dwt	deadweight tonnage
EAP	Environmental Action Programme
EC	European Community
ECJ	European Court of Justice
ECOSOC	(United Nations) Economic and Social Council
ECS	Extended Continental Shelf
EEA	European Environmental Agency
EEC	European Economic Community
EEZ	Exclusive Economic Zone
EFZ	Exclusive Fishing Zone
EIA	Environmental Impact Assessment
ENB	Earth Negotiations Bulletin
Espoo Convention	1991 Convention on Environmental Impact Assessment in a Transboundary Context
EU	European Union
G8	Group of Eight (states)
G77	Group of 77 (states)
GATT	General Agreement on Tariffs and Trade
GBO	Global Biodiversity Outlook
GDP	Gross domestic product
GHG	Greenhouse gas
GTI	Global Taxonomy Initiative
HDI	Human Development Index
HELCOM	Helsinki Commission (Baltic Marine Environment Protection Commission)
IACS	International Association of Classification Societies
IASC	International Arctic Science Committee
IATTC	Inter-American Tropical Tuna Commission
ICC	Inuit Circumpolar Council
ICCAT	International Commission for the Conservation of Atlantic Tuna
ICES	International Council for the Exploration of the Sea
ICJ	International Court of Justice
ICLQ	<i>International and Comparative Law Quarterly</i>
ICRW	1946 International Convention for the Regulation of Whaling
ICSU	International Council for Scientific Unions
IDGEC	Institutional Dimensions on Global Environmental Change (project)
IEE	Initial Environmental Evaluation
IEEP	Institute for European Environmental Policy
IFAW	International Fund for Animal Welfare
IJMCL	<i>International Journal of Marine and Coastal Law</i>
ILC	International Law Commission
ILM	<i>International Legal Materials</i>
ILR	<i>International Law Reports</i>
IMO	International Maritime Organization

IOC	Intergovernmental Oceanographic Commission
IOTC	Indian Ocean Tuna Commission
IPCC	Intergovernmental Panel on Climate Change
ISA	International Seabed Authority
ITLOS	International Tribunal for the Law of the Sea
IUCN	International Union for Conservation of Nature and Natural Resources (World Conservation Union)
IUU	illegal, unreported and unregulated (fisheries)
IWC	International Whaling Commission
KP	Kyoto protocol
MARPOL	1973 International Convention for the Prevention of Pollution from Ships
MEPC	Marine Environment Protection Committee (IMO)
MPA	Marine protected area
MOP	Meeting of the Parties
MOU	Memorandum of Understanding
MPA	marine protected area
MSC	Maritime Safety Committee (IMO)
MSY	maximum sustainable yield
NAFO	Northwest Atlantic Fisheries Organization
NAMMCO	1992 Agreement on Cooperation in Research, Conservation and Management of Marine Mammals in the North Atlantic
NEAFC	North East Atlantic Fisheries Commission
NGO	non-governmental organization
nm	nautical miles
NORDREG	Northern Canada Vessel Traffic Services Zone regulations
NPAFC	North Pacific Anadromous Fish Commission
NPAFC Convention	1992 Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean
ODIL	<i>Ocean Development &amp; International Law</i> journal
ODS	Ozone Depleting Substance
OECD	Organization for Economic Co-operation and Development
OILPOL	1954 International Convention for the Prevention of Pollution of the Sea by Oil
OJ	<i>Official Journal of the European Union</i>
OPRC	1990 Convention on Oil Pollution Preparedness, Response and Cooperation
OSPAR	1992 Convention on the Protection of the Marine Environment in the North-East Convention Atlantic
PAME	Protection of the Arctic Marine Environment Working Group (Arctic Council)
PCA	Permanent Court of Arbitration
PCIJ	Permanent Court of International Justice
PNAS	Proceedings of the National Academy of Science of the United States of America
POPs	Persistent Organic Pollutants
PSC	Port State Control
PSSA	particularly sensitive sea area (IMO)

Ramsar Convention	1971 Convention on the Wetlands of International Importance
RECIEL	<i>Review of European, Comparative and International Environmental Law</i>
RFMO	regional fisheries management organization
RIAA	<i>Reports of International Arbitral Awards</i>
RPA	Regional Program of Action
SAO	Senior Arctic Official
SBSTA	Subsidiary body for scientific and technological advice
SCAR	Scientific Committee on Antarctic Research
SOLAS	1974 Convention for the Safety of Life at Sea
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCCUR	United Nations Conference on the Conservation and Utilization of Resources
UNCED	1992 United Nations Conference on Environment and Development
UNCITRAL	United Nations Commission on International Trade Law
UNCLOS	United Nations Convention on the Law of the Sea
UNCSED	United Nations Commission for Sustainable Development
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	1992 United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNRIAA	<i>United Nations Reports of International Arbitral Awards</i>
UNTS	United Nations Treaty Series
VCLT	1969 Vienna Convention on the Law of Treaties
WCED	World Commission on Environment and Development
WTO	World Trade Organization
WWF	Worldwide Fund for Nature

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## INTRODUCTION

- I. OVERVIEW
- II. ANALYTICAL COURSE OF THE THESIS
- III. TOPIC JUSTIFICATION: SELECTING THE ARCTIC TO ASSESS IEL
- IV. TOPIC LIMITATIONS: MATTERS SET ASIDE IN THESIS DESIGN
- V. METHODOLOGY

### I. OVERVIEW

In 2008 the five states surrounding the Arctic basin – Canada, Denmark, Norway, Russia and the United States – announced they would not preserve the Arctic from human and industrial development. They further claimed the law of the sea would be a sufficient legal framework to ensure environmental protection.<sup>1</sup> Despite the decision, the next decade saw an advance of environmental protection rules for the Arctic through the territorial presence of states and their commitments to international environmental law. The law of the sea particularly allowed states to assert rights to areas extending into much of the central Arctic basin. Claims to exclusive economic zones and, after 1999, to extended seabed (continental shelf) areas would create corresponding environmental protection requirements for states. Less and less of the Arctic would be part of a global commons that is imperfectly and incompletely subject to international environmental law. Instead, the law's rules for Arctic states in their metropolitan southern areas applied in the north, and would become a basis for the governance of environmental protection in the region. The sustained and unique participation of Indigenous peoples would also feature in the emergence of environmental governance of the region.

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<sup>1</sup> The five states expressed their collective position in the Ilulissat Declaration, 28 May 2008 (Canada/Denmark/Norway/Russia/United States), online: Arctic Council <[www.arcticgovernance.org](http://www.arcticgovernance.org)>. For a comment see Klaus Dodds, "The Ilulissat Declaration (2008): The Arctic States, 'Law of the sea,' and the Arctic Ocean" (2013) 33 *SAIS Review* 45. The policy stance of the "Arctic Five" in the Declaration is referred to here as the Ilulissat Doctrine and is discussed in Chapter 1.

This is a thesis about the application and sufficiency of international environmental law for the Arctic region. It is concerned with how the law has developed and is evolving through formal and informal measures toward a regime for governance of environmental protection in the polar north. The thesis aims in part to examine the aftermath of a rejection of conservation of the Arctic – a preservation from human uses similar to that established for Antarctica – and of any single treaty arrangement for environmental protection. It is contended that four features of international environmental law (IEL) can be applied to organize and ensure the progressive development of what are disparate rules for environmental protection in the Arctic region, namely: (i) the continuing evolution of coherency in IEL toward constitutional-like norms and organization; (ii) IEL's progressive realization in regional geographic settings; (iii) a use of law of the sea precepts and mechanisms to advance IEL; and (iv) the possibility of evaluating IEL for the success of its result. The goal is equally to understand how an environmental protection regime for the Arctic region – and especially the Arctic Ocean basin – will fare in its development as it is to examine IEL's development in the region, where it has only recently – in contrast to other geographic and political regions – been accepted as needed.

The object of analysis is the Arctic Ocean. That is because this semi-enclosed sea exists as much of the polar north, *i.e.* the above the Arctic Circle, a setting connected to the land by extensive ice cover.<sup>2</sup> The importance of the Arctic to the functioning of climate and ocean circulation systems – and not least to its Indigenous and post-colonial settler populations – makes it preferable to examine how IEL applies not only to the region's terrestrial and marine areas, but its entirety, as a place of cold climate and habitat.<sup>3</sup> An IEL *for*

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<sup>2</sup> The juridical and environmental nature of the Arctic as a semi-enclosed sea – one extensively surrounded by coastal states and physically constrained in its connection to the global ocean, is discussed in Chapter 4. The Arctic is not accepted by its coastal states as semi-enclosed.

<sup>3</sup> Science has recently established connections in the functioning of the earth's weather systems with climate change phenomena in the Arctic. See *e.g.* Yufei Zou *et al*, "Arctic sea ice, Eurasia snow,

the Arctic, *i.e.* an environmental governance regime operating through a legal framework, would put such importance first. At present we have IEL *in* the Arctic as rules and norms first developed for problems experienced elsewhere.

Into the near future, and apart from a law of the sea now in treaty form as the *United Nations Convention on the Law of the Sea* (UNCLOS) with related instruments, there will be no instrument that obligates states to govern, create law or otherwise cooperate for environmental protection in the polar north.<sup>4</sup> This is the political result of Ilulissat, *i.e.* of a doctrine agreed by five states in 2008.<sup>5</sup> Customary international law can supplement the law of the sea in IEL's application and organization in the Arctic. However, the extent to which custom offers governing rules for states in the Arctic is uncertain and is obscured by the treaties for biodiversity, migratory species, fisheries, and pollution control. A corollary of the Ilulissat Doctrine's rejection of a *coordinating* instrument for environmental protection has been a gap in governance measures for states to collectively identify environmental problems and establish mutual priorities. In light of environmental governance arrangements for specific settings, *e.g.* the regional seas arrangements around Europe, after Ilulissat a prospect of states agreeing to an regionally-specific IEL framework for the Arctic must be accepted as remote.

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and extreme winter haze in China" (2017) 3 *Science Advances* e1602751, and Michael E Mann *et al*, "Influence of Anthropogenic Climate Change on Planetary Wave Resonance and Extreme Weather Events" (2017) 7 *Scientific Reports* 45242.

The so-called earth system is the interdependent biological, climatic, and ocean circulation mechanisms that function in relation to each other at a planetary level. See Lee R Kump, James F Kasting and Robert G Crane, *The Earth System*, 3d ed (San Francisco: Prentice Hall, 2010).

<sup>4</sup> *United Nations Convention on the Law of the Sea*, 1982 (10 December 1982) 1833 UNTS 397 (in force 16 November 1994) (UNCLOS, and the Convention). 168 states have ratified the Convention, most recently Palestine (2015) and Azerbaijan (2016). The so-called "UNCLOS System" can be taken to include the: (i) Convention; (ii) *Agreement relating to the implementation of Part XI of the Convention* (the Area agreement) (28 July 1994) 1836 UNTS 3 (in force 28 July 1996) and (iii) *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (4 August 1995), 2167 UNTS 3 (in force 11 December 2001) (UN *Straddling Stocks Agreement*).

<sup>5</sup> See note 1, *supra*.

IEL's rapid progress – the creation of environmental protection rules agreed between states and the law's application – has come from three things: (i) the perceived consequences for human health from adverse environmental impacts, e.g. pollution; (ii) the proximity of industrial activity and loss of environmental amenities (including resources); and (iii) the improved understanding of local consequences of global phenomena, e.g. climate change. Such factors are a *forcing mechanism* (to adopt a term from atmospheric science) for states to respond to local, commonly understood environmental problems. The three elements of impetus to develop (and organize) the law can be seen at work among Arctic states such as in shared cooperative mechanisms. However, these factors have not readily combined to move governments and civil societies to greater environmental protection short of an idealized preservation of the Arctic's environmental features. The region is important in the political and social concerns of its states, but not exceptionally, a result of small, widely distributed populations and, north of the Arctic Circle, limited industrial and resource extraction activity.

This leads to a second matter that explains the challenges of creating, organizing and applying IEL in the Arctic. The most serious environmental impacts in the region – with implications for human uses of its environment – are caused externally. They are problems understood as needing comprehensive responses, including a robust formal rules – agreed law – between states for collective action problems originating elsewhere: (i) climate change (*i.e.* greenhouse gases generated overwhelmingly outside the Arctic) and (ii) pollutants (*i.e.* harmful chemicals transported by atmospheric and ocean circulation including persistent organic pollutants and mercury compounds). The Arctic region is accepted as having little human activity that would demand transboundary remedial measures.<sup>6</sup> The extraction of petroleum on land and from the seabed, discussed in Chapter 1, remains minimal because of low market values since 2014. For the Arctic's fishery, the remoteness, unavailability of large areas during

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<sup>6</sup> Shipping – pollution from ships and environmental impact risks of their passage in polar waters – is an exception and is addressed in Chapters 1 and 4.

the northern winter, and relatively modest stocks have led to cooperation in this sector. A third problem of external use and impact on the region's environment – the consequences (mainly pollution) of transiting shipping through an Arctic gradually losing ice-cover – is now met in the regime administered by the International Maritime Organization including the *Polar Code for Shipping*.<sup>7</sup> We can begin to discern the outlines of a governance framework or regime for environmental protection that involves tangible rules of IEL. However, we should avoid concluding such a framework is sufficient to ensure the systematic creation and organization of environmental protection rules for the Arctic. What rules now exist do not readily synthesize with each other in operation, and do not appear to deepen or make efficient existing IEL rules for the region.<sup>8</sup> A third factor, as noted, that bears on IEL's application and development is the continuing effect of the decision of the "Ilulissat Five" to avoid overt preservation, the opposite of an accepted approach among states for Antarctica.<sup>9</sup> Preservation's ideal is an exclusion of development and exploitation, including by wilderness conservation, reserving protected habitat areas, and ensuring places remain for scientific research. Antarctica is the example *par excellence* of these goals. Except for biodiversity-oriented protected areas in a few areas, they have been rejected for the polar north under the Ilulissat Doctrine. There will not soon be an ideal of preservation that animates policies to receive, create and make secondary rules of IEL for the region.

The analysis in Chapters 1 and 2 reveals a problem of IEL, namely, that ice-covered areas, both terrestrial (such as glaciers in Antarctica and Greenland) and at sea, are not much

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<sup>7</sup> International Code for ships operating in polar waters, IMO Resolution MEPC.264(68) (15 May 2015) Annex 10 (in force 1 January 2017 and 1 January 2018) (the *Polar Code*).

<sup>8</sup> UNCLOS, *supra* note 4. As noted, the 1995 UN *Straddling Stocks Agreement* should be regarded as an important adjunct to UNCLOS. In Chapter 4, I discuss how UNCLOS operates to organize the law for regional application and high-level ("constitutionalizing") environmental protection principles.

<sup>9</sup> Finland, Sweden and Iceland appear to implicitly accept the Ilulissat Declaration and do not have a territorial presence (including by exclusive economic zones and extended continental shelves) in the Arctic basin.



provided for in the law.<sup>10</sup> An analogous problem that illustrates this paucity is desertification. It has a treaty regime directed (if imperfectly) to guard against the loss of areas affected by drought.<sup>11</sup> Desertification's adverse impacts upon human populations when compared to the analogous loss of ice-covered areas, is more immediate and direct: Areas lost to desertification deny human populations of agricultural land and social place. However, the science of earth system function and climate change reveal ice-covered areas as a whole – the cryosphere – have intrinsic value for biodiversity and stable functioning of the ocean-atmosphere climate system. It can be argued there is an emerging obligation on states to preserve such functioning, in a way similar to the necessity of ensuring a protection of habitat toward assuring biodiversity. The more tangible principles of the law to ensure sustainable ocean fisheries and conservation of stratospheric ozone layer suggest that sufficient (and successful rules) for ice-covered areas be treated the same.<sup>12</sup>

### ***The case for IEL in the Arctic***

If the Ilulissat Doctrine prevents a single instrument for environmental governance among states in the Arctic, the question of how IEL can be applied in the region is compelling. A rationale to justify pursuing such an answer is the expectation that states can be attracted to regulatory and economic efficiency by a coordinated approach to regulating environmental protection problems between themselves. A second rationale is to avoid and resolve conflicts

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<sup>10</sup> There is no rule or principle requiring states to conserve ice-cover on land or at sea. The maintenance of ice-cover is increasingly understood as important for biodiversity and functioning of the earth's climatic system. UNCLOS Article 234 – considered in Chapters 1 and 4 – which allows polar states to regulate environmental protection in ice-covered ocean areas, is the singular continuing treaty provision. The adoption of marine protected areas for biodiversity in the Southern Ocean adjacent to Antarctica in 2016 is recognition of the value of ice-covered areas but not a conservation measure for them as such.

<sup>11</sup> *United Nations Convention to Combat Desertification* (14 December 1994) 1954 UNTS 3 (21 December 1996). The UNCCD is mainly adaptive in the orientation it confers on states. It does not prescribe tangible measures or enforceable rules to preserve (and recover) drought and desert areas.

<sup>12</sup> The obligation is hardly overt. It is at best implicit to the conservation of ice-covered (and other) areas important to the functioning of the earth's climate system under the UNFCCC regime.

across IEL and other topics of law that can result from fragmentation. A third is the need to ensure an environmental legal order responds to current problems of human uses such as resource extraction and the adverse environmental impacts of such things as shipping and globally circulating pollution. Antarctica illustrates this as a place without permanent human population and set aside for preservation, equipped with an IEL framework in response to environmental ideals.<sup>13</sup> The Arctic, however, is understood by states as a place to extract natural resources in part because it is increasingly accessible as a result of diminishing ice-cover. IEL has a role of mediating between environmental priorities in such circumstances. The goal of states to apply the principle of sustainable development suggests the coordinated creation and use of IEL for the region is needed.

This thesis does not propose an alternative to the *no-conservation, no-single instrument* decision of states in the 2008 Ilulissat Declaration. A comprehensive, if informal regime is emerging for the Arctic, one that includes IEL rules and a means of organizing IEL for application in the region. IEL applicable to the Arctic now has subject-specific rules and extensive IMO-created regulation for environmental protection in shipping. A coordination of rule-making and actualization of the law through governance measures among states in the region is established. There are now measures and activities to establish a framework for the law similar to other regions that possess formal and longer operating IEL frameworks. The goal is to identify the features of IEL that are entailing this progress. It is also to examine and propose the creation of criteria to evaluate what makes for successful IEL rules as a part of environmental protection governance regimes. The latter analysis, presented in Chapter 5, draws from regime evaluation theory models (or “schools”) adopted in recent years.

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<sup>13</sup> By *environmental ideals*, I mean values that support or promote a preservation of the environment beyond conservation norms allowing for human uses including resource extraction. Antarctica’s conservation ideal was defined from the outset by the *Antarctic Treaty* (1 December 1959) 402 UNTS 71 (in force 23 June 1961). The *Antarctic Treaty* is the foundation of a now-comprehensive environmental governance regime operating under the Antarctic Treaty System, discussed in Chapter 3.

The present contention is that IEL has three *cohering features* that can be identified toward a systemic implementation of law for environmental protection and conservation of the Arctic and particularly the Arctic Ocean. The three features are: (i) *regionality*, which is the application and creation of IEL for a particular geographic area; (ii) the influence of the law of the sea, including UNCLOS and related treaties; and (iii) evaluating IEL for the success of its result, or output. The next part, below, provides a description of each thesis chapter, its intended contribution to the thesis, and salient conclusions. The rationale to select the Arctic for analysis of international environmental law is then discussed. An explanation of topics set aside from consideration and of methodology follows.

## II. ANALYTICAL COURSE OF THE THESIS

**Chapter 1**, *The Arctic as legal space: Defining a region and its environmental law*, addresses IEL's present state in the Arctic. The justification for this analysis is that IEL's development and current application in the region and particularly the Arctic marine setting demands analysis a decade after the Ilulissat Declaration to understand how the law can evolve to govern environmental protection of the region. The chapter contends that in the aftermath of Ilulissat, environmental law is advanced in its comparative and depth-of-regulation dimensions in the region. This is the result of factors which have fostered coherence in the law, including by those which promote the engagement of states to make and extend IEL. Factors which explain this advance include an absence of territorial disputes within a clear framework to allocate maritime territory in a setting of relatively few states, all having capacity to negotiate and implement environmental rules. The argument is that IEL to be applied to the Arctic Ocean is relatively mature, *i.e.* sufficient for environmental protection governance. The chapter explores the policy stance of states under the Ilulissat Doctrine to reject framework environmental regulation, leading to subject-by-subject rule-making.

The chapter grapples with the question of how to define the Arctic Ocean as an *environmental region*. How such a geographic and political area is to be understood is explored. The problem of an oceans-only approach to the fashioning of environmental law in the region is analyzed. The chapter moves to consider the role and influence of the principal actors responsible to create and shape IEL for the Arctic: (i) states acting unilaterally and in the setting of the Arctic Council, and (ii) Indigenous peoples, in both transnational and sub-state contexts. The chapter then moves to the multilateral environmental agreements which apply in the Arctic, initially accepted by Arctic states for perceived obligations in southern areas. The aim of the chapter is to identify existing and emergent elements of a rules-based (*i.e.* IEL directed) regime for environmental protection polar north which may also allow greater development of the law specific to the Arctic. This chapter sets the stage to identify the shape and substance of IEL and its organizing features relevant to the Arctic – its cohering features – in following chapters.

**Chapter 2**, *International environmental law: Toward coherence*, is designed to survey the development and present state of IEL with relevance to polar regions and notably the Arctic. We are particularly concerned with gaps in the law – its substantive rules – and the limits of its evolutionary course in recent decades which present problems of adaptation in the Arctic setting. The chapter aims to establish that IEL, following its “modern turn” at the 1972 Stockholm Conference, leading to extensive identification of priorities in multilateral conferences and wide-ranging treaty-making, has sufficiently matured to allow states to accept commitments to regulate for environmental protection and conservation. However, the law’s development resulted in it acquiring a remedial orientation and preferred treaty form, and to

become fragmented across its subjects.<sup>14</sup> How these characteristics yield benefits and create problems to be overcome is considered.

In this chapter, the question of how IEL is defined – the subjects apparently encompassed by it – is an important one. The boundaries of IEL are examined by an assessment of the law's capacity for environmental protection and conservation across treaty types, with reference to how customary international environmental law has developed. The goal is to identify features that define IEL and to analyze their evolutionary course in conventional and customary form. IEL in treaty form may yet need a more robust customary adjunct, of stronger and more nuanced principles to guide states where specific treaty rules are not available. And the law now must evolve to consider the underlying causal origins of adverse environmental impacts if it is to succeed in the Arctic.

**Chapter 3, *Regionality and the cohering of international environmental law***, evaluates IEL mechanisms relevant to the Arctic that expectedly cohere or enable systemization of the law toward effective regulation of environmental protection objectives. The chapter contends that IEL has characteristics that distinguish it from other topics of international law, namely the quality of regulating physical matters in a spatial (and therefore territorial) context, and also a fragmented nature. Since the 2006 report of the International Law Commission on fragmentation of international law, there has been limited assessment of the implications of the phenomenon for IEL. The chapter aims to address this gap in the context of the Arctic. IEL is shown as evolving to fragmentation (or disparity) across its subjects, called *horizontal fragmentation*, because of the law's rapid development and eclipsing of synthesizing norms found in customary law. The question of IEL's quality relative to international law as a whole

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<sup>14</sup> Fragmentation is here considered to be a phenomenon of concern within IEL: a disparity, conflict, overlap and lacunae between established norms, *i.e.* among IEL rules and rule-sets, in distinction to fragmentation across public international law as a whole. However, the ideal of reconciling IEL with public international law is discussed in Chapter 5. On the definition of the concept of fragmentation, see the discussion in Chapter 2 at pages 140 ff. and Chapter 3 at pages 172 ff.

– a *vertical fragmentation* – is analyzed. The reconciling or cohering approach of regionality, which is defined as the localized creation, adaptation and governance of IEL is an answer to both problems, with evident application in the Arctic. The discussion of IEL in a regional context establishes the basis for a subsequent analysis of regime theory contribution to the law and especially how legal rules for the environment can be evaluated.

**Chapter 4**, *Coherency in the law of the sea for environmental protection*, addresses the role of the law of the sea in the development of IEL for the Arctic. The imperatives for polar states in the law of the sea – with UNCLOS as the focal point – are numerous. The capacity of the law of the sea to provide a basis for governance, including rule-making and systemic organization of IEL, is relevant here. This is because the Arctic is substantially ocean space, because circumpolar states exhibit strong compliance with law of the sea norms, and because UNCLOS has been declared the environmental governance instrument for the region. The goal of this chapter is not to examine how the law of the sea applies or would prospectively regulate environmental protection. Rather, it is to assess how the law provides a framework for systemic organization of IEL as a whole in the region. The contention is that a heavily treaty-based (*i.e.* conventional) framework for environmental obligations in UNCLOS confers a *constitutionalizing, i.e.* cohering effect, on the creation and implementation of rules across IEL's continuum. This is an influence short of the constitutionalism argued by others, but operating toward organization and overcoming fragmentation in the law.

The role and influence of international organizations in identifying would-be legal rules and implementing them is examined. There are two entities with an established IEL role for the Arctic which allows comparative analysis: (i) the International Maritime Organization and (ii) the Arctic Council as a declared *non-organization* and, without formal directing role between its member states. Both are the delegates of states when it comes to environmental rule-making although with some autonomy to identify normative priorities and establish

detailed rules. On the subject of commercial shipping in the Arctic, the states of the region are content to use the IMO as a law-creating vehicle. This suggests an additional actor for cohering activities across IEL, together with the willingness of states to work through subject-specific international organizations. The possible role for a proposed regional fisheries management organizations, and governance by the International Seabed Authority for the central Arctic ocean floor beyond any national jurisdiction, illustrates the usefulness of understanding the role of international organizations.

**Chapter 5, *The efficacy of international environmental law: Evaluating regime rule-sets*,** contends that the effectiveness of IEL can be subjected to evaluation. It is argued that evaluating the law's result (or "output") is now necessary for its organization, *i.e.* assuring its coherency in settings such as the Arctic. The analysis in this chapter draws from regime theory and efforts to create measures to assess environmental governance regimes. While criteria to gauge the effectiveness of legal rules can be conceived, including whether rules change actor behavior and where physical characteristics of a regulated environmental problem have been remedied, causation remains problematic. This is a question of how changes, *i.e.* the resolution of environmental problems, can be attributed to the quality of the law (again, the prevailing legal rules) in a setting. The assessment criteria which come out of the analysis have the category labels of *rule engagement*, *rule application*, *rule development* and *rule synthesis*. To apply at the level of a "rule-set" – the legal requirements of an environmental protection regime – the criteria inquire about the capacity and success of engaging states in the creation of IEL rules, the clarity and suitability of rules for adoption and implementation by states, the potential of rules to evolve over time, and the alignment of various rules across IEL. In fashioning such criteria, the approach is that of accepting IEL as routinely created and applied in regime-like frameworks, not as rule-sets devoid of animating governance features. The need for performance criteria is evident because of IEL's rapid development and the

changing problems it must confront, including how states internalize, *i.e.* implement, the law. The chapter builds on regime evaluation to address the gap in how IEL's effectiveness is gauged, presenting criteria to assess IEL rules including those for the Arctic.

The **Conclusion** reconciles the three hypothetical questions of the thesis: First, is IEL in a present state of development to allow for effective environmental governance in the Arctic? Second, are cohering features of IEL sufficient for the task of achieving a systemic integration of the law in the Arctic region? The identification of cohering features in IEL and particularly in its law of the sea forms is explored in the analysis of this question. Third, how can the effectiveness of IEL be evaluated? The answers are meant equally to reveal IEL's development as the readiness of the Arctic setting to receive it.

### III. TOPIC JUSTIFICATION: SELECTING THE ARCTIC TO ASSESS IEL

The reasons to choose the Arctic as a setting to assess IEL's development and cohering mechanisms, and how performance of the law in specific geographic areas can be evaluated, may be briefly explained. A starting rationale is the need to understand IEL's place and developmental potential in an Arctic which is increasingly faced with environmental degradation including global phenomena outside the control of states interested in the region to correct.<sup>15</sup> Increasing scientific knowledge about the functioning of the earth system makes considering law for the environmental protection of the polar regions worthwhile. In five decades, the Arctic has gone from scarcely acknowledged value to a place of natural resource exploitation alongside recognized cultural worth for Indigenous peoples as a developing law

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<sup>15</sup> The correlation between greenhouse gas emissions and the loss of Arctic sea ice is discussed by Dirk Notz and Julianne Stroeve in "Observed Arctic sea-ice loss directly follows anthropogenic CO<sub>2</sub> emission" *Science* (3 November 2016). "[W]e can directly estimate that the remainder of Arctic summer sea ice will be lost for roughly an additional 1000 Gt [gigatonnes] of CO<sub>2</sub> emissions... For current emissions of 35 Gt CO<sub>2</sub> per year, the limit of 1000 Gt will be reached before mid century. On the other hand, our results also imply that any measure taken to mitigate CO<sub>2</sub> emissions will directly slow down the ongoing loss of Arctic summer sea ice. In particular, for cumulative future total emissions compatible with reaching a 1.5°C global warming target ... Arctic summer sea ice has a chance of long-term survival at least in some parts of the Arctic Ocean."



of the sea allowed states to enclose much of its area. How environmental law has come to function in the polar north demands examination. Scholarly assessments in the decade following the Ilulissat Declaration bear this out: Analyses of how IEL functions and applies in the region have been limited and an evaluation of the adequacy that law has not yet been pursued.<sup>16</sup>

The Arctic offers a useful basis to consider IEL's development and those features of the law that both limit and augment its greater systemization. That is because the Arctic has been rejected by its coastal states as a place for outright preservation and instrumentalized regulation. In effect, states have chosen fragmentation as the path to create and implement environmental protection rules between states. Paradoxically, in this landscape devoid of coordinating rule-sets (in contrast to governance regimes found elsewhere), the significant territorial presence of states having capacity to implement IEL imports a large body of existing IEL including numerous multilateral environmental agreements subscribed to those states. The Arctic, as with other settings, is a place where systemization across IEL subjects is needed.<sup>17</sup> Because the Arctic Ocean has only recently experienced environmental impacts that have manifested themselves longer in other places, the prospect for greater integration of IEL subjects holds a potential for *a priori* evaluation. An example is to ask whether a regional seas agreement as a framework treaty to address marine pollution and resource issues consistent with general, normative provisions of UNCLOS, would be appropriate for the Arctic. Implicit in this is the experience of regional seas agreements elsewhere and the adequacy of their legal structures toward a desired result.<sup>18</sup>

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<sup>16</sup> The scholarly appreciations of IEL in the Arctic are discussed throughout Chapter 1.

<sup>17</sup> *Systemization* is, first, the *coherence* of existing IEL from its numerous sources with relevance or applicable to the Arctic Ocean region. It is also *integration* across legal rule-sets including for application of the law and, finally, the creation of legal rules that promote or result in consistency.

<sup>18</sup> See notably Julien Rochette and Raphaël Billé, "Bridging the Gap between Legal and Institutional Developments within Regional Seas Frameworks" (2013) 28 *International Journal of Marine and Coastal Law* 433.

A selection of the Arctic as a place to analyze features of IEL – as is the case with Antarctica – can draw from the role of scientific research and creation of environmental knowledge in the region. International environmental law, it can be observed, is bound to scientific understanding. Developments in the law, often for remedial responses to understood environmental problems, result from scientific understanding. The declared requirement to preserve Antarctica, *i.e.* the continent's natural setting is an example where scientific research and understanding has been assigned a role to inform demands on the law and the conceiving of rule-sets for governance. Such a precept for the Arctic should be evident in a time of accelerating climate change that threatens large-scale changes in environmental habitats and human uses. Fortunately for IEL's development in the Arctic, the place of science is now secure. Coordinated scientific research, priorities and the receipt of knowledge from science into how the law is made and applied, examined in Chapter 1, is arguably at the level of Antarctica's experience under the *Antarctic Treaty*.<sup>19</sup> The role of scientific understanding and identification of governance (and therefore IEL rule-making) priorities, discussed on page 23 below, is considered notably for the Arctic in Chapter 1, and from the perspectives of IEL's modern development after the 1972 Stockholm Conference in Chapters 2 and 6.

The Arctic has features for analysis of IEL's evolution: relative remoteness, a substantial ocean ice-cover that limits human activity, and few states present with only five directly around the Arctic basin. The setting is closed geographically and, at least somewhat in political terms, a treatment in international affairs which has tended to limit interest of the international community. As explained in Chapter 1, the region is a place where states have an equal basis to be territorially present, overtly declared interests, and capacity to implement IEL. The Arctic has no significant territorial disputes and competing claims to maritime space

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<sup>19</sup> *Antarctic Treaty*, *supra* note 13. The Antarctic Treaty System (the ATS) encompasses agreements for conservation of fur seals and fisheries, and the Madrid Protocol for environmental protection. UNCLOS and the *Polar Code for Shipping* are important adjuncts to the ATS.

can be resolved through accepted rules. In sum, the Arctic has fewer political variables and parties than other regions for the receipt and application of environmental law.<sup>20</sup>

#### **IV. TOPIC LIMITATIONS: MATTERS SET ASIDE IN THESIS DESIGN**

Some topics with possible application to analysis of IEL in the Arctic are necessarily set aside or given brief treatment. A first was the designing of a presumptive or idealized regime for the region, including from the experience of established UNCLOS-inspired regional seas agreements for other coastal oceans. The now apparently mature agreements for the Baltic, Black, Mediterranean and North Seas, have been subjected to little evaluation. The Arctic basin's remoteness, sparse human habitation and ice-covered waters suggests the analysis of IEL's cohering features along with the elements of effective regionally-directed rules must start with first principles. However, lessons from the application of IEL in regional seas agreements are considered.

A second area of analysis left aside is IEL's progress in Antarctica. That continent and the Southern Ocean offer much about how states collectively understand environmental problems and agree to regionally-specific responses. However, Antarctica's environmental protection regime, arguably the most comprehensive of any geographic region, is unique. Of course, there are parallels between the polar regions, e.g. environmental protection for shipping under the *Polar Code* and implementing the *Convention on Biodiversity* in ice-covered habitats.<sup>21</sup> In addition, agreements for fishing and conservation of fur seals, and restrictions on whaling have arguably combined to an informal regional seas framework for the Southern Ocean. However, three things reduce Antarctica's value for comparative analysis.

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<sup>20</sup> Europe is a useful counter-example, an environmental governance region with numerous parties and layered legislative schemes such as a European Union federated regulation, the influencing role of the UN Economic Commission for Europe (UNECE) and a dense network of maritime environmental regulation including several regional seas agreements. The reach of the OSPAR agreement for the North Sea marine environment into the Arctic and its influence is discussed in Chapter 1.

<sup>21</sup> *Convention on Biological Diversity* (5 June 1992) 1760 UNTS 79 (in force 29 December 1993) (CBD).

First, the continent is governed by an established imperative for outright preservation. Second, the territorial dynamic is the reverse of the Arctic with national claims frozen under the *Antarctic Treaty*. Third, the polar south lacks an Indigenous or otherwise permanent settler population. However, because all Arctic states except Finland have a role in Antarctica's environmental governance, Chapters 1, 3 and 4 features discussion of IEL there.<sup>22</sup>

A third matter excluded was the evaluation of IEL's performance in the Arctic. At some point, a value judgment about the success of IEL in the Arctic is inescapable. The observation that IEL continues to be inadequate to protect the Arctic environment from climate change is one such observation. However, assessing how IEL in a particular setting is effective is a comprehensive task. Scientific, social and economic indicators are necessarily part of understanding how regulation in a governance regime performs. This thesis proposes criteria to assess the success or result of IEL, but does not apply them to the Arctic or any larger question of environmental protection governance success.

A fourth topic also accorded limited treatment was proposing legal rules in response to exogenous environmental impacts in the Arctic. The greatest problems, which outstrip locally-created ones, are climate change and pollution transport, which in other settings also continue to defy measures for local remedial control. Every environmentally defined region makes a contribution as a type of geographically determined burden sharing. And therefore local measures in the Arctic for these two problems of global pollution are indicated, if lacking a complete foundation in IEL. However, an envisioning of prescriptive measures in law is a matter for coordination across regions, something now underway when it comes to climate change as a result of the 2015 *Paris Agreement* for climate change.<sup>23</sup>

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<sup>22</sup> See Table II, *Comparative features of Southern and Arctic Ocean environmental governance regimes*, at page 94 and the discussion at pages 230-232.

<sup>23</sup> *Paris Agreement* (12 December 2015) UN doc. FCCC/CP/2015/L.9/Rev.1 (in force 4 November 2016).

## V. METHODOLOGY

Several methodological approaches were considered in the research design of this thesis.

Some were assigned limited weight, including where the credibility of data arrived at by their application could not be assured. Particular attention was given to the modern conception of international environmental law and implementation by states in regional settings. In 2013 the author joined the European Cooperation in Science and Technology intergovernmental network of scholars to contribute to its COST action on the legal aspects of maritime safety and security.<sup>24</sup> Fieldwork to assess the application and result of IEL in the Arctic was rejected in favour of accounting for scientific reports including from the Arctic Council's several environment committees. The following iterative methodological path was chosen:

### ***Literature review***

The starting point for research was a review of the literature. Available scholarly, state policy, Arctic Council declarations, legislative materials, judicial texts and relevant scientific studies across the following areas were collected and evaluated for relevance, including:

- (i) international environmental law theory and philosophy;
- (ii) the principal texts of international law (*i.e.* treaties, judicial decisions, ILC reports and texts of treaty *travaux préparatoires*);
- (iii) law of the sea treaty texts and scholarly commentaries;
- (iv) state policy and legislative texts for reception and implementation of IEL obligations (*i.e.* national legislation and IEL related policy statements);
- (v) Antarctic Treaty System materials pertaining to the environment, including Antarctic Secretariat materials;
- (vi) Arctic Council declarations, policy statements and scientific committee reports;
- (vii) statements of circumpolar Indigenous organizations concerning the environment and application of international conservation norms;

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<sup>24</sup> COST action IS1105, *Marsafenet*, for which see online at: <[www.marsafenet.org](http://www.marsafenet.org)>.

- (viii) environmental protection regime theory commentaries and evaluations;
- (ix) regulations and policy statements of international organizations relevant to the Arctic environment, including the IMO, the UNFCCC Secretariat, the Convention on Biodiversity Secretariat, and the UN Division for Ocean Affairs and Law of the Sea; and
- (x) studies about the role of civil society in the creation of government environmental policy and engagement of IEL rule-making and application; and

Literature cited in the thesis or otherwise accepted as relevant is listed in the **Bibliography**.

### ***Antarctica as research counter-factual***

A second task was to assess the development, systemic integration and cohering features of IEL for Antarctica. The continent's environmental regime is comparatively advanced, although without a formally established regional seas framework. Analysis revealed some scholarly assessments of the integration and development of IEL as a whole for the region, although only a few ( $n < 5$ ) have considered its effectiveness or performance. However, Antarctica is a useful model for understanding how an environmental region adapts IEL. As with the Arctic it is a closed geographic setting with few states present that is arguably more amenable to how legal rules are formed within an environmental protection regime and may be possibly subject to evaluation. In other words, Antarctica holds an apparent value as a heuristic to demonstrate IEL's application and limits in a polar setting. The argument in such an approach is that measures for performance monitoring of states, liability apportionment, and features to reconcile fragmentation across environmental regulation subjects (*i.e.* the objects of governance under the multilateral environmental treaties), continue to be underdeveloped in the law. Finally, studying Antarctica reveals the limits of creating and adapting IEL to a region intrinsically important for the functioning of an earth system for which global and local environmental protection measures has yet to be completed.

### ***Research publication***

Specific issues for analysis in the research process were developed through conference presentations and published papers, including analyses of science policy in the international whaling regime, regulation of scientific research at sea, integration of multilateral treaties for chemical pollutant regulation, the evolution of climate change regulation under the UNFCCC, the conservation of international wildlife by use of the WTO trade dispute regime, the problem of regulating climate change in the Arctic, and implementation of the UN *Convention on the Law of the Sea* in Asia-Pacific states. Reviews of publications with a heavy influence on particular research topics were published in various journals.

### ***A methodology for the study of IEL***

The study of international environmental law must *a priori* account for interdisciplinarity, including how the law supports and requires states (and others to act) upon obtaining scientific knowledge. Various analytical-jurisprudential techniques are needed for the study of IEL and especially its evaluation.<sup>25</sup> A first task is the design and application of classification methods. The range of matters encompassed by IEL and national analogs is made sensible by taxonomy; assigning categories. The conclusion from this approach in Chapter 2 is that IEL possesses a strong remedial orientation by imposing obligations on states to compel needed behaviors. Equally, classification allows for comparisons across subjects of law and identification of measures to reconcile or integrate gaps and conflicts of norms. A highlighting of IEL's boundaries should illuminate where the law can intersect with other norms including for

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<sup>25</sup> "[F]or environmental law scholarship to come of age, scholars need to reflect critically on their research methodology. This is particularly necessary in relation to the speed and scope of regulatory change, interdisciplinarity, diverse governance regimes and the multi-jurisdictional nature of the subject. We have suggested five steps to aid in this process of critical reflection which cut across these four challenging issues: taking a reflexive approach to methodology choices, mapping the subject, engaging with debates about legal (including socio-legal) methodology, understanding more carefully the concept of interdisciplinarity and finally having an explicit debate about the quality of environmental law scholarship." Elizabeth Fisher *et al*, "Maturity and methodology: Starting a debate about environmental law scholarship" (2009) 21 *Journal of Environmental Law* 213 at 230.

human rights, and securing global peace and security. This is something that needs continuing study beyond the present thesis.

A second approach to understanding IEL is necessarily the *descriptive*. This is an effort to locate and explain IEL. It involves assessing the sources of norms, conflicts across norms, and how the law operates, by formal requirements and how states receive and act on a legal obligation. International law presupposes that states *internalize* obligations. That is the essence of good faith in a generalized obligation upon states for effective implementation of IEL. But a matter for analysis here, the descriptive inquiry, is sometimes absent from the scholarship: The extent and effectiveness of states to make good their IEL commitments. It is therefore worthwhile to observe how the organization of IEL contributes to its on-the-ground realization. The exercise of description, in other words, needs to transcend the boundary of international law to make sense of the law's reception into national legal systems. This is where the law is intended to be applied, after all. A corollary to the descriptive method of analyzing IEL is the case study. Because of law's complexity together with underlying environmental phenomena, this approach necessarily features in commentary. It is individual matters often dealt with – specific regions, treaties, resources and pollutants – by the analytical steps of identifying the law and how it emerged, how it is implemented, and how it is adjudicated.

Two particular analytical techniques are noted. They were employed to build upon taxonomic and descriptive approaches. The first is *teleological*, asking if law (a rule-set, treaty, principle or other formally understood obligation between states, or by a state to an international organization) has changed the behavior of the state such that it fulfills or is moving to fulfill the obligation. Three things result from this inquiry: (i) the identification of what counts for state behavior, (ii) the fact that states are not unitary or monolithic as actors in environmental matters, and (iii) that states are limited in the control of environmental matters



by agency, cost and effectiveness of their regulation; their legal cultures. This makes the second technique useful, namely, assessment of *empirical result*. The resulting problem is to locate the causal connection between an IEL rule and a particular state's "output" or implementation of it. Environmental phenomena that can be quantified, for example pollution from discrete sources, are most amenable to this analysis. It should be recalled that scientific data (quantified fisheries stocks, viability assessments of ecosystems, recovered stratospheric ozone) will routinely be the foundation of empirical understanding of the law's result.

An additional technique is the analysis of what can be called *science-policy-law formative and feedback loops*.<sup>26</sup> Regions of environmental governance and rule-making are suitable to this kind of study because their limited areas and fewer numbers of states enable more accurate recognition of environmental problems. Nevertheless, IEL is routinely created after thresholds of scientific understanding have been surmounted and therefore revealing the policy imperative for states to accept or reject collective rule-making.<sup>27</sup> Few IEL rules have been created in anticipation of a not-yet-understood environmental problem.<sup>28</sup> The science-policy-law causal and feedback origins of IEL occasionally have a strong *civil society-public expectation* aspect. This has been the case for international treaty efforts for the conservation of animals with an idealized value assigned to them such as elephants and whales. "Good"

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<sup>26</sup> How science informs policy-making toward legal rules seems particularly amenable to examination through the approach of the New Haven School. IEL is influenced in its making by collective problem appreciation among states together with social influences of states and others.

See Myres S McDougal, Harold D Lasswell & W Michael Reisman, "The World Constitutive Process of Authoritative Decision" (1967) 19 *Journal of Legal Education* 253, describing seven policy steps toward law: intelligence gathering; promotion-advocacy; prescription; invocation; application; termination; and appraisal.

<sup>27</sup> The time lag from scientific understanding and apprehension to commonly accepted understanding of scientific explanation or data about an adverse environmental impact until the adoption of a treaty rule-set (or regulation otherwise among states) needs study. Most environmental treaties have been created relatively quickly. Those for regulation of pollutants presenting direct problems for human health were arguably negotiated most rapidly.

<sup>28</sup> So-called process-administrative regimes (and rules) of environmental law are an exception, and are discussed in Chapter 2, for which see also Figure I on page 108. Environmental impact assessments, for example of would-be pollutants and specific proposed activities, can offer an advance of understanding of how to fashion rules and governance outcomes toward environmental protection.

IEL rule-sets, most often found in the form of treaties, expressly or by operation ensure continuing receipt of the results of scientific knowledge thereby allowing rules to evolve with remedial purpose.<sup>29</sup>

Finally, the methodology of this thesis is directed to make sense of IEL and advance its theories, namely, the jurisprudential techniques of textual analysis, inductive reasoning, comparative assessment and understanding how the exercise is value-oriented.<sup>30</sup> The first three of these approaches account for the law's texts: Their historical origins, policy underpinnings, and the nature of rules. The evaluation of what is IEL and how it successfully works comes with the risk of assigning an overly idealized normativity for environmental protection rules. In addition, an historical examination of IEL will need to account for what were pronounced social-civil society aspirations that often resulted in the law's creation. An epistemic risk is that too formal an approach can lead to mere description. An idealized standpoint, on the other hand, can imbue IEL's desired norms with political character and transient values. Martti Koskeniemmi's observation suggests the objectivity needed in examining law as a whole, and, therefore IEL:

Organizing society through legal rules is premised on the assumption that these rules are objective in some sense that political ideas, views, or preferences are not. To show that international law is objective – that is, independent from international politics – the legal mind fights a battle on two fronts. On the one hand, it aims to ensure the *concreteness* of the law by distancing itself from theories of natural justice. On the other hand, it aims to

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<sup>29</sup> The idea of good, *i.e.* effective, IEL is discussed in Chapter 5. The precautionary principle and the Agenda 21 ideal of sustainable development add emphasis to the law's receptiveness of scientific understanding, but the IEL landscape is fragmented in this regard. Specific IEL regimes with capacity for production and consideration of scientific knowledge seem to operate most efficiently, that is, move to revise rules in a timely way with greater party compliance. Examples include the ATS (with its Antarctic Secretariat) and the more advanced regional seas agreements.

<sup>30</sup> The texts include judicial decisions, treaties, commentaries, state domestic legislation, the decisions (and rules prescribed by) international organizations concerned with the environment and policy prescriptions. The principal "data set" or evidence to be considered is the entirety of IEL's application by states, its *empirical-customary compliance* landscape. The underlying question, to borrow from Harold Koh, is *why do nations create and obey international environmental law?* See Harold H Koh, "Why Do Nations Obey International Law?" (1997) 106 *Yale Law Journal* 2599.

guarantee the *normativity* of the law by creating distance between it and actual state behavior, will, or interest. Law enjoys independence from politics only if both of these conditions are simultaneously present.<sup>31</sup>

The need to examine IEL objectively by balancing normativity and concreteness has an example in the concept of sustainable development, at its ideal a rule to prevent exhaustion of natural resources and sometimes physical space. Since its advent in 1992 through (the post-UNCED) Agenda 21, sustainable development arguably has falls short of both concreteness and normativity. A framework of rules for the Arctic environment faces the same problems. The *concreteness-normativity* dilemma is present along a continuum from idealized preservation as wilderness to the opposite, a place of instrumental use including resource extraction. This is the difference in conceiving of IEL between the polar regions. In Antarctica, there is a normative imperative toward outright preservation. The Arctic continues to resist this after Ilulissat. Analyzing the sufficiency and coherence of IEL for the region means that we will need to navigate between identifying an apologetics of IEL and the pursuit of law beyond remedy, in the direction of preservation.<sup>32</sup>

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<sup>31</sup> Martti Koskeniemi, "The Politics of International Law" (1990) 1 *European Journal of International Law* 4 at 7, emphasis in original. "An argument about concreteness is an argument about the closeness of a particular rule, principle or doctrine to state practice. But the closer to state practice an argument is, the less normative and more political it seems. The more it seems just another apology for existing power. An argument about normativity, on the other hand is an argument which intends to demonstrate the rule's distance from state will and practice. The more normative a rule, the more political it seems because the less it is possible to argue it by reference to social context. It seems utopian and – like theories of natural justice – manipulable at will." *Ibid.*

<sup>32</sup> In Chapter 2, IEL is characterized as partly conservation-oriented, *i.e.* directed to the availability of environmental amenities in contrast to *preservation* of resources and areas of intrinsic value which arguably should not be compromised. Contemporary science reveals the setting aside of large areas to be important because of global scale ecosystem pressures. See Edward O Wilson, *Half-Earth: Our Planet's Fight for Life* (New York, NY: WW Norton, 2016) and James EM Watson *et al*, "Catastrophic Declines in Wilderness Areas Undermine Global Environment Targets" (2016) 26 *Current Biology* 1.



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## **CHAPTER 1**

### **THE ARCTIC AS LEGAL SPACE: DEFINING A REGION AND ITS ENVIRONMENTAL LAW**

- I. INTRODUCTION
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#### **I. INTRODUCTION**

The Arctic faces significant environmental protection challenges. Global warming has an increasingly adverse impact, threatening to permanently change the polar north. Other problems for the Arctic environment include pollutants transported into the region by global atmospheric and ocean processes, resource extraction, and the loss of terrestrial and marine habitats. The Arctic has intrinsic social and economic value to its peoples and states present along with an increasingly understood role in the stable functioning of earth systems including climate mechanisms. Because of these concerns, a goal of preserving the Arctic as a wilderness area or, short of that, conserving its natural amenities, has been attractive. However, the region's states, especially around the Arctic basin, reject an overarching conservation ideal and corresponding use of the law to create a preservation regime akin to Antarctica's.

In human, legal, political and governance dimensions, protection of the environment in the Arctic has diverged from its polar analog, Antarctica. The application of international law for environmental protection in each region would always be different, not least because the Arctic has a permanent population. A second difference is that the Arctic is extensively ocean space while Antarctica is a landmass where the ambitions of states to acquire territory are limited (or

curtailed) under the *Antarctic Treaty*. The Arctic, in contrast, has become a place of far-reaching state jurisdiction, revealed most recently in extended seabed claims which overlap the North Pole itself. The greatest difference in identifying and conceiving law for environmental protection in each region is that Antarctica is agreed by the international community to be largely preserved as wilderness. States interested in the continent accept they cannot pursue resource development (except a fishery in the Southern Ocean), establish permanent populations or advance territorial claims. States such as France and New Zealand which have been historically present accept this because they have some benefits of sovereignty, including the tacit acceptance of others of claims to exclusive economic zones (EEZs) in the Southern Ocean. This territorial dynamic is reversed in the Arctic. The five circumpolar states of the Arctic basin – Canada, Denmark (in Greenland), Norway, Russia and the United States – are present with extensive ocean (and seabed) areas. Moreover, the Arctic is a place of accepted human exploitation, and impliedly of adverse environmental impacts because of local populations thought to require the economic benefits of resource extraction, such as petroleum.<sup>1</sup> When comparing polar regions for determining how international environmental law is being applied in the Arctic, we must start with what states accept as law. The *Antarctic Treaty*, which has operated for almost six decades, requires *preservation*. The position of states is that no development of natural resources on the continent will take place as a reserve with controlled human intrusion. In law, the position of the Arctic is the reverse. The five states territorially present in the Arctic basin have rejected conservation and a singular environmental protection

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<sup>1</sup> The joint announcement of Canada and the United States in 2016 to prohibit seabed petroleum development in Arctic waters and the response of a sub-national government expressing economic concern illustrates this. See “United States-Canada Joint Arctic Leaders’ Statement” (20 December 2016) online at: The White House <<https://obamawhitehouse.archives.gov/the-press-office/2016/12/20/united-states-canada-joint-arctic-leaders-statement>>. “[T]he United States is designating the vast majority of U.S. waters in the Chukchi and Beaufort Seas as indefinitely off limits to offshore oil and gas leasing, and Canada will designate all Arctic Canadian waters as indefinitely off limits to future offshore Arctic oil and gas licensing, to be reviewed every five years through a climate and marine science-based life-cycle assessment.” See also John Van Dusen, “Nunavut, N.W.T. premiers slam Arctic drilling moratorium” *CBC News* (22 December 2016), online: CBC <<http://www.cbc.ca/news/canada/north/nunavut-premier-slams-arctic-drilling-moratorium-1.3908037>>.

governance framework. It follows that the future of the law for environmental protection in the Arctic turns on identifying, creating and applying rules and governance norms from international environmental law (IEL) as a whole. The challenge is to consider how an evolving IEL can apply to ensure an environmental protection in response to social and economic uses of the region. There may yet be sufficient substance and cohering features in IEL to accomplish that result.

This chapter is concerned with the evolution and present condition of international environmental law in the Arctic. It seeks to answer the following questions: (1) *What is the Arctic as an environmental region for the purpose of identifying and developing IEL?* (2) *What IEL now operates in the Arctic?* (3) *How do Arctic states receive IEL norms and rules?* (4) *Is there an emergent regime – a governance framework – available to organize and develop IEL?* (5) *What role have Indigenous peoples played in shaping an environmental governance regime and the making of international environmental law in the Arctic?* A starting point in reply to these questions is to observe the rejection by circumpolar states of a single treaty instrument to create and apply IEL in the region, combined with a refusal to preserve the region from resource development.

In answering these five questions it is contended that IEL's now-extensive rule-sets apply in the Arctic and particularly its ocean setting, and that the application of IEL rules is acquiring the consistency of an identifiable framework or regime. In other words, there exists what might be called a *near-regime* that shows tangible environmental protection norms for various matters. But it is one within the region and which depends, when it comes to the significant external problems for the region, upon the operation of the global climate change regime and regulation of chemical pollutants. The setting in which IEL is found in the Arctic is therefore a paradox: a more efficient, extensive and enforceable environmental law regime for the polar north now faces a limit in the fact of adverse environmental impacts from beyond. Particular environmental

problems are next reviewed, followed by a discussion of what makes for IEL in the region, before the question of identifying a geospatial region for the law's application in Part II of this chapter.

### ***The challenges of environmental protection in the Arctic***

The environmental problems faced by the Arctic can be recalled. Even in the absence of a treaty-like or other framework for environmental protection governance, such problems are the continuing object of cooperation between the region's states beyond other concerns such as territorial claims and human rights protections for circumpolar Indigenous peoples.

Environmental protection problems were first identified collectively among Arctic states in the 1991 Arctic Environmental Protection Strategy.<sup>2</sup> As with environmental impacts elsewhere, the adverse human activity effects in the region have complexities that make legal responses difficult. The type and scope of environmental impacts in the Arctic is generally settled among commentators, and in order of severity are: (i) the effects of climate change; (ii) pollution transport and deposition; (iii) habitat loss; (iv) species loss; (v) resource loss and degradation.<sup>3</sup>

These problems do not easily reduce to effective legal responses within the Arctic because they originate or are exacerbated by external phenomena. They are large in scale and, when it comes to climate change and pollution, threaten to impose disproportionate consequences for human activity in the region. These environmental impacts result in what can be called *loss of amenity*, i.e. a diminishing of space and resources, and include the following specific problems:

- (1) Arctic sea ice loss;
- (2) Greenland ice sheet collapse;
- (3) thermohaline ocean circulation disruption;
- (4) ocean hypoxia;
- (5) marine food web changes: Community change and trophic level decline;

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<sup>2</sup> The Strategy, AEPS, is discussed on page 46 below. It would be superseded by programmatic and specific policy priorities of a newly created Arctic Council in 1996.

<sup>3</sup> The categorization is mine.



- (6) fisheries collapse;
- (7) changes to primary production in the Arctic Ocean (*i.e.* changes to fishery habitat);
- (8) Arctic benthos loss of habitat complexity;
- (9) Kelp transitions;
- (10) coastal marine eutrophication;
- (11) peatland transitions;
- (12) a shift of thermokarst lakes to terrestrial ecosystems;
- (13) river channel position changes;
- (14) salt marshes to tidal flats;
- (15) loss of mobility to Arctic residents;
- (16) tundra to boreal forest changes, and tundra to steppe changes; and
- (17) coniferous to deciduous boreal forests changes.<sup>4</sup>

These are problems of a setting which has only recently moved beyond a basic legal regime to address them. The UN *Convention on the Law of the Sea* offers structure for a regional development of the law including general provisions to conserve the Arctic Ocean but has yet to be applied systemically. UNCLOS imposes only broad obligations on Arctic states and is not a basis to direct application of IEL as a whole or specific rule-making for the Arctic Ocean. As is discussed, that is also true for the another framework to possibly organize IEL in the Arctic, the *Convention for Biological Diversity* (CBD).

### ***International environmental law: Preliminaries***

IEL has reached a point where the most consequential pollutants are regulated, particularly ones that present an acute risk to human health. But this response of collective rules among states has been to restrict pollutants and to control their trade (and movement), and less eliminate their

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<sup>4</sup> Marcus Carson and Garry Peterson, eds, *Arctic Resilience Report* (Stockholm: Stockholm Environment Institute and Stockholm Resilience Centre, 2016), at 67ff. Originally styled as the Arctic Resilience Assessment, the Report is the result of a 2011 decision by the Arctic Council's Senior Arctic Officials group "to better understand the nature of Arctic change, including critical tipping points, as well as the factors that support resilience, and the kinds of choice that strengthen adaptive capacity." *Ibid.* at viii. The so-called regime shifts listed above are said to be "largely irreversible." Arguably absent from this list are the impacts of chemical pollutants and overall or systemic degradation of biological diversity.

production.<sup>5</sup> Humanity has yet to reckon with how it will deal with the underlying causes of overall adverse impacts that result from the ongoing growth of resource consumption, energy use and release of pollutants. And how the law ensures a capacity of states to implement their obligations is unclear and incomplete. It is not surprising that the Global North states, with greater capacity for governance and regulatory measures, have been at the fore of making and implementing of IEL in most issue areas.<sup>6</sup>

IEL's success since the 1972 Stockholm Conference has been the near-universal acceptance of its necessity.<sup>7</sup> The commitment is occasionally superficial, for example in the unwillingness of states to pursue transboundary pollution liability schemes and collectively protect the global commons. The reduction of greenhouse gas emissions is an example of the latter. IEL's other success has been its adaptability, rapidly assuming a protean form across numerous topics. The advances here are the result of civil society demands on governments to cooperate with others in the making of environmental protection agreements, a pursuit of scientific understanding, and the fostering of social values in a way similar to human rights. Other influences have been the work of the United Nations generally, and particularly the UN Environmental Programme (UNEP), as well as the animating international conferences on the

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<sup>5</sup> Qualifying what is a "serious pollutant" (more widely, human conduct with serious environment impact, for example, biodiversity loss) is an elusive epistemic goal, because of what science reveals over time and a generally increasing overall loading of activities and wastes on the natural environment. However, the claim that "regulation" of pollutants among states is in place can be credibly asserted if only recently after the *Paris Agreement* to further control greenhouse gas emissions under the *UN Framework Convention on Climate Change* (9 May 1992) 1771 UNTS 107 (21 March 1994) (UNFCCC).

Studies of global scale pollution arrive almost daily. See e.g. Roland Geyer, Jenna R Jambeck and Kara Lavender Law, "Production, use, and fate of all plastics ever made" *Science Advances* (19 July 2017) e1700782. The authors report 8.3 billion tonnes of plastics manufactured since 1950 threaten to remain permanently in the environment, noting "[n]one of the commonly used plastics are biodegradable."

<sup>6</sup> The point must not be taken too far. Progress is being made among states of the so-called developing world, i.e. the Global South such as through new constitutional arrangements in the African Union and by a regional sensibility in Latin America. Differences between states in their recognition of IEL's importance, participation in its creation, and implementation, are inevitable. Environmental law, as with human rights, is animated by strong civil society interest.

<sup>7</sup> Joachim Radkau describes the Stockholm era as a time of ecological revolution, a "great chain reaction" in social and political environmental consciousness. Joachim Radkau, trans. Patrick Camiller, *The Age of Ecology: A Global History* (Malden, MA: Polity Press, 2014).

global environment which have taken place since Stockholm. Few areas of international law have gained the consensus surrounding IEL in just a few decades.<sup>8</sup>

This success can be attributed to IEL's informal tiered structure. At the apex of IEL are found the agreements and principles of global import for biodiversity, protection of habitat, as well as particular responses to matters of global concern – climate change and stratospheric ozone depletion being examples – which are supported by regional arrangements and bilateral treaties. Some of what can be called IEL's *constitutionality* can be observed in the propensity of states to contract for environmental protection on both global and local levels.<sup>9</sup> The phenomenon of regionally-created and derived IEL is evident in three domains: Europe (the European Union community), Antarctica and coastal maritime areas.<sup>10</sup> The European Union can be called a *shared sovereignty* setting, in which states yield or delegate environmental law-making and operative regulation into collective governance organizations.<sup>11</sup> Where the delegated agent (the EU institutions of Council, Parliament and Commission) and the *Antarctic Treaty* conference of the parties and Secretariat) has effective rule-making and enforcement, such

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<sup>8</sup> The post-Stockholm decennial conferences have arguably run their course, now limited in utility. The idea of sustainable development after the World Conference on the Environment and Development and Agenda 21 at the 1992 UNCED Conference, imprecise in its definition, has taken root. The number of new substantive subjects to be settled, that is, the classic topics of pollutants, cooperation, and process (for example transboundary movement of pollutants and environmental impact assessment) is now within identifiable proportions. Moreover, the continuing concern about humanity's response to climate change has taken up popular consciousness and government resources toward environmental protection.

<sup>9</sup> The idea of constitutionality is considered in Chapter 2. States also contract with others in global and regional settings for trade and human rights.

<sup>10</sup> There are what can be categorized as strongly and weakly emergent regional regimes in other land-based settings. They fall along a continuum and in the absence of objectives to assess where a collective of states lies on it, only a value judgment can differentiate between strong and weak. We should expect a corollary with conformance to the rule of law among the states in any particular IEL setting.

<sup>11</sup> The case for mutual regulation among states was made by Abram Chayes and Antonia Handler Chayes in *The New Sovereignty: Compliance with International Regulatory Agreements* (Cambridge, MA: Harvard University Press, 1995). "[T]he principal source of non-compliance is not willful disobedience, but the lack of capability or clarity or priority." *Ibid.* at 22. See also Benedict Kingsbury, "The Concept of Compliance as a Function of Competing Conceptions of International Law" (1998) 19 *Michigan Journal of International Law* 345. For a discussion about providing for capacity building governance in environmental treaties, see George Downs, "Enforcement and the Evolution of Cooperation" (1998) 19 *Michigan Journal of International Law* 319.

regimes have deepened.<sup>12</sup> Regional seas arrangements, with form in framework treaties and subsidiary instruments, are the third. With more than 20 for coastal areas, their creation resulted from a need for collective governance in response to the use of marine resources and pollution (routinely from land-based sources), the perceived success of arrangements in European waters, the animating effect of UNCLOS, and the coordinating work of the UNEP.<sup>13</sup> Therefore, what can be called *environmental regionalism* outside of Europe and Antarctica is arguably deepest in coastal settings. However, while regional seas agreements allow a useful uniformity, they exist for half the world's coastlines and shared maritime areas. No creation of new ones is now envisioned.<sup>14</sup> States enter into arrangements in localized settings for many reasons and the apparent achievements of regional seas agreements for the Mediterranean and the Baltic promoted duplication elsewhere. Besides, such agreements were a ready compromise given the advantage of extended maritime areas – the EEZ codified in UNCLOS – that states acquired.

Regionally conceived, *i.e.* setting-oriented environmental regimes are found elsewhere.

Some are nascent or prescribe schemes not yet transformed into tangible obligations of law

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<sup>12</sup> Whether the IEL regime in these settings (receipt and conformance with IEL norms, and reciprocal commitment to their wider realization) has been effective is something else. It can be accepted that overall success in IEL is a question of all regimes advancing, if not quite harmonizing or avoiding conflicts, together. The regulation of chemical pollutants and their transboundary movement is an example.

<sup>13</sup> The UNEP regional seas program is more than 40 years old. See the Regional Seas Conventions and Actions Plans (RSCAP) Programme online at: UNEP <<http://www.unep.org>>. UNEP administers six of 18 agreements, the remainder governed by parties. Europe has the largest number of agreements and Latin America has the UNEP Caribbean Region Program. Regional seas governance remains oriented toward pollution reduction (land and ship sources) and protection of ecosystems from degradation by human uses. See Steinar Andresen and Kristin Rosenda, "The role of the United Nations Environment Programme in the coordination of multilateral environmental agreements" in B Siebenhüner and A Schreyögg, eds, *International organizations in global environmental governance* (London: Routledge, 2009) 133.

For evaluatory criteria and analysis of the performance of regional seas agreements (Baltic, Black, Mediterranean, East Asian, wider Caribbean, and for Africa) see Joseph FC DiMento and Alexis J Hickman, *Environmental Governance of the Great Seas* (Cheltenham, UK: Edward Elgar, 2012).

<sup>14</sup> In most instances, they have not yet been reconciled with, that is, integrated with the global multilateral treaties of general application, again for biodiversity, migratory species and globally transported pollutants. The coasts of Europe and Africa are nearly all encompassed by regional seas areas. In contrast, the Arctic Ocean is without one.

There is no regional sea agreement for the Southern Ocean around Antarctica. However, many elements are present. With regulation of limited human activity on the continent, a conservation-oriented fishery, and measures to control pollution from ships under the IMO *Polar Code*, what is an informal Southern Ocean regime is arguably more protective than formal regional seas agreements.

between states. Some examples include the *Agreement on cooperation in the field of environmental protection among the member-states of the Commonwealth of Independent States* (2013) and the *Framework Convention on the Protection and Sustainable Development of the Carpathians* (2003).<sup>15</sup> Meanwhile, single purpose, natural resource-directed regimes between states are ubiquitous, the ones for fisheries management being most numerous.<sup>16</sup> There is no reason, when now-extensive practice in other places is recalled, why a regional governance and law-making approach cannot be pursued for the Arctic.

## II. THE ARCTIC AS ENVIRONMENTAL GOVERNANCE REGION

Environmental regions are geographic and political constructs for the better governance of certain geographic areas under international law. There is no prescription as to how a region-regime for environmental protection must be constituted nor how to draw its norms from

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<sup>15</sup> Respectively, *Agreement on cooperation in the field of environmental protection among the member-states of the Commonwealth of Independent States* (31 May 2013), online at: Commonwealth of Independent States <<http://www.e-cis.info/page.php?id=23484>> and *Framework Convention on the Protection and Sustainable Development of the Carpathians* (22 May 2003) (in force 4 January 2006) online at: Carpathian Convention <<http://www.carpathianconvention.org/text.htm>>.

Several factors determine the time from conception of a regional environmental protection regime until its successful implementation and continuity, including commitments of the states concerned and capacity for governance within them. The latter is shown in the difference between the success of European regional governance and that within South East Asia for environmental protection. *Capacity* is the ability to put environmental rules into operation and sustain them in cooperation with other states.

<sup>16</sup> Treaty-based regional fisheries management organizations were a response to the increasing mechanization of fisheries and aspirations of states to fish in distant water areas after the Second World War. More than 20 RFMOs with varying governance schemes now exist. Perhaps the most conservation oriented is the *Convention for the Conservation of Antarctic Marine Living Resources* (20 May 1980) 19 ILM 841 (in force 7 April 1982) (CCAMLR).

“CCAMLR has made improvements regarding the production of knowledge and regulations as well as verification during its almost two decades of existence. Still, CCAMLR has not been very important in changing the behavior of the relevant target groups or in restoring the ecological balance of in the area; therefore, it stands as a rather ineffective regime.” Steinar Andresen, “The Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR): improving procedures but lacking results” in Edward L Miles et al, eds, *Environmental regime effectiveness: Confronting theory with evidence* (Cambridge, MA: MIT Press, 2002) 405 at 424, emphasis added.

RFMOs have an informal constitutional framework under the UN Straddling Stocks Agreement. See Tore Henriksen, Geir Hønneland and Are Sydnes, *Law and Politics in Ocean Governance: The UN Fish Stocks Agreement and Regional Fisheries Management Regimes* (Leiden: Martinus Nijhoff, 2006). See also Rosemary Rayfuse, “Regional Fisheries Management Organizations” in Donald R Rothwell et al, eds, *The Oxford Handbook of the Law of the Sea* (Oxford: Oxford University Press, 2015) at 439.

international environmental law. The IEL landscape is at multi-faceted and fragmented in composition when it comes to creating regional regimes. Environmental law's general principles, e.g. the prohibition against serious transboundary pollution, animate the treaties of global application and the ones for specific environmental protection in its simple prospect, and outright conservation.<sup>17</sup> The phenomena of an absence of prescriptivity and therefore uniformity, and IEL's incomplete nature, make commonality between region-regimes difficult.<sup>18</sup> It is states that implement IEL and they vary in their policy approaches and capacities to do so.<sup>19</sup>

In this context the Arctic can be thought of as an *anti-region*, because the states that surround it reject an all-encompassing regime for environmental protection. However, they have paradoxically accepted the law of the sea, which emphasizes environmental protection in an organized and secondary-rule-generating manner, Arctic states having declared:

[T]he law of the sea provides for important rights and obligations concerning the delineation of the outer limits of the continental shelf, the protection of the marine environment, including ice-covered areas, freedom of navigation, marine scientific research, and other uses of the sea. We remain committed to this legal framework and to the orderly settlement of any possible overlapping claims.

This framework provides a solid foundation for responsible management by the five coastal States and other users of this Ocean through national implementation and application of relevant provisions. We therefore see no need to develop a new comprehensive international legal regime to govern the Arctic Ocean.<sup>20</sup>

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<sup>17</sup> There is no accepted distinction between the environmental goals of *protection* and *conservation*. However, protection has a remedial character, for example to correct or attenuate activities that cause pollution and loss of nature and resources. Conservation has a forward-looking prospect, to retain or set aside desired natural features and resources, including such things as marine protected areas and endangered species of fauna and flora. *Preservation* is an extension of conservation.

<sup>18</sup> However, the features of successful regimes are now surely identifiable. *What makes for efficient operation of a regime, including rule-making by an organization created by states to administer the regime? Does the regime readily ensure member state capacity and compliance to achieve its goals? Does the regime operate transparently and with a view to its continuous improvement? How does the regime integrate or account with others and the general requirements of IEL?*

<sup>19</sup> Positive obligations in IEL, arrived at by identified and commonly understood custom or through treaty provision, are a legal transplant into the juridical systems of states. States make legal transplants imperfectly and some IEL obligations are excessively restrictive. An example is biodiversity with sometimes idealized conservation compelling strict regulation of land use and social policy planning.

<sup>20</sup> Ilulissat Declaration, 28 May 2008 (Canada/Denmark/Norway/Russia/United States), online at: Arctic Governance <[www.arcticgovernance.org](http://www.arcticgovernance.org)>.

Although the Ilulissat Declaration disposed of the ideal of Antarctica-style preservation, the decision of the five states involved must be considered in light of their maritime claims in the Arctic basin. That is why the Declaration was one by circumpolar states alone, and not all of the entire geographic region, *i.e.* the Arctic Council eight. The paradox of Ilulissat is that it does allow for a singular IEL regime with increasing application among the five states of the Arctic basin.<sup>21</sup> The five states (and Iceland because of its geographic setting and policy identification with the region) have adopted the law of the sea, implementing it through domestic legislation and by extensive practice from boundary agreements to fisheries treaties.<sup>22</sup> The pursuit of extended continental shelf claims in the Arctic Ocean basin is evidence of the adoption, Russia and Denmark (from Greenland), and perhaps Canada, having claimed seabed areas more 200 nautical miles (NM) from their coasts in the central Arctic area.<sup>23</sup> “[The] five coastal states have accepted that the extent of their jurisdiction will be determined on the basis of existing legal rules and scientific facts.”<sup>24</sup> This Westphalian approach to the pursuit of larger territorial areas

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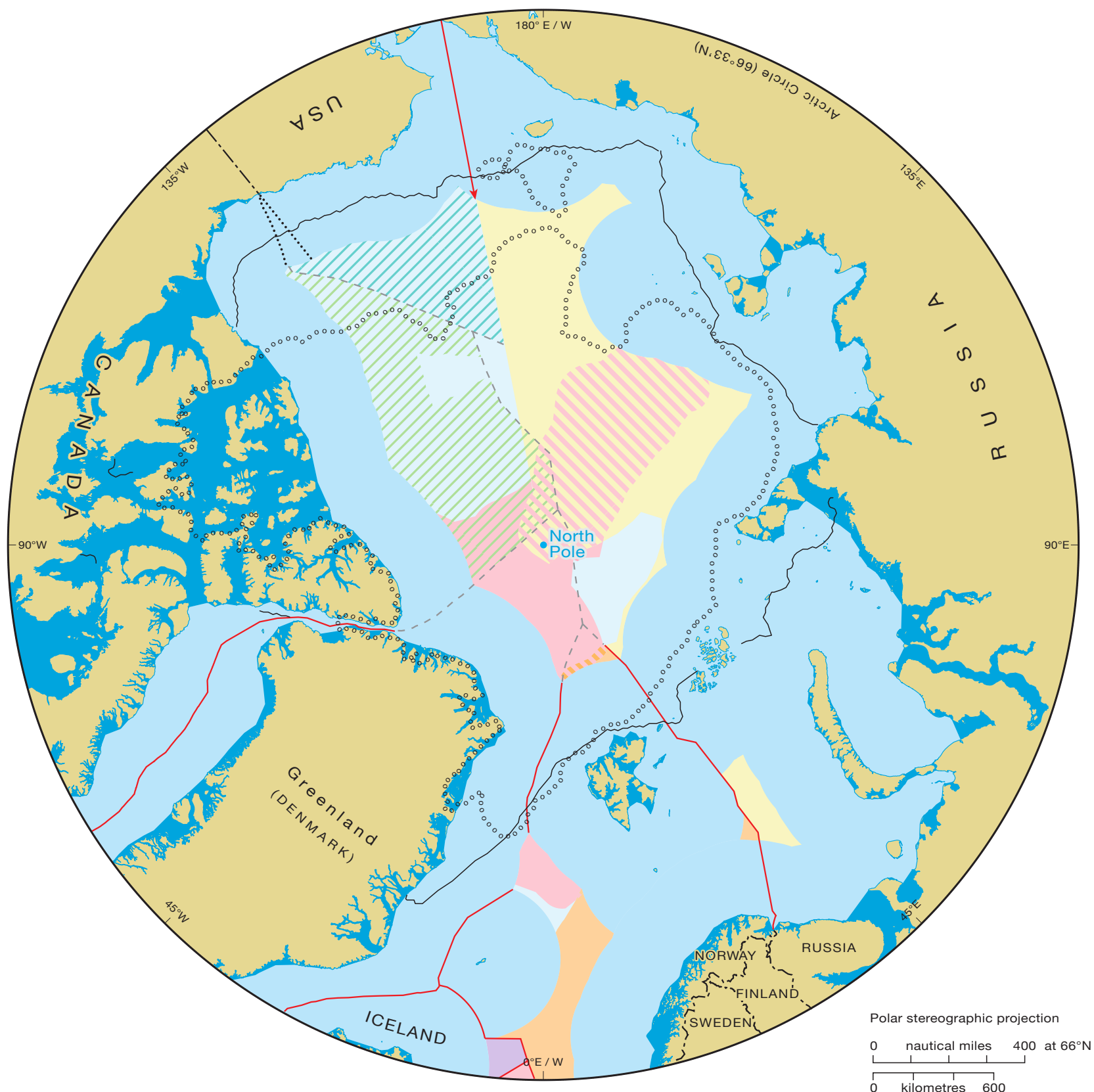
<sup>21</sup> The United States is the outlier, having signed but not ratified UNCLOS. With conduct and executive statements since 1982 that conform to UNCLOS norms (e.g. establishing a 200 NM exclusive economic zone) when it comes to the Arctic the United States is essentially only barred from presenting an extended continental shelf claim to the UN Commission on the Limits of the Continental Shelf. This does not prohibit it from pursuing a claim or negotiating with Canada and Russia for its resolution. See Betsy Baker, “States Parties and the Commission on the Limits of the Continental Shelf” in Rüdiger Wolfrum & Tafsir Malik Ndiaye, eds, *Law of the Sea, Protection of the Marine Environment and Settlement of Disputes: Liber Amicorum Judge Thomas A. Mensah* (Leiden: Martinus Nijhoff, 2007) 669.

<sup>22</sup> What might be called a *consensus to lawfulness* in the Arctic is exemplified by the shared sovereign uses of the Svalbard Archipelago. See Geir Ulfstein, *The Svalbard Treaty: From terra nullius to Norwegian sovereignty* (Oslo: Scandinavian University Press, 1995) and David H Anderson, “The Status under International Law of the Maritime Areas around Svalbard” (2009) 40 *Ocean Development and International Law* 373.

<sup>23</sup> Canada’s Arctic ECS claim is pending after its 2013 delivery of an Atlantic Ocean claim to the CLCS. See Andrew C Revkin, “Countries Agree to Talk Over the Arctic” *New York Times*, 29 May 2008, online at: New York Times <www.nytimes.com>.

<sup>24</sup> Michael Byers, *International Law and the Arctic* (Cambridge, UK: Cambridge University Press, 2013) 281. Byers adds, *ibid.*, that “[t]o some degree, this cooperative dynamic existed even during the Cold War. The 1973 Polar Bear Treaty was a first step in multilateral environmental protection that was made possible by the iconic status of this animal in the cultures of Arctic nations. More significantly, the subsequent UN Conference on the Law of the Sea provided an opportunity for cooperation between the Soviet Union and the United States during one of the most strained periods of their superpower confrontation.” See also Betsy Baker, “Law, Science, and the Continental Shelf: The Russian Federation and the Promise of Arctic Cooperation” (2010) 25 *American University International Law Review* 251.

## Status of Arctic waters beyond 200 nautical miles from shore





and resource rights met with a rebuke from the Inuit Circumpolar Council, that Indigenous self-determination and the role of Indigenous organizations in the Arctic Council had been usurped at Ilulissat. In a November 2008 statement, Inuit leaders declared that the Ilulissat Declaration “did not go far enough in affirming rights the Inuit have gained through international law, land claims and self-government processes.”<sup>25</sup>

Notwithstanding the environmental protection concerns of the Arctic’s Indigenous peoples, the geographic reach of what states accept as their obligations including through membership in multilateral agreements, is extensive in the Arctic. The agreements, discussed in Part V below, apply throughout the land territories of the eight Arctic States and in how they regulate for environmental protection in their exclusive economic zones.<sup>26</sup> As extended continental shelf claims in the central basin are resolved, the national jurisdiction by which IEL is applied will have a near-total reach across the Arctic. The seabed on the Arctic basis is presently either subjected under national regulation or that of the International Seabed Authority in the common “Area” beneath the high seas. And the relatively small (and more or less presently inaccessible) high seas of the central Arctic will not soon experience resource development or much human activity that necessitates environmental protection regulation. Even here, moreover, the law of the sea will require states ensure their activities and those of their nationals avoid adverse environmental impacts.<sup>27</sup> In addition, the agreement reached in December 2017

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<sup>25</sup> Timo Koivurova, “Status and Role of Indigenous Peoples in Arctic International Governance” (2011) 3 *Yearbook of Polar Law* 169 at 186. The April 2009 Circumpolar Inuit Declaration on Arctic Sovereignty is discussed below.

<sup>26</sup> The eight Arctic states all claim exclusive economic zones. The only established EEZ boundary in the Arctic basin proper was created by treaty between Norway and Russia in 2010. In the Arctic Ocean, several EEZs overlap and remain to be delimited, however, the present absence of petroleum exploration and cooperative mechanisms for fisheries management in several areas has diminished the need to resolve such boundaries. See Map 1.

<sup>27</sup> Neither the Arctic Council nor any commentator has suggested a “duty of environmental protection when operating in ice covered waters” as part of IEL, however, UNCLOS prescriptions for environmental protection, the established regulatory practices of states, and creation of the *Polar Code* influence such a would-be obligation. The central Arctic can be reached by shipping and various regulations apply to environmental protection in shipping activities.

to conserve central Arctic fisheries makes the reach of environmental protection regulation practically complete throughout the Arctic Ocean. However, there is no systemic organization of IEL, in its application or the necessary creation of secondary and local rules in the Arctic. We are left with the law of the sea and informal or soft coordinating approaches in particular matters – marine pollution, fisheries and others – by the states present.

### ***Defining an environmental region***

When it comes to defining the geographic reach of a presumptive environmental protection regime in the Arctic, we must distinguish between land and sea, and define relevant human, natural, and political features. Should the Arctic and its ocean be defined on the basis of human populations present or which have been otherwise socially and culturally determined by such a cold environment? Should the region be identified in instrumental terms for environmental protection and conservation intrinsic to the place and its value to the earth system, including climate regulation, biodiversity and ocean circulation? What boundary for the area is desirable for the application and systemic integration of IEL? Another way to structure how we identify an environmental protection region is ask the reverse: What defined area contributes to realizing IEL, *i.e.* its systemic creation and implementation, for environmental protection of the Arctic? Antarctica is of limited assistance because of its remoteness from interested states, and its preservation by treaty and because it has no permanent human population. A *wilderness imperative* has allowed for that continent's preservation although its surrounding Southern Ocean is a place of commercial fishing and active maritime claims.

In the effort to define the Arctic as a region for the application of IEL, its physical features must be accounted for. Ice cover has a particular presence and environmental value. The Arctic's is of two distinct types: glaciers (especially the permanent ice sheet on Greenland) and sea ice. Apart from UNCLOS Article 234, which allows states to regulate for environmental

protection (*i.e.* pollution prevention) of ice-covered areas along their shores, there are no explicit IEL obligations that apply for conservation or measures for environmental protection of what might be called *ice space*.<sup>28</sup> From the perspective of political geography, the Arctic Circle is a useful demarcation since it has traditionally been perceived as the southern limit of the region. The Arctic Circle is a kind of fuzzy boundary, predicated on the natural phenomena of the sun's presence at the winter solstice and therefore suitably *imprecise*. Around the polar north, on land and sea alike, the physical and climatic qualities of the region are uniform in a marginal area extending several degrees of latitude to the north and south of the Arctic Circle. This can be seen on land with the consistent track of the summer 10 degrees Celsius isotherm marking the northern reach of the boreal forest in the counties concerned.<sup>29</sup>

When it comes to the prospect of how Arctic States commit to IEL obligations, there is merit in characterizing the whole territory of those states, land and sea, as comprising the region. After all, environmental policies and the implementation in domestic legal systems would, if not uniform throughout an Arctic state, have to account for activities outside the Arctic Circle which influence the region's environment. One example is the regulation of pollution in river basins

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<sup>28</sup> There is no requirement for the conservation or protection of ice-covered areas under the CBD. However, during the CBD's 2010 Conference of the Parties, the Aichi Biodiversity Targets were agreed, including the conservation of 10% of coastal and marine areas through "ecologically protected and well-connected systems of protected areas". (Target 11). See *Convention on Biological Diversity – Strategic Plan for Biodiversity 2011-2020* (19 December 2010) UN doc. UNEP/CBD/COP/10/27/Add.1.

Article 234 UNCLOS provides that: "Coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. Such laws and regulations shall have due regard to navigation and the protection and preservation of the marine environment based on the best available scientific evidence."

<sup>29</sup> "The 10° July isotherm is often used by biologists as a definitional boundary of the Arctic, as the boundary between the tundra and the taiga." "Arctic, as defined by temperature", UArcticAtlas, online at: University of the Arctic <<http://old.uarctic.org>>. Related is the circumpolar area of permafrost which, as a natural (and important) feature has yet to receive protection in domestic or international law.

Arctic states have not settled on a geographic or biological boundary for the region. See Charlotta Friberg and Svenoloff Karlson, *Arctic Challenges: Report from the Nordic Council's Parliamentary Conference in Reykjavik* (Stockholm: Nordic Council, 1993) at 65ff.

draining into the Arctic, where in Canada and Russia they extend to metropolitan areas in the south. Such a defining approach can be thought of as *total habitat governance*. Because the Arctic is remote from decision-making centres in most states concerned, is lightly populated and has fewer resource-related activities, an identifying matters of related environmental protection in what might be called *adjunct near-southern areas* has not taken hold.<sup>30</sup>

The Arctic basin is the simpler physical setting to define. Apart from geography – an identifiable physiognomy – the legal, political and historical factors suggest that identifying a region for the purposes of creating and applying IEL must begin with the ocean. The Ilulissat Declaration requires governance be done through the law of the sea. And to begin with, this means in the existing (and claimed) maritime areas of coastal states by states acting individually.<sup>31</sup> Nevertheless, a working boundary for the task of environmental governance and rule-making is useful. One approach is bathymetric, and it is to ask what is the extent of the Arctic basin. But this is unsatisfactory because in places the distinction between its seabed and others to the south is unclear, and areas which would expectedly be a part of an Arctic environmental governance setting are distant from the central seabed basin, e.g. Baffin Bay and the Davis Strait between Greenland and Canada's Arctic Archipelago. A related approach could be to adopt the limits suggested by the International Hydrographic Organization.<sup>32</sup>

The Ilulissat Declaration offers an answer: Under a law of the sea approach for environmental governance, established and prospective areas of national maritime jurisdiction

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<sup>30</sup> The marine pollution treaty for the Arctic, the *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic* (15 May 2013), with all eight Council states signatories to it, was negotiated with each state defining the area to be part of the Arctic in order to protect the marine environment from oil pollution. See Article 3. In general, most states have selected a circumpolar latitude north of which they must meet obligations for their sovereign areas and not, it should be noted, the high seas around the North Pole. The United States' declared area of responsibility uniquely extends south into the Pacific to the Aleutian Islands.

<sup>31</sup> By virtue of their sovereignty, sovereign rights and jurisdiction in large areas of the Arctic Ocean..." Ilulissat Declaration, *supra* note 20.

<sup>32</sup> See, respectively, the International Bathymetric Chart of the Arctic Ocean online at: NOAA <[www.gebco.net](http://www.gebco.net)> and *Limits of Oceans and Seas*, draft 4<sup>th</sup> ed (Monaco: IHO, 2002).

account for almost all the Arctic basin and contiguous areas to the south. This means a reach into the north Pacific Ocean where the Bering Sea is ice-covered for part of the year, the Baffin Bay-Davis Strait area, and the Greenland and Norwegian Seas extending south to about 60° North latitude. The projection and occasional overlap of 200 NM EEZs only engages the five Ilulissat states.<sup>33</sup> While the law of the sea itself may not be entirely sufficient for environmental protection of these EEZs, relying on UNCLOS imports wider obligations on those five states.<sup>34</sup>

The central basin west of the North Pole, which is halfway between the coasts of Greenland and continental Russia along the 40° west–140° east line of longitude, is beyond the reach of 200 NM EEZs. But this does not present a problem of defining the Arctic in political and geographic terms. This central area is surrounded by the wider Arctic Ocean that does fall within national EEZs, and remains ice-covered for the time being, making resource extraction difficult and uneconomical.<sup>35</sup> Moreover, there is an emerging fisheries management scheme that could see this high seas area subject to cooperative measures for conservation.<sup>36</sup> As earlier noted IEL

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<sup>33</sup> The best illustration of maritime zones and claims is the International Boundary Research Unit map “Maritime jurisdiction and boundaries in the Arctic region” (14 February 2011) online at: Durham University <[www.durham.ac.uk/ibru](http://www.durham.ac.uk/ibru)>.

The 2010 Norway-Russia EEZ boundary in the Barents Sea is an example of a settled maritime claim in the Arctic. See *Treaty between the Russian Federation and the Kingdom of Norway concerning maritime delimitation and cooperation in the Barents Sea and the Arctic Ocean* (15 September 2010) UNTS 49095 (in force 7 July 2011). See also Tore Henriksen & Geir Ulfstein, “Maritime Delimitation in the Arctic: The Barents Sea Treaty” (2011) 42 *Ocean Development and International Law* 1.

<sup>34</sup> The Arctic Ocean is the smallest of the world’s five oceans, at 14 million square kilometres, an area much larger than coastal and enclosed seas governed under regional seas agreements.

For a discussion of the geographic extent of the Arctic in terms consistent with the Ilulissat Doctrine’s avoidance of defining a specific setting, see Appendix 1 to the “The Arctic Ocean Review Project”, Final Report, (Phase II 2011-2013), Kiruna May 2013, online at: Arctic Council – PAME <<https://www.pame.is/index.php/document-library/shipping-documents/arctic-ocean-review-documents/352-arctic-ocean-review-report/file>>. “There is no agreed definition of the geographic extent of the Arctic.” *Ibid.* at 98.

<sup>35</sup> The most current and comprehensive public data about the Arctic ice cap is presented by the US National Snow and Ice Data Centre, online at: NSIDC <[www.nsidc.org](http://www.nsidc.org)>.

Russia and Denmark each claim the central Arctic’s extended continental shelf (ECS) area, having presented data to the Commission on the Limits of the Continental Shelf (CLCS). Canada is in the process of defining a claim. It does not appear possible for any other Arctic state to claim an ECS here, not having seabed features which extend beyond 200 NM under the rules prescribed by Article 76 UNCLOS.

<sup>36</sup> I discuss fisheries cooperation below. As noted, Antarctica has an informal regional seas regime under the Antarctic Treaty System, including the CCAMLR, the CCAS and IMO measures for

applies to seabed mining and petroleum extraction under domestic jurisdiction of coastal states for their continental shelves, or the International Seabed Authority in the central Arctic that may remain in the global commons.

At the latitude of the Arctic Circle, this EEZ-encompassed area, when extended a short distance inland, matches the northern tree line and the path of the 10°C July isotherm (the isotherm in part determining the limit of the northern boreal forest) as illustrated in Map 2. Usefully, this area of cold climate extends into the Bering Sea and sufficiently inland in most places for regulation of activities having direct or immediate impact on the Arctic Ocean. Should we be concerned that the isotherm does not extend sufficiently south in the Norwegian Sea, this area north of the Faroe Islands between Iceland and Norway is governed by an existing regional seas arrangement, the OSPAR Convention, considered in Part III below.

### **III. IEL'S RECEPTION AND APPLICATION IN THE ARCTIC**

Several factors have combined for the greater application of what can be called general IEL – with multilateral environmental agreements at the fore – to the Arctic and its ocean space. A first is the increased number of matters within IEL's reach, combined with a greater willingness of states to receive and implement the law domestically.<sup>37</sup> A second is the delegation of environmental protection rule-making for the commercial shipping industry to the International Maritime Organization (IMO). This is important because it employs the IMO's established credibility and reduces the regulatory burden on coastal and shipping states to invent measures individually. The *Polar Code for Shipping*, considered in Chapter 4, is an example of these

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environmental regulation of shipping. The region is found for most purposes in the Southern Ocean south of the Antarctic Circle, for marine resources it extends in places north to the natural habitat boundary of the Antarctic Convergence. This is the line where cold polar water flowing north sinks beneath warmer temperate latitude waters and in the austral winter is the maximum reach of sea ice coverage. See MPM Reddy, *Descriptive Physical Oceanography* (Abingdon, UK: AA Balkema, 2001) at 277.

<sup>37</sup> The example being Canada and Russia's cooperation and legislation for national measures to protect the marine environment of ice-covered areas under Article 234 UNCLOS.

influences combining to allow governance and rule-making in a sector referred by Arctic states to a competent international organization. A third factor in the rise of IEL's application to the Arctic Ocean region is *territoriality*. Even as the region at high latitudes (north of the Arctic Circle) has until recent decades been inaccessible to resource extraction, states have declared EEZs and made extended continental shelf claims in the post-UNCLOS era.<sup>38</sup> This means Arctic coastal states have an interest in ensuring environmental protection of fisheries and marine habitats including for Indigenous populations. An example of cooperation in these matters are the arrangements to regulate fisheries in places near the Arctic, examined in Part III below. A second example is the relationship of Canada, Denmark, Russia and the United States with the International Whaling Commission to regulate sustainable aboriginal whaling in the Arctic.<sup>39</sup>

The apparent success of such an expanding territoriality bringing with it IEL, demonstrated in the pursuit of ECS claims by three states, must not be taken too far. When it comes to regulating environmental protection in their EEZs, Arctic states behave somewhat differently than in their southerly ocean areas. They have been willing to create special purpose marine pollution regulations, direct the navigation routes of ships, and establish modest marine protected areas (MPAs) in the Arctic.<sup>40</sup> However, as a whole, UNCLOS requirements for

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<sup>38</sup> The economic value of resource extraction for the economies of all states concerned is modest, except Russia's seabed petroleum development in the coastal waters of the Barents Sea. The significant fall in the market price of petroleum after 2014 has curtailed oil exploration and in late 2016 Canada and the United States jointly announced a moratorium on seabed petroleum exploration in their Arctic areas. The International Energy Agency estimates the entire Arctic region contains one-quarter of the world's deposits of petroleum, and 30% of global natural gas reserves. See International Energy Agency, *Resources to Reserves: Oil, Gas and Coal Technologies for the Markets of the Future* (Paris, 2013) at 135ff..

<sup>39</sup> The scale of such whaling is modest. The minke whale hunt in Greenland's coastal waters is within sustainable yield limits. Only Canada is not a member of the 1946 *International Convention for the Regulation of Whaling*, although it informs the International Whaling Commission of annual catches. Iceland and Norway continue commercial whaling through exceptions or reservations to the ICRW despite the continuing 1985 moratorium agreed to by a majority of IWC states. *International Convention for the Regulation of Whaling* (2 December 1946) 161 UNTS 72 (in force 10 November 1948) (ICRW).

<sup>40</sup> ECS claims have a time limit under the rules of the Commission for the Limits of the Continental Shelf. Coastal states have until the later of May 2009 or 10 years after ratifying UNCLOS to present at least a preliminary claim to some prospective ECS areas on their coasts. However, claims can remain incomplete for indefinite periods. Contentious or overlapping areas of seabed petroleum claims can be apportioned between states by other than boundary-making.

environmental protection have not been identifiably applied by states in the region more than elsewhere.<sup>41</sup> The bargain inherent in UNCLOS – an establish right to define extended ocean resource areas as a *quid pro quo* (in part) for compliance with the Convention’s environmental obligations – has not always been fulfilled.<sup>42</sup> The question of how a territorial enclosure of the Arctic Ocean influences the creation and application of IEL into the region is bound up with political perceptions of competing maritime claims between coastal states.

The response of states to these developments resulted in the emergence of a particular, if incomplete, environmental governance and regulatory regime for the Arctic Ocean.<sup>43</sup> This can be analogized to the development – the *setting adaptation* – of IEL in Antarctica after the *Antarctic Treaty*. Antarctica was accepted to have a settled if unresolved territorial construct. In the Arctic, territorial claims have also been muted and the UNCLOS regime – especially for the making and resolution of claims to extended continental shelf areas – have diminished the prospect of conflict. This resulted in two outcomes. First, territorial disputes are not so serious as to impede cooperation between states. Second, the responsibility of states to others is made more identifiable as a result of accepted settled maritime jurisdictions. Notwithstanding what should entail heightened environmental cooperation, including the limited number of actors which interact and negotiate environmental rules, Arctic states are not yet willing to pursue a

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<sup>41</sup> Canada and Russia have legislated shipping navigation route reporting and controls. The need for government ice-breaking vessels to escort commercial shipping during much of the year is a soft form of environmental compliance monitoring. Among Arctic states, Russia is notably rigorous in approving foreign marine scientific research in its Arctic EEZ.

<sup>42</sup> The record of meetings and communiqués issued by the Arctic Council since its creation in 1996 belies this. In that forum at least, the eight circumpolar states have not sought to advance individual territorial claims. The consensus arguably dates to a first meeting of the states at the invitation of Finland in September 1989. On the question of territorial competition in the greater Arctic region, see *International Law and the Arctic*, *supra* note 24; Charles Emmerson, *The Future History of the Arctic* (New York, NY: Public Affairs Books, 2010); and Richard Sale and Eugene Popov, *The Scramble for the Arctic: Ownership, Exploitation and Conflict in the Far North* (London: Francis Lincoln, 2010).

<sup>43</sup> The perceptions of national polities or civil societies about environmental protection in the Arctic are important, but there is little evidence of the degree of their influence. As discussed in Chapter 3, civil society has a role in the creation of normative expectations which governments may act upon.



binding, geographically defined regime. Sovereignty continues to be the impediment, valued in recent decades by Arctic states and which allows for less restrictive resource extraction.<sup>44</sup>

However, as explained below, there has been a deepening acceptance and region-specific adoption of IEL norms in the Arctic. The elements of an emerging environmental governance regime are more apparent for the Arctic Ocean than the region as a whole. There are four features of this nascent framework, namely: (i) the Arctic Council's coordinating work; (ii) IEL in general application and operation across Arctic states; (iii) the creation of some IEL measures (referred to here as rule-sets) for the Arctic; and (iv) activities of international organizations and near-Arctic environmental protection regimes.<sup>45</sup> We turn next to what is arguably the most important, the Arctic Council's recourse to IEL.

### ***The Arctic Council and its role in environmental governance***

The progress in recent years toward a tangible IEL regime for the Arctic owes much to the consultative entity that is the Arctic Council. In the first decade its 1996 creation, the Council had a limited program of environmental rule-making for the region.<sup>46</sup> But its second decade brought the continuing identification of priorities needing responses in law, *i.e.* the possibility of collective rule-making among the states concerned. The leading examples of this shift are a 2011 treaty for search and rescue coordination and, for environmental protection, a 2013 agreement for marine oil spill pollution prevention.<sup>47</sup> The Council has thus far refrained from

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<sup>44</sup> A stronger preservationist stance for the Arctic by Arctic Council states would threaten to restrict development of natural resources by some and might predictably, if with limited influence, reinforce environmental obligation (both domestically and as a matter of IEL) in southern areas.

<sup>45</sup> The *delegation* of rule-making to international organizations is considered in Chapters 3 and 5.

<sup>46</sup> On negotiations to create the Arctic Council including the participation of Indigenous peoples see notably Thomas S Axworthy & Ryan Dean, "Changing the Arctic Paradigm from Cold War to Cooperation: How Canada's Indigenous Leaders Shaped the Arctic Council" (2013) 5 *Yearbook of Polar Law* 7.

<sup>47</sup> *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic* (12 May 2011) (in force January 2013) and *Agreement on Cooperation on Marine Oil Pollution Response in the Arctic*, *supra* note 30, both online at: Arctic Council Archive <<https://oaarchive.arctic-council.org>>.

advocating for IEL treaties with obvious application in the Arctic, e.g. the UNECE environmental impact assessment agreement, the Espoo Convention.<sup>48</sup> The Council also remains reluctant to establish any framework for localized rule-making, including analysis of what rules of international environmental law need adaptation for the region.<sup>49</sup> Instead, what the Council succeeds at is thematic continuity, which allows for identification of governance priorities and greater cooperation among states toward them. The effect of this on IEL's development in the region must not be discounted. A singular example of cooperation which has given legitimacy to how Arctic states informally govern (and apply international legal rules) for environmental protection – and particularly in light of the Ilulissat Doctrine – is their active engagement and making of a place for Indigenous peoples transnationally and within the Arctic Council.<sup>50</sup>

This normative continuity is demonstrated in the policy statements of the Arctic Council and development of priorities in the Council's working groups.<sup>51</sup> The origin of collective

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Arguably, agreements or mechanisms for cooperation in both matters were required of Arctic states as a matter of customary international law for the provision of search and rescue services by coastal states and under the UNCLOS requirement for environmental cooperation in semi-enclosed seas.

<sup>48</sup> *Convention on Environmental Impact Assessment in a Transboundary Context* (25 February 1991) 1989 UNTS 309 (in force 10 September 1997) (the Espoo Convention). All Arctic Council states are signatories to the Espoo Convention, but Iceland, Russia and the United States have not ratified it. Implementation of the Convention should be considered in view of the parallel, less advanced adoption of the 1998 UNECE *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters* (the Aarhus Convention). There appears to have been no governmental or other review of the effectiveness of transboundary environmental impact assessment in the Arctic. For views of the development of EIA in the region over time, see Timo Koivurova, *Environmental Impact Assessment in the Arctic: A study of International Legal Norms* (Aldershot, UK: Ashgate Publishing, 2002) and Lilly Weidemann, *International Governance of the Arctic Marine Environment: With Particular Emphasis on High Seas Fisheries* (New York, NY: Springer, 2014) at 133.

<sup>49</sup> For a survey of the Arctic Council's response to IEL see Erik J Molenaar, Alex G Oude Elferink and Donald R Rothwell, eds, *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes* (Leiden: Martinus Nijhoff, 2013).

<sup>50</sup> Such cooperation (and an accounting for Indigenous perspectives and rights arguably remains elusive among South East Asian states. Despite formal commitments, they are unable to pursue shared mitigation of the burning of tropical forests. See Lorraine Elliot, "ASEAN and environmental cooperation: norms, interests and identity" (2010) 16 *The Pacific Review* 29.

<sup>51</sup> The Arctic Council remains a biennial meeting of states without juridical existence and until 2013 without a secretariat. The Council has two instrumental functions, namely, the identification of priorities for the region (discussed below) and providing for the work of scientific research bodies that resulted from the Arctic Environmental Protection Strategy. However, its greatest successes have continuity of

environmental policy was the 1991 Arctic Environmental Protection Strategy, the AEPS.<sup>52</sup> The Strategy detailed a joint “Action Plan” for cooperation in research, assessment of environmental impacts and pollution control. The AEPS suggested “measures” to monitor pollutant levels, protect the marine environment, create prevention and response capacity for environmental emergencies, and coordinate the research and protection of fauna and flora. Each would be adopted by working groups for the Arctic Monitoring and Assessment Programme (AMAP) and the Committee for the Protection of the Marine Environment (PAME) under the aegis of the Arctic Council.<sup>53</sup>

The Council now routinely, if ritualistically, expresses a policy priority for environmental protection. However, since AEPS its members have never suggested a collective approach to fashioning legal norms or otherwise create a framework for IEL to be created and received into the region.<sup>54</sup> This is not surprising in light of the Council’s mandate for “cooperation, coordination and interaction”.<sup>55</sup> In 1996, the objective was not formal governance. If collective environmental protection is deepening in the region and assuming dimensions for the greater

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engagement of Arctic states and therefore cooperation, and ensuring a transnational basis for the participation of Indigenous organizations in the region’s informal governance.

<sup>52</sup> Arctic Environmental Protection Strategy (14 June 1991), online at: University of Oregon Environmental Agreements Database <<http://iea.uoregon.edu>>. Continuity was assured on the basis of the agreement of the eight states to hold regular meetings and allow the presence of Indigenous peoples’ organizations as observers.

<sup>53</sup> At the time researching pollution in the region was a priority. The AMAP would be administered through a secretariat in Norway to coordinate scientific studies. “AMAP has a mandate to monitor and assess the status of the Arctic region with respect to pollution (e.g., persistent organic pollutants, heavy metals, radionuclides, acidification, and petroleum hydrocarbons) and climate change issues by documenting levels and trends, pathways and processes, and effects on ecosystems and humans, and by proposing actions to reduce associated threats for consideration by governments. This mandate is fulfilled through the implementation of a circumpolar monitoring and assessment programme as outlined in this strategic framework and in a separate monitoring plan document.” *AMAP Report 2010: 8 – AMAP Strategic Framework 2010+* (Oslo: AMAP Secretariat, 2010) 5. This degree of pollution assessment is at the level of the OSPAR Convention, discussed below, arguably the most advanced governance regime of scientific study and policy-making for marine pollutants.

<sup>54</sup> Two things explain this: (i) there may not be a sufficient alignment in interests for an organized application of IEL to deal common environmental concerns, and (ii) the necessary cooperation to envision IEL rule-making, founded on trust between states, may not yet be present.

<sup>55</sup> Declaration on the Establishment of the Arctic Council (19 September 1996) (the Ottawa Declaration) online at: Arctic Council Archive <<https://oaarchive.arctic-council.org>>.

reception of IEL, it is occurred despite the declared stance of Arctic states when they evolved the AEPS into creation of the Council. The declarations of biennial Council meetings reveal matters of concern to be a priority such as the subject of pollution but only occasionally with remedial prescriptions and, rarely, proposed regulation.<sup>56</sup> The declaration of the 2000 ministerial meeting is typical: “[The Council] calls on the Arctic states to accede to, ratify, and implement relevant existing agreements designed to protect and restore the Arctic environment, and to identify gaps where new agreements may be needed.”<sup>57</sup> Assertions of states made in the Council about problems of globally transported pollution and biodiversity suggest deeper cooperation, but the evidence of this being achieved remains limited. The Council’s 2000 declaration emphasized a need to regulate persistent organic pollutants by treaty and the problem of mercury contamination.<sup>58</sup> Global environmental governance is usefully served by reminding states of the need for collective remedial-restorative action.<sup>59</sup>

The Council’s statements about climate change exemplify a tendency to accept the

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<sup>56</sup> This has been the pattern since the first ministerial meeting of the Council in 1998. See the Iqaluit Declaration (17-18 September 1998), online at *ibid*.

<sup>57</sup> Barrow Declaration on the Occasion of the Second Meeting of the Arctic Council (13 October 2000), para. 16, online at *ibid*.

There were not at the time “agreements designed to protect and restore the Arctic environment” as such. The single agreement is now the 2013 oil pollution prevention and response treaty. However, the adoption of the AEPS into the work of the Arctic Council and its committees/working groups was a tacit agreement to at least research and inform policy for environmental protection and restoration.

<sup>58</sup> *Ibid.* at paras. 14 and 13, respectively.

AMAP reports in detail about the presence of chemical pollutants and their impacts in the Arctic. The extent to which the region accumulates and acts as sink relative to other regions, is uncertain and is matter dependent on the chemical compound in question. See e.g. Ashu P Dastoor and Dorothy P Durnford, “Arctic Ocean: Is it a Sink or Source of Atmospheric Mercury?” (2014) 48 *Environmental Science & Technology* 1707.

<sup>59</sup> To their credit, Arctic States acceded to and implemented domestic measures under the 2001 *Stockholm Convention on Persistent Organic Pollutants* (22 May 2001) 2256 UNTS 119 (in force 17 May 2004) (Stockholm Convention). They are now doing so under the *Minamata Convention on Mercury*. Among Arctic states only Russia has not ratified it. *Minamata Convention on Mercury* (10 October 2013) XXVII UNTC 17 (in force 16 August 2017).

Arctic states do not implement particular local measures for the Arctic under international pollution treaties, e.g. the conventions to address transboundary air and chemical pollutants. Given the atmospheric and oceanic transport of pollutants, region specific regulation would be somewhat ineffective. Mitigating pollution in the Arctic means responding to an exogenous problem.

existence of adverse environmental impacts from outside the region and make generalized calls for global regulation. This was first done after the 1998 UNFCCC Kyoto Protocol that was the basis for the Arctic Council's Arctic Climate Impact Assessment (ACIA) "to 'evaluate and synthesize knowledge on climate variability and change and increased ultraviolet radiation, and support policy-making processes and the work of the Intergovernmental Panel on Climate Change (IPCC)' and address the socio-economic consequences for the region."<sup>60</sup> The ACIA report was presented to the Council in 2004 at its fourth ministerial meeting. It eschewed recommending collective responses, exhorting Council members to act through national policy and legislation: "[The Council encourages] Member States to take effective measures to adapt to and manage the environmental, economic and social aspects of climate change and ultraviolet radiation, *inter alia* through enhancing the access of Arctic residents to information, decision makers and institutional capacity building."<sup>61</sup>

Climate change policy in the collectivity of the Council remained in stasis after 2004, the exception being the study and promotion of adaptive measures for communities in the region.<sup>62</sup> No policy stance was adopted in the aftermath of the Kyoto Protocol coming into force in 2005

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<sup>60</sup> Arctic Council, "Arctic Climate Impact Assessment Policy Document" (24 November 2004), online at: Arctic Council <[www.acia.uaf.edu](http://www.acia.uaf.edu)>. The assessment was presented in Susan J Hassol *et al*, *Impacts of a Warming Arctic* (Cambridge, UK: Cambridge University Press, 2004). And see the International Arctic Science Committee's 2005 *Arctic Climate Impact Assessment*, online at: AMAP <[www.amap.no](http://www.amap.no)>.

<sup>61</sup> Arctic Council, Reykjavík Fourth Ministerial Meeting Declaration (24 November 2004). Enhanced civil society access to governmental information and decision-making in the environment is the principal goal of the Aarhus Convention, *supra* note 48. Canada, Russia and the United States are not members of the Convention. In signing the convention Denmark qualified its possible application in Greenland, reserving the matter for "analysis" by local authorities. See Leif Christian Jensen and Geir Honneland, eds, *Handbook of the Politics of the Arctic* (Cheltenham, UK: Edward Elgar 2015).

<sup>62</sup> See the Council's Salekhard (26 October 2006), Tromsø (29 April 2009), Nuuk (12 May 2011) and Kiruna (15 May 2013) Declarations online at: Arctic Council Archive <<https://oaarchive.arctic-council.org>>. Responses to black carbon emissions, a climate forcing pollutant, are discussed below.

During the post-2004 period the Council's climate change statements were three-fold, to: (i) support global efforts through the UNFCCC regime, (ii) consider adaptive measures for Arctic communities, and (iii) continue monitoring climate change in the work of the AMAP. The need for adaptive-mitigative measures for the environment has been made clear in AMAP research reports.

The 2016 *Arctic Resilience Report*, *supra* note 2, illustrates the shift to policy measures for adaptation to the effects of climate change, if not yet underlying causes.

that committed Arctic states to reduce greenhouse gases emissions. No Council member state expressed a commitment under Kyoto to reduce greenhouse gases emissions specifically in contemplation of the effects of climate change in the Arctic. When the Council met in 2015, it was concerned about the “short-lived climate forcers” of black carbon, methane, and tropospheric ozone and, once again, adaptive social responses.<sup>63</sup> It was only after the *Paris Agreement* later that year the Council accepted accelerating effects of climate change in the region and “reiterate[d] the importance of global action to reduce both greenhouse gases and short-lived climate pollutants to mitigate climate change”.<sup>64</sup>

The Council’s pursuit of scientific and social research exceeds that of other “established” environmental regions including an Antarctica under a treaty mandate for research with a mature legal framework for it to be pursued.<sup>65</sup> Scientific research and related policy analysis is done in the Council’s subordinate entities, including: (i) the Arctic Monitoring and Assessment Program (AMAP, pursuing subjects of the 1991 AEPS); (ii) the Conservation of Arctic Fauna and Flora (CAFF) group; (iii) the Protection of the Arctic Marine Environment (PAME) group; (iv) the Sustainable Development Working Group (SDWG); (v) the Arctic Contaminants Action Program (ACAP); and (vi) the Emergency Prevention, Preparedness and Response (EPPR) group.<sup>66</sup> These

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<sup>63</sup> Iqaluit Declaration, *ibid.* When the United States assumed the 2015-17 chair of the Council, it called climate change a first priority. See John Kerry, “Remarks at the Presentation of the U.S. Chairmanship Program at the Arctic Council Ministerial” (24 April 2015), online at *ibid.*

<sup>64</sup> Fairbanks Declaration, 11 May 2017, paragraph 23, online at: Arctic Council Archive <<https://oaarchive.arctic-council.org>>. The Council agreed it would support the work of the Intergovernmental Panel on Climate Change with “additional analysis” and cooperation across levels of governments. In the preamble to the declaration, the Council also noted the coming into force of the *Paris Agreement*.

<sup>65</sup> The Antarctic is a place of research for participating states (in Antarctic Treaty Consultative Meetings) who must maintain a sufficient presence on the continent to have voting rights in collective governance. The Scientific Committee on Antarctic Research, although not within the Antarctic Treaty System, pursues regionally directed research that has influence on state conduct and the development of ATS instruments such as CCAMLR. See David WH Walton, ed, *Antarctica: Global Science from a Frozen Continent* (Cambridge, UK: Cambridge University Press, 2013) at 254.

<sup>66</sup> The Arctic Council pursues research and policy initiatives through ad hoc groups: (i) the Task Force on Arctic Marine Cooperation (TFAMC); (ii) the Task Force on Telecommunications Infrastructure in the Arctic (TFTIA); (iii) the Task Force for Enhancing Scientific Cooperation in the Arctic (SCTF) and (iv) an expert group in support of implementation of the Framework for Action on Black Carbon and Methane.

groups themselves engage international organizations such as the IMO and environmental treaty secretariats. Biennial Arctic Council declarations have emerged as an informal framework for the direction of their work.<sup>67</sup> While it can appear the working groups are isolated from each other and may lack a common policy orientation, they are overseen by the Council's standing Senior Arctic Officials (SAO) group. The SAO ensures continuity and synthesis across the working groups, including toward epistemic results by supporting the pursuit of scientific knowledge and related policy-making.<sup>68</sup>

### ***Arctic Council cooperation for the marine environment***

Two Arctic Council initiatives for the marine environment illustrate the progress toward an environmental governance regime, notwithstanding an Ilulissat Doctrine that rejects a binding framework. The first is implementation of the 2009 PAME *Arctic Marine Shipping Assessment*. The *Assessment* originated from the Council's 2002 declaration to adopt a strategic approach to marine environmental protection.<sup>69</sup> The declaration had followed that year's World Summit on Sustainable Development, the WSSD, and was recognition that multilateral environmental instruments should be applied – adopted into the governance of – the region.<sup>70</sup> In the 2004

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<sup>67</sup> See e.g. the "PAME Work Plan 2015-2017" at the website of the working group, online at: PAME <[www.pame.is](http://www.pame.is)>. "PAME's activities are based on its mandate to address policy and non-emergency pollution prevention and control measures related to the protection of the Arctic marine environment from both land and sea-based activities. These measures include coordinated action programs, assessments, best practices and guidelines that complement or supplement existing legal and policy instruments and arrangements." PAME's recent reports include the 2009 Arctic Shipping Assessment, the 2009 Arctic Oil and Gas Guidelines, and the 2013 Arctic Ocean Final Review Report (AOR Final Report).

<sup>68</sup> The October 2015 meeting of SAO officials is typical. There were 131 attendees from states, the Arctic Council secretariat, Indigenous organizations and observer states. See "Participant List, Anchorage SAO Meeting, 21-22 October 2015", online at: Arctic Council <[www.arctic-council.org](http://www.arctic-council.org)>.

<sup>69</sup> Inari Declaration (10 October 2002), online at: Arctic Council Archive <<https://oaarchive.artic-council-org>>: "[E]xisting and emerging activities in the Arctic warrant a more coordinated and integrated strategic approach to address the challenges of the Arctic coastal and marine environment and agree to develop a strategic plan for protection of the Arctic marine environment under leadership by PAME."

<sup>70</sup> See notably "Arctic Council Arctic Marine Strategic Plan, 2d draft" (2 March 2004), *ibid.* "[A] key objective of the strategic plan is to promote the implementation of applicable international instruments such as UNCLOS, the UN Convention on Climate Change, the International Maritime Organization Conventions and Protocols, the Stockholm Convention on Persistent Organic Pollutants, the Convention

*Arctic Marine Strategic Plan*, however, the Council demurred from goals recommended to meet WSSD targets. The *Plan* had come with what were arguably minimalistic strategies to: (i) reduce and prevent marine pollution; (ii) conserve marine biodiversity; (iii) promote the health and prosperity of Arctic inhabitants; and (iv) advance sustainable Arctic marine resource use.<sup>71</sup> A specific recommended measure was the creation of a network of marine protected areas by 2012. The Council also rejected accepting UNCLOS as “the recognized legal framework for implementation” of the 2004 *Plan*.<sup>72</sup> The Council also avoided a confirming of sustainable development principles including polluter liability, a regional program of action for coastal and marine resources, an ecosystem-based approach to biodiversity, and the precautionary principle.<sup>73</sup>

The 2002 Council declaration and 2004 *Plan* led to the Council’s decision in 2009 to commission the Arctic Ocean Review (AOR) project.<sup>74</sup> The objective of the Review – done in two phases from 2009 through 2013 – was “to provide guidance to Arctic Council Ministers as a means to support effective governance for the Arctic marine environment through cooperative, coordinated, and integrated approaches.”<sup>75</sup> A final report was to identify “opportunities to

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on Biological Diversity, the London Convention, the Convention for the International Trade in Endangered Species, the Global Programme of Action, FAO Action Plans and relevant regional instruments such as the *Convention for the Protection of the Marine Environment of the North-East Atlantic* (the OSPAR Convention). In addition the plan needs to assist in meeting the obligations set out in the targets from the World Summit on Sustainable Development (WSSD), noting in particular the commitment to an ecosystem approach, improved reporting and assessment, sustainable fish stocks, reduction in marine pollution and the establishment of a network of marine protected areas ...”

The draft plan also recommended the Arctic Council consider “the applicability of a regional seas agreement to the Arctic”. *Ibid.* at 11. The recommendation did not survive to a final plan. The draft plan appears to be the only mention of a regional seas treaty in the Arctic Council, the SAO group and the PAME, CAFF and other working groups.

<sup>71</sup> Arctic Council, *Arctic Marine Strategic Plan* (24 November 2004) 3, online at: Arctic Council Archive <<https://oarchive.arctic-council.org>>.

<sup>72</sup> *Ibid.* at 8.

<sup>73</sup> *Ibid.*

<sup>74</sup> See “Arctic Ocean Review (AOR) Phase II Project Plan”, online at: Arctic Council – PAME <[https://www.pame.is/images/03\\_Projects/AOR/Reports/AOR\\_Phase\\_II\\_Project\\_Plan\\_and\\_Timeline1.pdf](https://www.pame.is/images/03_Projects/AOR/Reports/AOR_Phase_II_Project_Plan_and_Timeline1.pdf)>.

<sup>75</sup> *Ibid.* at 1.



strengthen global and regional measures for management of the Arctic marine environment”.<sup>76</sup>

In the result, recommendations to Arctic States emphasized cooperation to identify priorities and “coordinate measures” for protection of the marine environment. The 2013 final report prescribed measures for the following topics: (i) Indigenous peoples and cultures; (ii) marine operations and shipping; (iii) offshore oil and gas; (iv) marine pollution; (v) ecosystem-based management; and (vi) marine science. In addition, fisheries resources, and marine mammal and seabirds were addressed.<sup>77</sup> The Review’s recommendations were consistent with the Ilulissat Doctrine in avoiding an instrumental, *i.e.* treaty-based approach to regulating environmental protection.<sup>78</sup> No mention was made of IEL and its coordinated application in the region. For example, the Council was urged to implement fisheries conservation “consistent” with the law of the sea and to work in the IMO toward a mandatory *Polar Code*.<sup>79</sup> The value of the AOR was in its consolidation of a comprehensive cooperative framework for marine environmental protection issues. Tangible priorities were identified, however, the greater outcome was that of deliberative collaboration in scientific understanding and sustaining the then-maturing governance processes in the Arctic Council, its senior national officials (SAO) group and among working groups such as PAME and CAFF. In the years since, a rules-based IEL regime evolving from such cooperation is arguably becoming perceptible.

The second initiative was the 2009 *Arctic Marine Shipping Assessment Report*. It prescribed recommendations to ensure states took a programmatic approach to their regulation

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<sup>76</sup> *Ibid.* at 2. The assignment of the AOR project to PAME confirmed that working group’s primacy among Arctic Council committees for matters relating to the marine environment. The lead countries in PAME for the Review were Canada, Iceland, Norway, Russia and the United States, and notably not Denmark.

<sup>77</sup> PAME, “The Arctic Ocean Review Project”, Final Report, (Phase II 2011-2013), Kiruna May 2013, online at: Arctic Council – PAME <<https://www.pame.is/index.php/document-library/shipping-documents/arctic-ocean-review-documents/352-arctic-ocean-review-report/file>>.

<sup>78</sup> An explanation (or apology) of the application of the Doctrine can be found in Chapter 7 of the Report, about ecosystem-based management: “The Arctic marine environment is largely under the jurisdiction of states that, from a global perspective, are relatively well endowed with the legal, financial and administrative resources to implement EBM.” *Ibid.* at 80.

<sup>79</sup> *Ibid.* at 95, Chapter 9 – Recommendations.

of commercial shipping in the region.<sup>80</sup> The 2011 search and rescue and 2013 oil pollution prevention and response treaties resulted from the AMSA Report.<sup>81</sup> In 2015, PAME reported on the progress of its recommendations.<sup>82</sup> Prudently as always for a Council committee, the report did not attempt to assess national regimes or compliance with international law. What can be called a framework for Arctic shipping was a result of careful, interstitial development and some matters identified to benefit from common regulation, such as seabed petroleum drilling and navigational routes for ships.<sup>83</sup> From these advances, there is a growing acceptance that externally administered regimes, such as those of the IMO as well as the *Convention on Biodiversity*, have roles to play.<sup>84</sup> The AMSA Report featured a judiciously worded recommendation that is only now being fulfilled: “Arctic states should explore the possible harmonization of Arctic marine shipping regulatory regimes within their own jurisdiction and

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<sup>80</sup> Arctic Council, *Arctic Marine Shipping Assessment Report 2009* (AMSA Report), online at: PAME <[www.pame.is](http://www.pame.is)>. Recommendations at page 7 are given in three categories: (i) improving shipping safety; (ii) “protecting Arctic people and the environment”; and (iii) developing marine infrastructure.

<sup>81</sup> While many of the recommendations marked a catching-up to existing international standards – for example, adequate hydrographic surveying of coastal waters – the Report can be taken to mark the establishment or acceptance of a framework-regime for regulating shipping in the region. I discuss below how this has been delegated to the IMO.

<sup>82</sup> Arctic Council, *Status on Implementation of the AMSA 2009 Report Recommendations* (April 2015) (2015 AMSA Report), online at: PAME <[www.pame.is](http://www.pame.is)>.

<sup>83</sup> No other geographic or political region can claim to govern shipping and environmental protection on even a coordinated basis, partly because of the disparity of interest among states (and their shipping industries) and because of a wholesale deferral of the making of common shipping standards to the IMO. However, a consistency of enforcement of standards for safe shipping (including seaworthiness and crew competency standards) has resulted in the port state control regime. Arctic states are concerned with reception facilities for ships in the region, but not yet port state control.

<sup>84</sup> PAME has recognized the merits of protected marine areas in at least the high seas areas of the Arctic, and the analysis of the *Convention on Biodiversity's* Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) to consider designating Ecologically or Biologically Significant Areas (EBSAs) in the central Arctic. The latter began in 2014 with a study supported by Norway, Russia and Denmark. See e.g. Government of Norway, “Submission from Norwegian experts - Scientific information to support the objectives of the CBD Arctic Regional Workshop” (2 February 2014) online at: CBD Secretariat <[www.cbd.int/doc](http://www.cbd.int/doc)>. “We hereby propose the Arctic ice habitat of the Arctic Ocean high seas ... as an EBSA and invite the workshop to consider this proposal. The proposal only relates to features of the water column and the ice surface itself.”

On the scientific criteria to designate (identify) an EBSA and to establish a network of marine protected areas across EBSAs, see Annexes I and II, respectively of CBD COP Decision IX/20 (19-30 May 2008), “Marine and coastal biodiversity”, UNEP/CBD/COP/DEC/IX/20 doc. (9 October 2008). The CBD secretariat is pursuing EBSA development through regional workshops. See “Ecologically or Biologically Significant Marine Areas” online at: Secretariat – Convention on Biological Diversity <[www.cbd.int](http://www.cbd.int)>.

uniform Arctic safety and environmental protection regulatory regimes, consistent with UNCLOS, that could provide a basis for protection measures in regions of the central Arctic Ocean beyond coastal state jurisdiction for consideration by the IMO.”<sup>85</sup> The recommendation was qualified as not applying to waters under national jurisdiction. This was presumably in deference to states which regulate shipping in ice-covered areas or contentious areas such as Canada’s North West Passage. Nevertheless, there are two points of cooperation the Arctic Council at least impliedly accepted after 2009, namely, the need for regional cooperation mandated by UNCLOS, and collective delegated regulation through the IMO.<sup>86</sup> The latter recently acquired form in the *Polar Code for Shipping*.<sup>87</sup>

Progress in cooperation and tangible measures for both marine shipping and the marine environment can be seen in the Arctic Council’s *Arctic Marine Strategic Plan 2015-2025*, the AMSP.<sup>88</sup> The success of the Plan is the continuity of the priorities first identified in 2002 and underscored in the 2013 AOR Final Report.<sup>89</sup> At the same time, the 2015 AMSP superseded the 2004 *Plan*.<sup>90</sup> Four goals are prescribed in the 2015 document, namely: Goal 1 – improve knowledge of the Arctic marine environment; Goal 2 – conserve and protect ecosystem function and marine biodiversity; Goal 3 – promote safe and sustainable use of the marine environment;

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<sup>85</sup> 2015 AMSA Report, Recommendation I(C), *supra* note 82.

<sup>86</sup> Cooperation will be formally provided for under the recent *Agreement on Enhancing International Arctic Scientific Cooperation* (11 May 2017) (not yet in force). The Agreement, with five year renewal periods, will enter force 30 days following ratification by all Council states. See the website of the Arctic Council: <<https://oarchive.arctic-council.org>>. The importance of the Agreement for reciprocal access to exclusive economic zones is clear, along with cost-saving possibilities in routinely expensive marine research activities in the Arctic.

<sup>87</sup> *International Code for ships operating in polar waters (Polar Code)*. The Code was developed after 2000 as guidelines, adopted by the IMO Marine Environmental Protection Committee in 2014 and revised in 2015. The Code applies to newly constructed ships from 1 January 2017 and existing ships after 1 January 2018. It prescribes regulations for construction (hull strength), machinery, crew competency and navigation standards within the SOLAS-MARPOL safety of shipping regime. See IMO Resolution MEPC.264(68) (15 May 2015) Annex 10.

<sup>88</sup> *Arctic Council Marine Strategic Plan 2015-2025* (April 2015) (2015 AMSP), online at: Arctic Council – PAME <<https://oarchive.arctic-council.org/handle/11374/413>>.

<sup>89</sup> AOR Final Report, *supra* note 67.

<sup>90</sup> 2004 AMSP, *supra* note 71.

and Goal 4 – enhance the economic, social and cultural well-being of Arctic inhabitant, including Arctic Indigenous peoples.<sup>91</sup> The 2015 AMSP is more overt about the impacts of climate change in the Arctic region, declaring “the Arctic more rapidly and fundamentally [affected] than any other region in the world”.<sup>92</sup> While it upheld the Ilulissat Doctrine of UNCLOS being the “overarching legal framework for activities that take place in the Arctic marine environment”, it departed from the 2002-2004 policy stance of the Arctic Council to embrace (*i.e.* be “based on widely recognized principles” of) the precautionary “approach”, ecosystem-based management, sustainable development and the polluter pays principle.<sup>93</sup>

The 2015 AMSP contributes to an emerging rules-based IEL regime in the Arctic. First, it continues to foster a high degree of cooperation across its subject areas, including ecosystem management and pronouncedly for conservation of marine biodiversity. Second, it has a clear epistemic orientation, being concerned with scientific understanding among states and specifically in matters of “collection, observation, monitoring and dissemination of relevant data on the Arctic marine environment”.<sup>94</sup> Third, the 2015 AMSP promotes what can be called *discursive capacity-making* to adapt to changes in the Arctic marine environment. These are not, it must be emphasized, material changes for physical resilience to phenomena such as climate change. Instead, they are directed to engagement of governments and Arctic peoples to “[a]ssess vulnerabilities and adaptation options” and “strengthen efforts on information, education and outreach with Arctic Indigenous peoples” in response to climate change.<sup>95</sup> Fourth, and arguably most evolutionary, the 2015 AMSP secures a regard for Indigenous peoples of the region in

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<sup>91</sup> 2015 AMSP, *supra* note 88 at 5.

<sup>92</sup> *Ibid.* at 8.

<sup>93</sup> *Ibid.* Goal 3 of the 2015 AMSP is also consistent with Ilulissat in a promotion of “safe and sustainable” uses of the Arctic marine environment. It initially seemed the AMSP would lead to consideration of a regional seas framework or agreement for the Arctic. This was styled as a new “subsidiary body” to the Arctic Council, discussed below on page 57.

<sup>94</sup> *Ibid.* at 12, Strategic action 7.1.9.

<sup>95</sup> *Ibid.* at 17-18, Strategic actions 7.4.3 and 7.4.5, respectively.

cooperative measures for marine environmental protection. Previous declarations of the Arctic Council, while helpful, suggested no specific approaches. The 2015 AMSP accepted that traditional local knowledge and securing the well-being of Indigenous peoples were intrinsic to adaptation and collaboration among states.<sup>96</sup> Fifth, and finally, the development of measures for environmental protection in shipping with an agreed *Polar Code* to come into force for newly built ships starting in 2017 was included as part of ecosystem-based management principles (Goal 3) in the Plan.

Apart from its avoidance of urging specific legal rules for environmental protection matters that would benefit from formal regulation among states – and that is at best idealistic in the context of states durably holding to the Ilulissat Doctrine – two criticisms can be leveled at the 2015 AMSP. First, no criteria to assess its performance, *i.e.* the outcome of its goals, was prescribed. Even minimally, a review and reporting (to the Arctic Council and its SAO group) would be beneficial. Of course, assessments and studies of the progress of subsidiary groups such as PAME have been routinely ordered by the Council. But it is evaluation of the overall progress, at the level of the Council, of the 2015 goals that is a concern. A second criticism is that the complexity and program tasks contemplated in the 2015 AMSP need substantial administration. The PAME working group will need more resources and governance definition for the task, as a leading body of the Arctic Council. This problem was addressed following the 2015 Plan by creation of the Task Force on Arctic Marine Cooperation, the TFAMC.<sup>97</sup> It was

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<sup>96</sup> *Ibid.* at 17, Strategic action 7.4.4. Provisions for the engagement and assurance of participation of Indigenous peoples must be considered in the context of their participation through an observer group in the Arctic Council, and devolved-autonomous governance in some Arctic states (e.g. Canada and Denmark in Greenland) and by the *Sámi Convention* discussed below. See also the 2015 AMSP Strategic direction 7.2.8 for “cooperation with indigenous peoples” to address pollution accumulating in Arctic marine food-chains and “address climate change and ocean acidification by reducing emissions”.

<sup>97</sup> There have been two Task Forces, TFAMC I (2015-2017) and TFAMC II (2017-present). The second was instructed by the SAO group to stop developing terms of reference for a new body for Arctic marine environmental protection under the Council and to concentrate on identify “complementary enhancements” to the existing framework for cooperation and marine environmental protection under the 2015 AMSP. See the Report of the SAO Plenary Meeting, Levi, Finland (22-23 March 2018), online at:

envisioned in that year's ministerial declaration that the Task Force would "assess future needs for a regional seas program or other mechanism".<sup>98</sup> However, the Task Force was limited in 2016 to suggesting terms of reference for a "new subsidiary body" to the Arctic Council.<sup>99</sup> By 2017, as noted, this remit, too, was withdrawn.

### ***Biodiversity takes hold***

From 2004 until the Arctic Council's 2015 at Iqaluit meeting, a step-by-step engagement of biodiversity conservation was pursued. PAME was clear in a recommendation proposed in 2004 for "measures to assist in meeting WSSD commitments related to the marine environment, including the application of an ecosystem approach and development of a regional network of marine protected areas."<sup>100</sup> The recommendation adopted by the Council was somewhat less, to "conserve marine biological diversity and ecosystem functions".<sup>101</sup> Marine protected areas, premised on a reservation of ocean space from fisheries and other uses, would not feature in the Council's policy programming until 2015.<sup>102</sup> From 2011 to 2013 the CAFF carried out a first

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<[https://oaarchive.arctic-council.org/bitstream/handle/11374/2165/SAOFI202\\_2018\\_LEVI\\_Summary-Report.pdf](https://oaarchive.arctic-council.org/bitstream/handle/11374/2165/SAOFI202_2018_LEVI_Summary-Report.pdf)>.

<sup>98</sup> Iqaluit Declaration, *supra* note 63 at paragraph 43.

<sup>99</sup> Fairbanks Declaration, *supra* note 64.

<sup>100</sup> "Arctic Council Arctic Marine Strategic Plan, 2d draft", *supra* note 70 at 10. The WSSD Implementation Plan, referred to in the draft plan, called for a "representative networks" of marine protected areas by 2012. "Plan of Implementation of the World Summit on Sustainable Development", para. 32(c), UN doc. A/CONF.199(20) (2002), online at: UN – Sustainable Development <[www.un.org/esa](http://www.un.org/esa)>.

<sup>101</sup> *Arctic Marine Strategic Plan*, *supra* note 70 at 5. The goal was to "identify ecologically important areas" and to consider the impact of human activities in them.

<sup>102</sup> MPAs must be distinguished from IMO designated 'particularly sensitive sea areas' for the enhanced protection of the marine environment from vessel source pollution. In 2014 the PAME working group received a consulting report about the possible identification of such areas in the Arctic. See Det Norske Veritas, "Specially Designated Marine Areas in the High Seas" (11 March 2014), online at: <[www.pame.is](http://www.pame.is)>. It is again emphasized that this report focuses solely on the high seas area of the Arctic Ocean. "No assessment is made regarding the need to protect designated areas which are under the jurisdiction of the Arctic Ocean coastal states." *Ibid.* at 60.

The Council accepted in its 2017 Fairbanks Declaration that "climate change is the most serious threat to Arctic biodiversity", *supra* note 64 at paragraph 27. No measures to advance a network of MPAs were announced by the Council, the matter seemingly referred to the second Arctic Biodiversity Congress to take place in 2018.

comprehensive assessment of biodiversity in the region. In its report, CAFF suggested a conservation priority was “[t]o maximize the resilience of Arctic ecosystems, effective protection of large representative tracts of habitat, including hotspots for unique Arctic biodiversity and so called northern *refugia* areas, is of paramount importance. This includes Arctic islands together with mountainous areas and multi-year sea-ice refuges, where unique marine Arctic biodiversity has the best chance of surviving climate change.”<sup>103</sup>

Arctic Council states have only recently accepted that marine protected areas need to be linked through “a framework for a pan-Arctic network of marine protected areas (MPAs) that sets out a common vision for regional cooperation in MPA network development and management, based on international best practices.”<sup>104</sup> In 2015 Arctic states accepted “MPA approaches”, although relevant to the entire Arctic Ocean, would not be pursued for the central high seas area.<sup>105</sup> This demonstrates a reluctance for collective governance measures in common areas. When the Council met at Fairbanks in 2017, its position had evolved to encouraging “additional work to help implement the Framework of Pan-Arctic Network of Marine Protected Areas in order to strengthen marine ecosystem resilience”.<sup>106</sup> Two things are evident in the tentative nature of this framework. First, the Arctic’s biodiversity challenges, addressed in detail by the PAME and CAFF working groups, are such that acceptance of additional, enlarged biodiversity reserves is needed. Second, while a network approach across disparate areas is laudable and indicated by scientific research, the failure to connect national areas with ones in the high seas

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<sup>103</sup> CAFF, *Arctic Biodiversity Assessment: Status and Trends in Arctic Biodiversity* (2013) at 59, online at: Arctic Council Archive <<https://oaarchive.arctic-council.org/>> The report characterizes environmental-biodiversity stressors as being global (e.g. climate change), regional (e.g. mining resource extraction) and local (e.g. pollution from shipping accidents). It also notes that “[w]e still have a limited inventory and understanding of the current status of Arctic marine diversity ...” *Ibid.* at 401.

<sup>104</sup> CAFF, *Actions for Arctic Biodiversity, 2013-2021: Implementing the Recommendations of the Arctic Biodiversity Assessment* (2015), online at *ibid.*

<sup>105</sup> PAME, *Framework for Pan-Arctic Network of Marine Protected Areas: A Network of Places and Natural Features Specially-managed for the Conservation and Protection of the Arctic Marine Environment* (April 2015) at 5. “This framework offers guidance; it is not legally binding. Each Arctic state pursues MPA development based on its own authorities, priorities and timelines.” The *Framework* is online at *ibid.*

<sup>106</sup> Fairbanks Declaration, *supra* note 64 at paragraph 8.

limits their effectiveness.<sup>107</sup> Regional approaches to biodiversity in law already exist in UNCLOS and the CBD. Indeed, the PAME *Framework for Pan-Arctic Network of Marine Protected Areas* is premised on a 2010 resolution of *Biodiversity Convention* member states that by 2020, 10 per cent of coastal and marine areas are to be identified for conservation as “ecologically representative and well-connected systems of protected areas ...”<sup>108</sup>

Can it be concluded that the “Arctic Council system” – the priorities and decisions of the Council combined with the work of its expert, task and working groups (the latter being ACAP, AMAP, CAFF, EPPR, PAME and SWDG) – is advancing environmental protection in the Arctic?<sup>109</sup> In developing a foundation for environmental governance and materially, the answer is positive. However, the Council has pursued environmental protection by scientific understanding and collaboration only gradually, in uncontroversial regulatory matters such as a general instrument for marine oil spill prevention and response.<sup>110</sup> More critically, no large-scale implementation of a network of marine protected areas has resulted, and the apparent necessity of applying IEL – by the numerous multilateral instruments Arctic states have accepted – into the region through coordinated Arctic Council work is at hand.<sup>111</sup> The foundation of collective governance for the environment is cooperation. It is the essential character that animates much of what is demanded of the law. In the Arctic Council and its subordinate entities, it is clear there is

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<sup>107</sup> The animating principle in Arctic environmental affairs of a preference for unrestricted state sovereignty is similar to the approach of Antarctic states with territorial claims on that continent, a “reverse bifocalism” to that of the pursuit of cooperation while maintaining a residuum of territorial aspiration. Bifocalism takes its definition from Article IV of the *Antarctic Treaty*, in that, while state claims to territory on the continent are frozen, no joining of other states to the Treaty can impair such claims.

<sup>108</sup> “Aichi Target 11”, *supra* note 28. See also the *Framework for Pan-Arctic Network of Marine Protected Areas*, *supra* note 105 at 12. The US is the only Arctic Council member not a party to the CBD.

<sup>109</sup> The working groups of the Arctic Council have become permanent organizations. Expert and task groups have defined terms of reference and limited durations. Considerable data is produced by the CAFF and PAME working groups in particular, increasingly demanding coordination and SAO oversight.

<sup>110</sup> *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic*, *supra* note 47.

<sup>111</sup> See the discussion in Part IV below about multilateral environmental treaties accepted by Arctic states.



considerable pragmatic cooperation.<sup>112</sup> Indeed, the extent of such cooperation is shown in a continuing support for the Ilulissat Doctrine by the assuring of autonomy or independence of action of states to regulate their territorial areas within the Arctic. However, getting to an effective environmental regime for a geographic requires more than cooperation. Eventually, a coherent rule-set and an animating governance framework seem necessary. Elements of these things have become apparent, and the vehicle for their advancement remains with an Arctic Council at the centre of scientific research and identification of collective priorities.<sup>113</sup>

### ***IEL formally in the Arctic: Treaties and state acceptance***

For practical purposes only the central Arctic high sea area – its ice-cover and water column, and not its seabed – remain outside the reach of several multilateral IEL treaties operating through state jurisdiction and, even here, not entirely. In the EEZ and ECS areas of Arctic states, and the central ocean seabed regulated by the International Seabed Authority under Part XI of UNCLOS, IEL applies to resource (and other) activities by those states.<sup>114</sup> As observed in Part I of this chapter, no area in the Arctic is outside IEL's reach, that is, an application of international environmental rules for activities in any such area. Apart from shipping, however, what environmental law governs the Arctic and its ocean setting is disparate. There is no principle or consensus by the states present that serves to reconcile the law, in contrast to other places that have regional seas agreements to coordinate the application of the law, IEL and otherwise. But only a handful of states are present in the Arctic and that reduces the complexity of understanding and reaching agreement for shared responses to environmental problems. There

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<sup>112</sup> The International Court of Justice has routinely revisited the principle, e.g. by concluding the duty for consultation between states over proposed activities with transboundary environment impact.

<sup>113</sup> The capacity for scientific research in the Arctic Council is now equal to that in Antarctica and is arguably outside of Europe the greatest of any environmental governance region.

<sup>114</sup> States must regulate the conduct of individual and corporate actors in mining of the seabed Areas activities under Part XI UNCLOS. A few have the necessary legislation in place. See the ITLOS Advisory Opinion, *Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area* (1 February 2011), ITLOS Reports 2011, 10.

are also developed norms for Arctic states to select from the law of the sea and the applicable IEL treaties.<sup>115</sup> Some have substantive character including the prevention of marine pollution and to ensure sustainable fish stocks, thereby influencing states to comply with IEL in general terms.<sup>116</sup> In addition, IEL's first or intrinsic norm – cooperation in good faith between states – is established in the Arctic. The extent to which Arctic states accept IEL can be gauged by the extent of their adoption of treaties such as the *Paris Agreement* and in the collective acceptance in the Arctic Council of environmental principles. Biodiversity, discussed below, is an example. Seven of eight Arctic Council states are CBD members and have variously implemented that treaty.<sup>117</sup> What makes conventional IEL relevant to the Arctic can be therefore identified: The multilateral treaties that regulate pollution in the global commons (atmosphere and oceans), administrative-

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<sup>115</sup> Regional and bilateral environmental protection treaties contain such principles. However, they vary considerably in their requirements for environmental monitoring, protection and performance-compliance review measures.

<sup>116</sup> Normativity as a cohering quality of the law of the sea is discussed in Chapter 5. Normativity in IEL is the propensity or tendency or conduct of states as voluntary subscribers to legal rules toward a creation of environmental protection rules and imbuing of them with authority including in treaty forms, by implementation and by conduct. Ulrich Fastenrath contends that international law is an order of graduated normativity, of a hierarchy or preference of observed rules, e.g. *jus cogens* in contrast to “ordinary” accepted rules of international law. “[A] normative contention will be best capable to assert itself if it is generated through a generally accepted source of law, and if it closely reflects the will and the practice of the States, as well as common perceptions of justice.” “Relative Normativity in International Law” (1993) 4 *European Journal of International Law* 305 at 338. Fastenrath was replying to Prosper Weil, who argued for uniformity of normativity, of avoiding a classifying of norms as higher authority or “grade”. “Towards Relative Normativity in International Law?” (1983) *American Journal of International Law* 413.

Important norms have resulted from custom. Nicolas de Sadeleer's characterization of them as “directing” norms, including the polluter-pays, preventive and precautionary principles, is useful. “Legal principles represent precisely those lines that would make it possible to put some order into the current legal chaos. In conformity with their etymology (from the Latin *principium*) principles should act as a first cause, a matrix from which more precise rules should naturally follow. On that basis principles play an essential role in the construction of legal systems; reflecting values and guiding concepts, they transcend the rules of positive law and provide them with a rational structure.” *Environmental Principles: From Political Slogans to Legal Rules* (Oxford: Oxford University Press, 2002) at 267, footnote omitted.

<sup>117</sup> Russia has created several inshore marine protected areas on its northern coast. See VA Spiridonov et al, eds, *Atlas of Marine and Coastal Biological Diversity of the Russian Arctic* (Moscow: WWF Russia, 2011). Eight of 14 “specially protected areas” are strictly protected, Category I IUCN classified zones. Only one has been created since 1997. See *ibid.* at 48. Canada has two relatively small marine protected areas, in the Beaufort Sea. The first was created in 2010 for protection of beluga whales around the McKenzie River estuary. The second, at Darnley Bay, was established in November 2016 for preservation of marine habitat in an estuary, and for seabirds and polar bears. Canada's 1996 *Oceans Act*, which is the legislative basis for government to create MPAs, does not refer to the CBD although it is consistent with that treaty's requirement for conservation of biodiversity.

procedural treaties such as the Espoo and Aarhus Conventions, species oriented instruments such as the *International Convention for the Regulation of Whaling* (the ICRW) and ones to regulate resource activities, e.g. the UN *Straddling Stocks Agreement*.<sup>118</sup> Some Arctic states are outside individual treaties of this canon, e.g. Canada having withdrawn from the *International Convention for the Regulation of Whaling*, and the United States for the CBD.<sup>119</sup> The administrative-procedural Aarhus and Espoo Conventions – instruments to foster public engagement and accountability – continue to be almost entirely disregarded.<sup>120</sup> The multilateral environmental agreements that apply to the Arctic are detailed in Table I, overleaf.

Identification alone of treaties that apply in the Arctic is not enough to conclude the existence of an IEL framework for the Arctic. More is needed to discern a rules-directed governance regime: (i) national legislation to receive IEL obligations and implements them, and (ii) cooperation among states in the region to pursue the treaties described below. The evaluative exercise is subjective: *Does a treaty have substantial accession and meaningful implementation toward its environmental protection-conservation goals? Has the state concerned pursued that goal through regional cooperation?* Treaties are taken to include their subsidiary instruments and directions from conferences of the parties, e.g. CITES listing changes for endangered species and designation of marine reserves by CBD member states.

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<sup>118</sup> *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (4 August 1995) 2167 UNTS 3 (in force 11 December 2001) (the UN Straddling Stocks Agreement). A fifth type of multilateral treaty, for creation of international organizations and programs for environmental protection-conservation, can be suggested. However, no organization with a mandate extending into the Arctic exists, and ones such as the IMO and for regional fisheries management do not have environmental protection as a primary mandate. UNEP and the OSPAR Commission are organizations with a “near Arctic” interest. The state parties engaged in the operation of the 1925 *Svalbard Treaty* is a near example. Non-state agreements between Indigenous peoples in the Arctic region for their engagement of environmental issues are influential, as shown in the response of Indigenous organizations to reports of the Council’s working groups.

<sup>119</sup> The ICRW regulates commercial taking of large whales. The international whaling regime has arguably acquired a conservation orientation by the manner of its application by member states.

<sup>120</sup> The Espoo Convention has the primary goal of requiring environmental impact assessment of activities with foreseeable trans-boundary consequence.

**Table I – Multilateral environmental protection treaties in the Arctic<sup>121</sup>**

Treaty	Treaty type	Extent of accession by Arctic states	Nexus with UNCLOS	Extent treaty is featured in Arctic Council policy and self-referential norms
ICRW (1946)	Species	7/8 (Not Canada)	Article 65 UNCLOS	Only generally: Conservation of species and biological diversity
Ramsar (1971)	Habitat & Species	8/8	Part XII UNCLOS	Only generally: Conservation of habitat. All eight states have Arctic wetland reserves
Polar Bear (1973)	Species	5/5 (Range states for <i>Ursus maritimus</i> )	Article 120 UNCLOS	<i>Idem</i>
MARPOL (1973)	Pollution (Shipping)	8/8	Part XII UNCLOS	Extensively in AMAP and the 2009 and 2015 AMSA strategies, and by support for the IMO <i>Polar Code</i>
CITES (1973)	Species	8/8	<i>Idem</i>	Only generally: Conservation of species and biological diversity
CMS (1979)	Species	4/8 (Not Canada, Greenland, Russia and USA)	<i>Idem</i>	<i>Idem</i>
Basel (1989)	Pollution & Administrative	5/8 (Not Greenland, Iceland and USA)	None	Only by general state application. Not taken up in Arctic Council policy
Espoo (1991)	Administrative	5/8 (Not Iceland, Russia and USA)	None	None
CBD (1992)	Species	7/8 (Not USA)	<i>Idem</i>	More pronouncedly after 2004
UNFCCC (1992)	Pollution	8/8	<i>Idem</i>	Pronouncedly after 2006; 6 of 8 have ratified the 2015 <i>Paris Agreement</i>

**Table I continued overleaf**

<sup>121</sup> Non-treaty instruments including the 1982 World Charter for Nature (approved by majority vote of the UN General Assembly with some of its provisions adopted in later treaties) and Agenda 21 are not included in Table I. The Espoo and Aarhus Conventions, *supra* note 48, were UNECE initiatives for European states open to accession by all states. In general, Denmark reserves Greenland and the Faroe Islands out of the application of multilateral IEL treaties, while Norway applies them to the Svalbard Archipelago.

Treaty	Treaty type	Extent of accession by Arctic states	Nexus with UNCLOS	Extent treaty is featured in Arctic Council policy and self-referential norms
Rotterdam (PIC) (1998)	Pollution & Administrative	5/8 (Not Greenland, Iceland and USA)	<i>Idem</i>	None
Aarhus (1998)	Administrative	5/8 (Not Canada, Russia and USA)	None	None
Stockholm (POPs) (2001)	Pollution	6/8 (Not Greenland and USA)	<i>Idem</i>	Generally after 2002
Minamata (Mercury) (2013)	Pollution	7/8 (Not Russia)	<i>Idem</i>	Generally after 2002

Three treaties with minor application to the Arctic environmental governance setting can be noted: The 1925 *Svalbard Treaty*, the 1992 OSPAR Convention, and fisheries management agreements for areas around the Arctic.<sup>122</sup> The *Svalbard Treaty* appears to have had no perceptible influence on Arctic Council policy-making or working group research except perhaps locally between states in the Svalbard Archipelago. The OSPAR Convention, discussed below, while encompassing part of the Arctic, is perceived by the Arctic Council as falling outside the Arctic Basin and being governed with European Union influence, something the Council rejects in the Arctic.<sup>123</sup> For the fishery, the five Arctic coastal states

<sup>122</sup> *Svalbard Treaty* (9 February 1920) 2 LNTS 7 (in force 14 August 1925). OSPAR is discussed below on page 75. The *Svalbard Treaty* is an example of an agreement to confer sovereignty on one state while requiring it to share natural resources (fisheries, mining) with others.

Two other sources of indirect environmental norms must be noted and are discussed below: The 2007 UN Declaration on the Rights of Indigenous Peoples, and the Nordic *Sámi Convention*, online at: <<https://www.sametinget.se/105173>>, discussed *infra* at note 202. They require consultation with indigenous peoples on resource use and activities having cultural impact, however, both are relatively new and not yet formally adopted by Arctic states.

<sup>123</sup> At its 2013 Kiruna meeting the Arctic Council deferred the EU's application for observer status. See generally Mar Campins Eritja, "The European Union and the North: Towards the Development of an EU Arctic Policy?" (2013) 27 *Ocean Yearbook* 459.

have declared a position consistent with the Ilulissat Doctrine, initially rejecting a regional fisheries management organization (RFMO) because “commercial fishing in the high seas area of the central Arctic Ocean is unlikely to occur in the near future.”<sup>124</sup> This would seem to deny any new RFMO to add to those at the periphery of the Arctic: two in the Atlantic, one in the Pacific and one just inside the Arctic Ocean.<sup>125</sup> In the Atlantic, the *North East Atlantic Fisheries Convention* extends into the Arctic, while the *International Convention for the Conservation of Atlantic Tunas* (ICCAT) reaches somewhat north of the Arctic Circle.<sup>126</sup> Meanwhile, the single RFMO treaty extending north into part of the Arctic Ocean, the *Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea*, is for a high seas area bounded by Russian and American EEZs.<sup>127</sup> During the 1980s this 50,000 square mile area was overfished by fleets from the two countries until the Convention was negotiated. However, an RFMO for the central Arctic seems possible, emerging from rapidly developed consensus.<sup>128</sup> In 2015 the five Arctic coastal states agreed on “interim measures” to regulate vessels fishing in the central Arctic. This entailed acceptance of

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<sup>124</sup> United States State Department, “Chairman’s Statement at Meeting on Future Arctic Fisheries” (1 May 2013), online at: US State Department <<http://www.state.gov/e/oes/rls/pr/2013/209176.htm>>. “There was general recognition of the desirability of improving scientific understanding of the Arctic marine environment, in part to determine whether fish stocks might in the future occur in the high seas area of the central Arctic Ocean that could be harvested in commercial fisheries and the possible impacts of such fisheries on the ecosystem in question.” In 2015 six of eight Arctic states, joined by the EU, China, Japan, and South Korea began discussing a possible agreement for research and regulation of exploratory fisheries in the central Arctic area. See US State Department, “Press release: Meeting on High Seas Fishery in the Central Arctic Ocean” (1 December 2016) online at: Arctic Journal <<http://thearcticjournal.com>>. See the discussion in Chapter 4.

<sup>125</sup> Namely, the North East Atlantic Fisheries Commission, the Northwest Atlantic Fisheries Organization, and the North Pacific Fisheries Commission.

<sup>126</sup> The ICCAT does not extend to the Arctic Ocean, Article II defining its spatial extent as the Atlantic Ocean and “adjacent Seas”. The ICCAT is a consultative mechanism, not one for the allocation of a fishery nor to enforce conservation. *International Convention for the Conservation of Atlantic Tunas* (14 May 1966) 673 UNTS 63 (in force 21 March 1969).

<sup>127</sup> The CBS Convention (16 June 1994) 34 ILM 67 (in force 8 December 1995), also known as the “Central Bering Sea Donut Hole Convention”. For a discussion of the operation of the convention, see Evelyn Meltzer and Susanna D Fuller, *The Quest for Sustainable International Fisheries: Regional Efforts to Implement the 1995 UN Fish Stocks Agreement* (Ottawa: NRC Press, 2009) 278.

<sup>128</sup> In the 2000s the Arctic Council did not appear to consider a high seas polar fisheries regime.

“recognized international standards”, promotion of scientific research, sharing of research data, and fostering compliance with the interim measures.<sup>129</sup> That December the United States proposed a RFMO for the central Arctic with universal membership, fishing under “modern international standards”, joint research, and non-commercial uses to be “well-monitored”.<sup>130</sup> On 30 November 2017, nine states and the European Union announced they had negotiated a draft *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean*.<sup>131</sup> The agreement was pursued outside the Arctic Council and it marks the entry of the European Union into an environmental governance matter in the central Arctic.

Strong cooperation between Arctic states and others had previously been demonstrated by sub-Arctic fisheries arrangements including: (i) the Canada-US International Pacific Halibut Commission; (ii) the Canada-US Pacific Salmon Commission; (iii) the *North Pacific Anadromous Fish Convention*; and (iv) the *North Atlantic Salmon Conservation Convention*. Within Arctic waters proper, there is a local agreement between Iceland, Russia and Norway (the so-called Loophole Agreement), and between Norway and Russia.<sup>132</sup> All are animated

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<sup>129</sup> Declaration concerning the prevention of unregulated high seas fisheries in the central Arctic Ocean (16 July 2015) online at: Government of Norway <<https://www.regjeringen.no>>. “We recall that an extensive international legal framework applies to the Arctic Ocean. These interim measures will neither undermine nor conflict with the role and mandate of any existing international mechanism relating to fisheries, including the North East Atlantic Fisheries Commission.” Further to the 2013 statement, above, the declaration notes that no RFMO is envisioned for the area on the basis that commercial fishing in the near-term is not likely. See US State Department, “Arctic Nations Sign Declaration to Prevent Unregulated Fishing in the Central Arctic Ocean (16 July 2015) online at: US State Department <<http://www.state.gov/r/pa/prs/ps/2015/07/244969.htm>>.

<sup>130</sup> US State Department, “Meeting on High Seas Fisheries in the Central Arctic Ocean: Chairman’s Statement” (3 December 2015), at: US State Department <<http://www.state.gov/e/oes/rls/pr/250352.htm>>.

<sup>131</sup> The *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean* is not yet open for signature, pending national legal and policy assessments. The Agreement is said to prohibit commercial fishing by any member state for a 16-year period while scientific studies are conducted. See “Chairman’s Statement - Meeting on High Seas Fisheries in the Central Arctic Ocean, Washington, D.C. 28-30 November 2017”, at: Government of Iceland <<https://www.stjornarradid.is/lisalib>>.

<sup>132</sup> For a survey of agreements, see Erik J Molenaar, “Arctic Fisheries Management” in *The Law of the Sea and the Polar Regions: Interactions between Global and Local Regimes*, *supra* note 49 at 243.

by the UN *Straddling Stocks Agreement*, with Arctic Council states except Iceland and Russia members of the treaty. The need for fisheries governance in the Arctic has been of limited concern until recently.<sup>133</sup> The cost to fish in polar waters and a limited northern summer season allowed conservation questions to escape policy consideration among Arctic states and distant water fishing nations such as China, Japan and South Korea. The concern in an increasingly accessible Arctic is not whether RFMOs for high seas “gap” areas in the region are needed but whether there will be an integrated management of them with national regimes. International law – both the UN *Straddling Stocks Agreement* and custom (to the extent it can be discerned on the point) – makes the synthesis imperative. However, the fragmented type and operation of such near-Arctic RFMOs and other arrangements, together with the position of Arctic Council states to refrain from commitments to collective measures that would feature their own EEZs as part of them, demonstrates the leisurely progress to a unified Arctic regime.

### ***Arctic states, IEL and treaty accession***

As a group, Arctic Council states arguably exhibit the highest extent of formal adoption of IEL obligations after states of the European Union. Table I, above, details this accession behavior. Moreover, in the four Arctic coastal states which are federations – Norway is not – an additional layer of regional government legislation is present to regulate environmental protection.<sup>134</sup> To consider the question of domestic implementation of IEL obligations or

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<sup>133</sup> On regulation in Canada see Lauren Warner, David L VanderZwaag and Cecilia Engler, “Canada and the governance of Arctic Marine Fisheries: Tending a Fragmented Net” (2014) 28 *Ocean Yearbook* 380 at 421: “Canada has only begun its quest for applying ecosystem and precautionary approaches in Arctic governance. A network of marine protected areas has yet to be established and integrated ecosystem-based management has yet to be attained at the bilateral and regional level.” Footnotes omitted.

<sup>134</sup> Denmark is counted as a federation for these purposes because of its constitutional devolution of law-making to the Greenland and Faroe Islands autonomous governments.



norms on the Arctic setting is to assess a re-directed feedback loop. The evidence of the extent of a state's commitments to IEL found in its accession to formal instruments and implementation, with help from applying tests found in customary international law, creates this feedback. In other words, we should expect correlation between the assumption of IEL obligations and the growth of IEL through wider adoption among states and a deepening of norms. There are a few unifying or common topics across IEL areas that suggest this, for example, biodiversity along with conservation of individual species, together with UNFCCC measures. However, the principal multilateral IEL agreements continue to be monoliths.<sup>135</sup> Conceived as remedial responses mostly for single pollutants or activities, cross-influence of many agreements remains limited.<sup>136</sup>

There are three Arctic-specific sources of international environmental law: (i) the 1973 *Polar Bear Convention*; (ii) a 2013 pollution prevention-response treaty; and (iv) within UNCLOS, Article 234. The states (five) that are members of the *Polar Bear Convention* readily adopted that treaty's requirements, although the utility of what was an agreement to regulate hunting is being overtaken by problems of habitat loss.<sup>137</sup> The 2013 marine pollution prevention treaty, negotiated in the setting of the Arctic Council and in response to increased human activities in the Arctic did not need to be legislated by contracting states. It

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<sup>135</sup> Some chemical pollutant treaties are an exception: *Basel*, *Rotterdam*, *Stockholm* and now *Minamata*, with coordinated mechanisms for their implementation. No connection between UNFCCC climate change measures and a reduction in the use of coal under the *Minamata Convention* has been established.

<sup>136</sup> However, customary international environmental law is another matter. Cooperation (as has been noted) and transboundary pollution prevention – made out by the depth of practice and express legal commitment – are entrenched among Arctic states. Arguably, the extent of scientific research as an understanding of the risks of environment impacts coupled with collective measures to avoid environmental damage has given weight to the precautionary principle being custom in an Arctic setting.

<sup>137</sup> See Andrew E Derocher, Nicholas J Lunn and Ian Stirling, "Polar Bears in a Warming Climate" (2004) 44 *Integrative & Comparative Biology* 163, and Stephen G Hamilton et al, "Projected Polar Bear Sea Ice Habitat in the Canadian Arctic Archipelago" (2014) 9 PLOS ONE (26 November 2014), online at: PLOS <<https://journals.plos.org>>.

is an agreement imposing only bare obligations on states, with little demand for increased government posture or governance of industry and civil society activities.<sup>138</sup> UNCLOS Article 234 is permissive, if narrow in scope, allowing states to regulate vessel pollution without discrimination in ice-covered areas of their EEZs.<sup>139</sup> Only Canada and Russia have done so.<sup>140</sup> Because the three treaties address particular matters, an attempt to draw conclusions from them about normativity should be avoided.

The influence of some multilateral environmental agreements listed in Table I can be discounted because they have played no role in local adaptation or creation of environmental law for the Arctic. These treaties have limited relevance because industrial development activities have not been at a level in the Arctic for them to be engaged collectively by states or because the domestic law of Arctic states is taken as sufficient. The treaties include the Aarhus Convention (public engagement in environmental decision-making) and the Rotterdam Convention (informed consent to the movement of wastes).<sup>141</sup> The Basel Convention (to prohibit and regulate transboundary shipment of wastes) must be included here, because neither air transport nor marine carriage of such wastes occurs much in the region. At the same time, we should not discount the cumulative effect of these

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<sup>138</sup> All Arctic Council states are members of the *International Convention on Maritime Search and Rescue* (27 April 1979) 1405 UNTS 97 (22 June 1985) and the 1944 *Convention on International Civil Aviation* (7 December 1944) 15 UNTS 295 (4 April 1947), and have legislated regimes for government marine pollution response and commercial operator obligations.

<sup>139</sup> Much has been written about how Article 234 could deepen coastal states' jurisdiction in the Arctic, i.e. secure territorial claims. See Ted L McDorman, *Salt Water Neighbors: International Ocean Law Relations Between the United States and Canada* (Oxford: Oxford University Press, 2009).

<sup>140</sup> Arguably, regulation of some pollution prevention measures under Article 234 has been replaced by the *Polar Code*. Moreover, the *Code* will apply to shipping throughout the Arctic Ocean, referentially incorporating MARPOL standards.

Iceland, Norway and the United States have not pursued legislation under Article 234. Finland, Sweden and Russia are member states of the Helsinki treaty for the Baltic Sea, the *Convention on the Protection of the Marine Environment of the Baltic Sea Area* (9 April 1992) 1507 UNTS 167 (in force 17 January 2000) which has no particular provision for protection of ice-cover.

<sup>141</sup> Arctic Council states appear not to have considered a framework in law or by non-binding collaboration for public engagement in environmental decision-making, and also for environmental impact assessment. The engagement of Indigenous peoples, however, stands in contrast to this.

treaties on states to shaping their environmental obligations. But the influence of treaties either not applied by states or with minimal material relevance in the Arctic is difficult to disaggregate. This is true for whaling in the region, by which Arctic states only minimally engage the ICRW. The international whaling regime has arguably evolved to include habitat conservation and soft measures for the protection of small (non-commercial) cetaceans. In the Arctic, however, the ICRW governs only annual appraisals of stock sustainability and allocation of aboriginal sustenance whaling by the IWC.<sup>142</sup>

A second group of the Table I multilateral agreements has greater influence, but with varied evidence of uptake into regional environmental governance among Arctic states. These agreements include: (i) the *Convention on Migratory Species* (CMS) and (ii) the Espoo Convention for environmental impact assessment, both not widely adopted by Arctic states; (iii) the *Convention on International Trade in Endangered Species* (CITES), which is not widely applicable due to the limited trade in species from the region; and (iv) the *Minamata Convention on Mercury* which, given its regulation of mercury production and emission sources, has limited application in the Arctic. Each is important for the region: Applied in combination, they would move environmental governance toward conservation. The *Minimata Convention*, for example, constrains some types of mining (*i.e.* the processing of recovered ore) and operate against the development of new coal-burning metallurgical industries and thermal power generation in the Arctic. Among the four treaties, CITES features heavily in the research of the Arctic Council's CAFF and PAME Working Groups.<sup>143</sup>

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<sup>142</sup> The Annual Reports of the International Whaling Commission note catch and stock scientific assessments for whaling by ICRW member states, but not habitat related matters as might be found in the Arctic or near-Arctic. See the Reports online at: IWC <<https://iwc.int>>.

<sup>143</sup> The continuing discussion in CITES conferences of the parties about the “up listing” of polar bears from Appendix II of the treaty to Appendix I (endangered status), the United States arguing for such a decision and Canada asserting no risk to the species from a continuing international trade in it, illustrates the singular state approach to CITES implementation in the Arctic setting. See US Natural Resources Defense Council, “Issue Brief: Polar Bears and the Criteria for Listing in CITES Appendix I”

However, the collective acceptance of transboundary or mutual environmental impact assessment, whether as required under UNCLOS or by adoption of the Espoo Convention (or an analogous regional instrument) is a matter for the future: Arctic states are as-yet unwilling to create reciprocal obligations in such matters for the region. This is the Ilulissat Doctrine at work, a deference to states to maintain sovereignty over activities in their areas of the Arctic basin.<sup>144</sup>

The Table I multilateral IEL agreements of greatest influence on Arctic states, through national legislation and expressed policy priorities of the Arctic Council, are: (i) the UNFCCC; (ii) the *Stockholm Convention on Persistent Organic Pollutants*; (iii) the CBD; (iv) the LRTAP Convention; and (v) the *Ramsar Convention*. These are treaties accepted as evidently important to regulate activities both in the Arctic and from beyond. The CBD emerged as a global instrument at the same time the 1991 AEPS had stated pollutants, wildlife protection and conservation of habitat as the primary environmental concerns of states in the Arctic. (As we have seen, shipping pollution was assigned to the IMO for negotiated rule-making.) The CBD, by declaration and implementation, exerts the greatest influence of the multilateral agreements. The reason is that conservation of biodiversity in the region is accepted by Arctic states, although within economic and administrative limits.<sup>145</sup> For its part the CBD has had a specific application for creation of marine protected

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(November 2012), online at: NRDC <[www.nrdc.org](http://www.nrdc.org)> and CITES, Conference of the Parties 16, "International Trade of Polar Bear from Canada" (March 2013), CITES doc. CoP 16 Inf. 10.

<sup>144</sup> Environmental impact assessment of macroscopic changes in the region does take place informally among Arctic states through the scientific studies of working groups such as CAFF and PAME. But there is no shared regime to bind states to assessment within national areas or, apart from UNCLOS, to give notice of potential adverse impacts of discrete industrial and other developments to neighboring states.

<sup>145</sup> Arctic region states asserted in the Nuuk Declaration that they supported the early ratification of both the CBD and the UNFCCC. See the Nuuk Declaration on Environment and Development in the Arctic (16 September 2003), online at: University of Oregon Environmental Agreements Database <<http://iea.uoregon.edu>>. The 1996 Ottawa Declaration that created the Arctic Council affirmed a

areas in the Arctic by some states. In addition, the CAFF Working Group has been progressively directed to study and comment on biodiversity in the region.<sup>146</sup> Yet CAFF has stopped short of recommending rules, limited to recommending the regionally specific implementation of international conservation law. A 2013 report emphasized biodiversity policy recommendations, including the intersection with climate change, a mainstreaming of biodiversity doctrine into governance in the region, and advancing “the protection of large areas of ecologically important [...] habitats.”<sup>147</sup> The limits of biodiversity rule-making by consensus of Arctic states can be seen in the progress of the related *Ramsar Convention* and the *Convention on Migratory Species* (the CMS)<sup>148</sup>. *Ramsar* has been applied into the geographic setting of the Arctic (and otherwise) by creation of wetland reserves.<sup>149</sup> 80 such reserves now exist, nearly doubling in number between 1985 and 2015.<sup>150</sup> The Arctic Council’s CAFF Working Group is now active in *Ramsar Convention* consultative

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commitment to maintain biodiversity. Biodiversity featured in the Reykjavik (2004), Tromso (2009) Iqaluit (2015) and Fairbanks (2017) Declarations.

<sup>146</sup> What can be considered the policy framework for CAFF is found in six documents (and instructions of the Arctic Council through biennial declarations): (i) Arctic Biodiversity Assessment: Report for Policy Makers (2013); (ii) the Arctic Climate Impact Assessment (2004); (iii) Arctic Flora and Fauna Recommendations for Conservation (2002); (iv) Strategic Plan for the Conservation of Arctic Biological Diversity (1998); (v) Cooperative Strategy for the Conservation of Biological Diversity in the Arctic Region (1997); (vi) Program for the Conservation of Arctic Flora and Fauna Framework Document (1991). See online: CAFF <[www.caff.is](http://www.caff.is)>. See also the *CAFF Framework Document*, the *CAFF Operating Guidelines* (undated), and biennial Work Plans, *ibid*.

<sup>147</sup> *Arctic Biodiversity Assessment*, *supra* note 103. Among key findings, the CAFF Working Group reported that biodiversity in the region is being “degraded” with climate change the most significant threat to it. See the progress of the 2013 recommendations at “Actions for Arctic Biodiversity 2013-2021: Implementing the recommendations of the Arctic Biodiversity Assessment”, online at: CAFF <<http://caff.is/actions-for-arctic-biodiversity-2013-2021>>.

<sup>148</sup> *Convention on the Conservation of Migratory Species of Wild Animals* (6 June 1979) 1651 UNTS 333 (in force 1 November 1983) (CMS).

<sup>149</sup> The CAFF Working Group has made recommendations that support creating additional Ramsar-oriented wetland reserves.

<sup>150</sup> “Arctic Protected Areas Indicator Report 2017: Conservation of Arctic Flora and Fauna and Protection of the Arctic Marine Environment” (Akureyri: CAFF and PAME, 2017) at 9. 0.9% of the Arctic (as defined by CAFF) is now within Ramsar-listed reserves; 289,931 square kilometres.

meetings.<sup>151</sup> However, the Arctic Council has yet to promote more extensive creation of wetland reserves or particular application of the Convention in the region. Meanwhile, the Arctic basin continues to be surrounded by states (Canada, Greenland, Russia and the United States) that have not adopted the *Convention on Migratory Species*. The imperative to biodiversity demonstrates the two multilateral agreements to necessarily have some joint, or related, application and national implementation among states. But no discussion and less any regional rule-making for them to be realized together in the Arctic has been suggested among states.<sup>152</sup>

Of all multilateral environmental treaties that apply to the Arctic, the UNFCCC and the *Stockholm Convention on Persistent Organic Pollutants* have been most overtly supported by Arctic states and, after 1996, by the Arctic Council. Early Council declarations urged ratification of both. However, when it came to climate change, the emphasis stalled by 2005 as the Kyoto Protocol was entering into force. Working group studies, especially those of CAFF, had long noted the impacts of persistent organic and climate change pollutants on the region. The problem of organic pollutants and greenhouse gases in governance terms has been their mostly exogenous origins for a region which is a receiving environment for them.<sup>153</sup> The transport mechanism of the two pollutants, *i.e.* by ocean-atmosphere processes, into the Arctic is now understood and, while law in the region (as elsewhere) is inadequate for their regulation, the UNFCCC and Stockholm regimes influence what states individually

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<sup>151</sup> In 2011 CAFF and the *Ramsar Convention* Secretariat entered into a cooperative agreement. See “Resolution on Cooperation (RoC) between the Ramsar Convention and the Conservation of Arctic Flora and Fauna (CAFF) Working Group”, online at: <<https://www.ramsar.org/fr/node/17260>>.

<sup>152</sup> See CAFF, *The Arctic Migratory Bird Initiative (AMBI): Work Plan 2015-2019* (Akureyri: CAFF, 2015). “The overall objective of the AMBI is to improve the conservation status and secure the long-term sustainability of declining Arctic-breeding migratory bird populations ... organized around fly-ways that arctic migratory birds traverse throughout their life cycles.” *Ibid.* at 14.

<sup>153</sup> The Arctic acts a sink for pollutants, *e.g.* atmospheric carbon dioxide from greenhouse gases taken into the ocean water column. Pollutants such as persistent organics (POPs) come to reside in the Arctic and be taken up into biota or transported further by ocean and atmospheric circulation.

and collectively do in mitigation in the Arctic. The question is whether this influence is, by itself, sufficient.<sup>154</sup> No specific regional initiative for particular governance under either treaty is foreseeable, at least in the immediate future. It is resilience and adaptation by local communities that is the consensus among Arctic states.

Multilateral environmental treaties as a whole have had significant effect on governance for environmental protection in the Arctic. Collectively, the treaties have a normative influence – save for those not widely accepted including the Aarhus and Espoo Conventions (or would-be regional analogs to them) – on states. For the Arctic, however, this means the entire geographic areas (*i.e.* territories) of the states of the region, and without differentiation or emphasis for the Arctic. The Ilulissat Doctrine is at work here: An absence of an impetus to “strong conservation” (approaching preservation of the environment along the lines of Antarctica) and leaving to states IEL’s application in their areas of the region. Can we therefore predict an entry into collective rule-making for at least the leading multilateral agreements, that is, governance of them in a transboundary fashion? The imperative of addressing climate change suggests the UNFCCC-*Paris Agreement* framework must have greater application as rules particular to the Arctic basin. However, the initiatives for biodiversity are more deep-rooted in the Arctic and, coupled with a settled approach of ecosystem-based management, it can be suggested this area of IEL will first reduce to collective obligations among Arctic states which acquire form as rules.

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<sup>154</sup> It is a question asked after the 2015 UNFCCC Conference of Parties, CoP 21, in Paris. Climate change measures have never been much promoted to be pursued collectively by states in regional settings. Under the *Paris Agreement*, states may undertake joint climate change response measures (Article 4(16)), and there is regard for small islands states (Article 4(6)). No provision requires measures for the polar regions. *Paris Agreement*, UN doc. FCCC/CP/2015/L.9/Rev.1 (12 December 2015) (in force 4 November 2016) online at: UNFCCC Secretariat <<http://unfccc.int>>.

### ***In the neighborhood: The OSPAR Convention***

The influence of the OSPAR Convention on how Arctic Council states toward understanding and applying IEL in the region has been limited. That is a curious result given the large area – about one-quarter of the Arctic Ocean that is encompassed by the Convention, together with membership in the convention by some Arctic states.<sup>155</sup> An explanation is that the Arctic is remote from what concerns member states about the matters provided for in OSPAR.<sup>156</sup> Although not entirely a model for an Arctic regional seas arrangement, OSPAR arguably influences at least member states in their understanding of environmental governance in the region. However, membership in OSPAR does not appear to influence the position of member states otherwise in the Arctic to deepen IEL rules for that region. OSPAR's effect is diffuse, but its features relevant to the development of an Arctic environmental regime, include being exemplary, proximate, fragmentary and integrative. Such characteristics merit are worth considering because OSPAR will continue to overlap and perhaps conflict with accruing environmental governance in the Arctic. A role for OSPAR to generate norms for the Arctic is clear. Article 3 of the Convention's Annex V is a basis for states to structure agreement for environmental governance:

[The OSPAR Commission will:] (a) ... collect and review information on [pre-

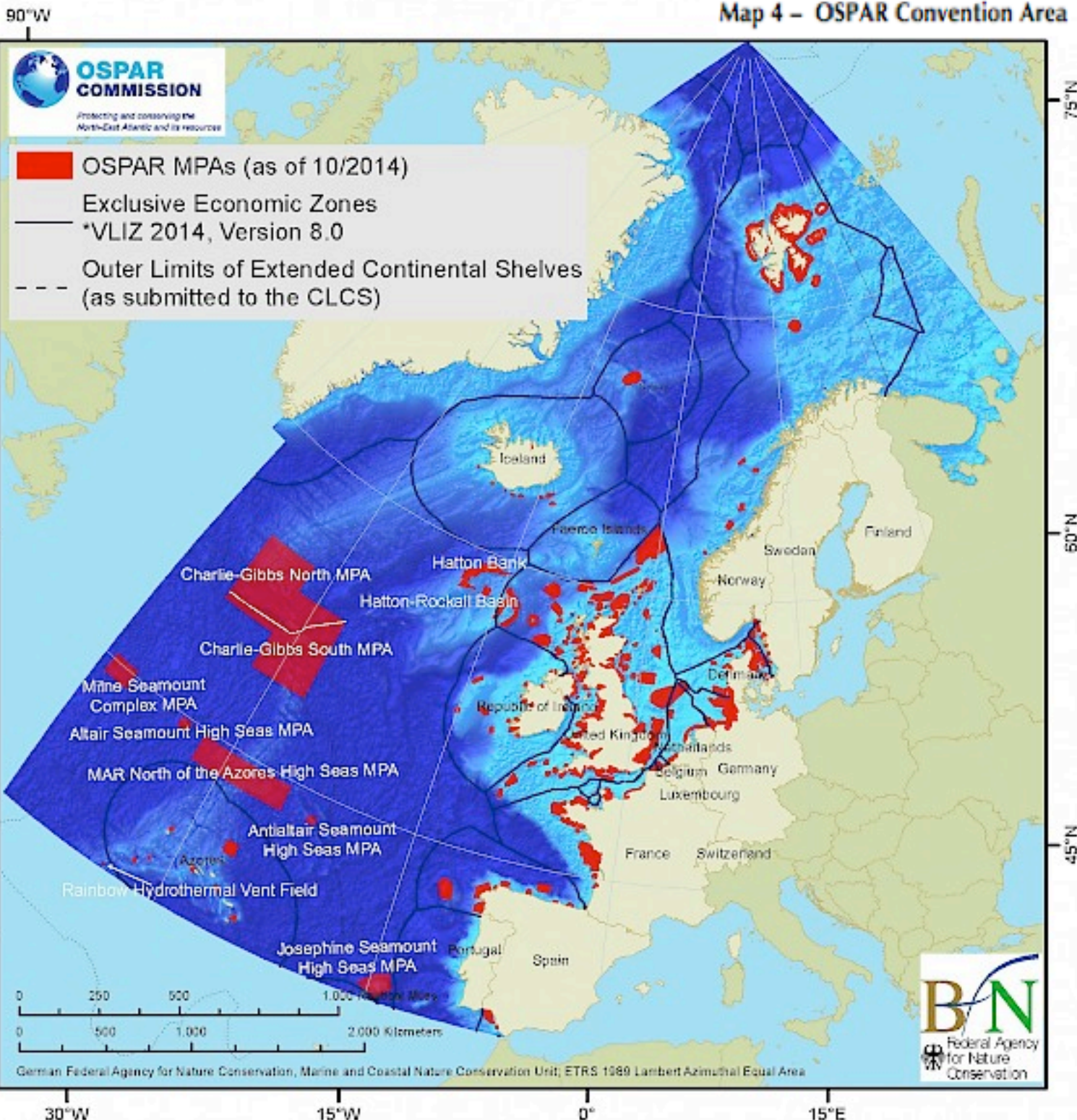
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<sup>155</sup> *Convention for the Protection of the Marine Environment of the North-East Atlantic* (22 September 1992) 23 LOSB 32 (in force 25 March 1998). The OSPAR Convention superseded the 1972 *Oslo Convention* for the prevention of marine pollution by dumping from ships and aircraft and the 1986 *Paris Convention* for the prevention of pollution from land-based sources.

<sup>156</sup> The OSPAR Convention resulted from a need to regulate marine pollution in European ocean waters. However, its Annex V makes it a true regional seas agreement, with overarching requirements for conservation of ecosystems and protection of biodiversity. Article 2 of the Annex incorporates the *Convention on Biological Diversity*. However, Article 4 excludes application of the Annex to questions "relating to the management of the fisheries." The Convention as a whole is to apply the precautionary principle, and this can be seen in ministerial decisions of the OSPAR Commission, e.g. Decision 98/3 on the Disposal of Disused Offshore Installations (23 July 1998), OSPAR doc. 98/14/1-e, Annex 33 (in force 9 February 1999). See also Nele Matz-Lück and Johannes Fuchs, "The impact of OSPAR on protected area management beyond national jurisdiction: Effective regional cooperation or a network of paper parks?" (2014) *Marine Policy* 155.



Map 4 – OSPAR Convention Area



scribed] activities and their effects and ecosystems and biological diversity; (b) ... develop means, consistent with international law, for instituting protective, conservation, restorative or precautionary measures related to specific areas or sites or related to particular species or habitats ...<sup>157</sup>

OSPAR shows how a regional seas regime can progressively move from remedial responses to problems such as marine pollution to governance. As a second feature, the proximate aspect of the Convention suggests its Arctic member states (Denmark, Finland, Iceland, Norway and Sweden) would be willing to accept the conserving large marine areas. Again, a large part of the Arctic Ocean is within OSPAR: The area north of the Arctic Circle to the North Pole between 51° east and 44° west longitude.<sup>158</sup>

OSPAR is designed to regulate similarly to other regional seas arrangements, emphasizing control of land-based and marine pollution, and habitat conservation. An example can be seen in the *MOX Plant* cases by Ireland against the United Kingdom in the proposed construction of a facility for nuclear fuel processing adjacent to the Irish Sea.<sup>159</sup> In

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<sup>157</sup> Annex V, Article 3(b), *ibid.* The precautionary principle is a crucial threshold for Arctic states to accept in any analogous application of this provision. Very few statements of the Arctic Council or states themselves imply an assumption of precautionary principle obligations in the region.

<sup>158</sup> Article 1, definitions, (a) "Maritime area", *ibid.* As with the Arctic Ocean, and so directly in the Convention's area north of Russia, not a member state: There are no provisions in the OSPAR Convention as such for polar waters. The treaty area encompasses those of the Northwest and Northeast Atlantic regional fisheries agreements, the 1925 *Svalbard Treaty*, and the 2010 Norway-Russia Barents Sea EEZ boundary. In this area of the Arctic, then, there is a comprehensive regional seas framework, although diverse across a number of treaty instruments.

<sup>159</sup> Ireland's objections were initially pursued in the ITLOS for provisional measures under UNCLOS and the OSPAR Convention before moving to the Permanent Court of Arbitration. In 2006 the European Court of Justice concluded that Ireland was required to first resolve the dispute within European legal institutions. See: (i) *Dispute Concerning Access to Information Under Article 9 of the OSPAR Convention*, Final Award (*Ireland v. the United Kingdom*) (2 July 2003) Permanent Court of Arbitration, (2003) 42 ILM 1118; (ii) the *MOX Plant case*, *Request for Provisional Measures Order* (*Ireland v. the United Kingdom*) (3 December 2001) (ITLOS) (2002) 41 ILM 405; (iii) the *MOX Plant case*, Order No. 3 (*Ireland v. the United Kingdom*) (24 June 2003) Permanent Court of Arbitration, (2003) 42 ILM 1187. And see the discussion in Chapter 2 at page 134, footnote 103.

See Simon Marsden, "MOX Plant and the Espoo Convention: Can Member State Disputes Concerning Mixed Environmental Agreements be Resolved Outside EC Law?" (2009) 18 *Review of European Community & International Environmental Law* 312.

In discussing the *MOX Plant* cases, the International Law Commission noted: "Concern over the

the context of marine environmental protection, specific and local arrangements for rule-making and dispute resolution are desirable from the standpoint of efficiency for both rule-making and implementation, and broadly indicated by UNCLOS. This is preferable where a regime such as OSPAR applies norms such as the precautionary principle and is to integrate with regimes of general application, e.g. the CBD. Because of fisheries arrangements including the EU Common Fisheries Policy, OSPAR does not provide for fisheries matters.<sup>160</sup> Article 3 of the 2009 *Treaty on the Functioning of the European Union* (the Lisbon Treaty) confers exclusive competence on the EU to regulate “the conservation of marine biological resources under the common fisheries policy” and Article 4 provides for shared competence in respect of the environment.<sup>161</sup> The EU is a member organization of OSPAR and is accepted by states as having supranational marine jurisdiction.<sup>162</sup> The EU’s 2008 “Marine Strategy Framework Directive” illustrates the integration, or fusion:

In order to ensure cohesion of action across the Community as a whole and in relation to commitments at global level, it is essential that Member States notify the Commission of the steps taken, in order to enable the Commission to assess the coherence of action across the marine region or subregion concerned and as appropriate provide guidance on possible necessary modifications.<sup>163</sup>

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fragmentation of international law has an institutional and a substantive aspect. At an institutional level, the proliferation of implementation organs - often courts and tribunals - for specific treaty-regimes has given rise to a concern over deviating jurisprudence and forum-shopping.” “Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law”, Report of the Study Group of the International Law Commission (13 April 2006), UN doc. A/CN.4/L.682, para. 489.

<sup>160</sup> The OSPAR Convention may be fragmented in its governance, if indirectly: EU environmental directives require states to direct the OSPAR Commission in ways not anticipated in the original design of the Convention.

<sup>161</sup> *Treaty on the Functioning of the European Union* (13 December 2007), *Official Journal* C 326 (in force 1 December 2009) (TFEU). Articles 191-193 provide for coordination of EU policy. Article 191(2) is notable: “Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle ...”

<sup>162</sup> See Tobias Lock, *The European Court of Justice and International Courts* (Oxford: Oxford University Press, 2015) at 126.

<sup>163</sup> *Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy* (Marine

An example of the synthesis of EU marine policy and the OSPAR Convention is the creation of marine protected areas under the Convention in member state EEZs. By 2012 MPAs had expanded to 3.2% of the north-east Atlantic.<sup>164</sup> EU states create MPAs under three regimes: (i) by their own competency; (ii) under regional seas agreements; and (iii) through the EU *Natura 2000 Program*. Spatial overlap can occur. As with the environmental treaties listed in Table I, the OSPAR Convention's influence on the Arctic environmental regime should be discernable. Five of eight Arctic Council states are members of what is a regional seas agreement extending into the region.<sup>165</sup> Given OSPAR's acceptance among member states, it should expectedly be a basis for promotion of a regional seas agreement in the Arctic basin.<sup>166</sup> As noted, the Arctic Council first instructed the 2015 Task Force on Arctic Marine Cooperation to consider a regional seas arrangement. However, after curtailing that prospect the Council was content to admit the OSPAR Commission as an observer organization.<sup>167</sup>

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Strategy Framework Directive), *Official Journal* L 164/19, Preamble para. 28. Para. 42 provides: "[S]erious environmental concerns, in particular those due to climate change, relating to the Arctic waters, a neighbouring marine environment of particular importance for the Community, need to be assessed by the Community institutions and may require action to ensure the environmental protection of the Arctic." Article 5 of the Directive requires states to cooperate in regional seas settings to ensure realization of strategies for assessment and environmental protection measures.

<sup>164</sup> "Report from the Commission to the European Parliament and the Council on the progress in establishing marine protected areas (as required by Article 21 of the Marine Strategy Framework Directive 2008/56/EC)" (1 October 2015), online at: <<http://ec.europa.eu/environment>>.

<sup>165</sup> The OSPAR Commission was recently admitted as an observer organization by the Arctic Council.

<sup>166</sup> The Arctic Council is not unitary on the question of an oceans regime. The Ilulissat five Ilulissat claim EEZ and ECS rights over much of the Arctic basin. While there is a high degree of cooperation for marine environmental protection, the position of the Arctic Five appears to be the single factor determining a common regime. "But curiously, although the A5 used the Ilulissat Declaration both to assert the sufficiency of the law of the sea regime and to stake out their 'unique' position as stewards responsible for the Arctic Ocean, the Arctic Council has promoted the law of the sea regime in more concrete ways than the A5." Betsy Baker, "The Developing Regional Regime for the Marine Arctic" in *The Law of the Sea and the Polar Regions*, *supra* note 49, 34 at 57.

It would be wrong to conclude that the Arctic Five exists as a standing collective of states for governance in the Arctic. The group exhibits only a commonly asserted position of rejecting an individual regime for the marine Arctic, asserting that the law of the sea suffices as a governance arrangement.

<sup>167</sup> Fairbanks Declaration, *supra* note 64.

### ***The United Nations and the Arctic***

The influence of the United Nations and its agencies on IEL for the Arctic is worth brief assessment, if only to conclude that such influence is indirect and remote. Next after the UN's work to foster UNCLOS negotiations from 1973 until 1982 has been the General Assembly's consensus-building toward a regime for biodiversity in the ocean commons, *i.e.* areas beyond national jurisdiction.<sup>168</sup> No particular mandate to inquire into the Arctic has been suggested in UN institutions.<sup>169</sup> This is different from Antarctica where states outside the *Antarctic Treaty*, led by Malaysia during the 1980s, put forward annual General Assembly resolutions about the "question" of that continent. In the end, an opening-up of membership, where states could more readily become treaty members or observers, eliminated a perceived colonial exclusivity under the *Antarctic Treaty*. Such a dynamic has never been present in the Arctic, and the Arctic Council is comfortable to admit states as observers while rejecting the EU's request to join under the same status.

UNEP and the UN Division for Ocean Affairs and the Law of the Sea (UNDOALOS) have themselves been only at the margins of Arctic policy development. UNEP has not promoted a regional seas arrangement for the Arctic. That is because there has not been resource or industrial development nor (apparently) a sufficient population in the region sufficient to attract the organization's interest. Moreover, UNEP has been occupied with capacity-building for environmental protection in states of the Global South, as well as with

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<sup>168</sup> See UN General Assembly Resolution A/69/292, "Development of an 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" (6 July 2015). The principal goal of the Resolution is to establish a preparatory committee to meet in 2016 and 2017 for "an international legally-binding instrument under [UNCLOS] on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction..."

<sup>169</sup> See General Assembly Resolution 70/235 "Oceans and the Law of the Sea" (23 December 2015). The annual resolutions are concerned with capacity building for oceans governance in developing states. Paragraphs 184 and 185 of the resolution exhort states to enter into regional seas arrangements and advance measures for environmental impact assessment.

the negotiation of multilateral treaties such as the *Minamata Convention*. For its part, UNDOALAS is concerned with making UNCLOS work. In the aftermath of an almost universal accession and state implementation of the Convention, the mechanics of building more robust governance in many states, dispute resolution, and building consensus for the working of institutions such as the International Seabed Authority and ITLOS, prevail over asserting ideals (or collectively agreed policy measures) for the Arctic.<sup>170</sup>

Since 1969 the UN has supported the work of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), which indirectly informs the work of the Arctic Council's PAME working group. Furthermore, the International Maritime Organization, with a role for Arctic regulation more pronounced than any other organization, is part of the family of UN treaty bodies. The role of UN organizations in the Arctic will predictably be modest, remaining peripheral to governance issues, influencing them in a minor way through rule of law norms and the continuing development of regional seas programs in other places.<sup>171</sup> Antarctica offers guidance, having a sufficient consensus among its states combined with a robust governance structure, that any coordinating role of the United Nations for environmental governance (and IEL to apply) is not needed.<sup>172</sup>

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<sup>170</sup> "The complexity of oceans governance is, at least in part, a consequence of the diverse and, increasingly, fragmented nature of the actors and institutions responsible for or otherwise involved in oceans governance." Donald R Rothwell *et al*, "Charting the Future for the Law of the Sea" in *The Oxford Handbook of the Law of the Sea*, *supra* note 16, 888 at 893.

<sup>171</sup> An example of rule of law conduct – the disposition of a minor dispute – can be seen in the case of the Greenpeace International protest against seabed petroleum drilling in the Barents Sea in 2013. The flag state of the vessel involved in the protest, the *mv Arctic Sunrise*, sought a decision from the ITLOS to allow for the prompt release of the vessel and its crew, complied with by the detaining state. See *The Arctic Sunrise Case (Kingdom of the Netherlands v Russian Federation)*, *Provisional Measures*, Case No. 22 (Order of 22 November 2013), online at: ITLOS <[www.itlos.org](http://www.itlos.org)>.

<sup>172</sup> Environmental regimes remain self-evaluative, where such measures are pursued by the states and organizations concerned, or required of them by other actors. A generation after the concept of environmental performance auditing became accepted in developed (Global North) states, international community analogs have been slow to emerge. The Aarhus Convention is a starting point, with its Article 15 provision for optional participation of states in compliance evaluation including public participation. See Marc Pallemmaerts, *ed*, *The Aarhus Convention at Ten: Interactions*

#### IV. THE ROLE AND INFLUENCE OF INDIGENOUS PEOPLES IN ARCTIC ENVIRONMENTAL GOVERNANCE

Before and after the Ilulissat Declaration, Indigenous peoples in the Arctic have played an influential role on the application of IEL to the region and shaping the environmental governance development and priorities of states and the Arctic Council. It can be said that this influence is a model for how states govern for environmental protection in other places with Indigenous populations. In addition, there are vital lessons from the Arctic in how IEL is shaped by Indigenous participation, and transnational and sub-state governance. The presence and work of Indigenous groups has been intrinsic to environmental governance in the Arctic, and emerging norms of self-determination and sovereignty will expand such influence. The result of Indigenous participation, explored in detail below, has been two-fold when it comes to environmental law for the Arctic. First, it has assured that the states of the region have substantial regard for Indigenous interests in environmental protection and conservation concerns. Second, such participation has demonstrably ensured consideration of IEL, particularly in matters concerning human health (e.g. transport of persistent organic pollutants), natural resources (e.g. availability of food stocks) and land use. We must recall that such participation is achieved in what can be called the *parallel polities* of sub-national Indigenous governments, transnational organizations and participating status in international organizations. The capacity of Indigenous peoples to sustain an influential presence – in their own service as much as that of the environment – would be considerably reduced without the three polities. Greenland is the exemplar of sub-national autonomous Indigenous governance, followed by Nunavut in Canada and Finnmark County (as a

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*and Tensions between Conventional International Environmental Law and EU Environmental Law* (Amsterdam: Europa Law, 2011) at 388 ff. The expert review of states' performance of the reduction of greenhouse gases (and mitigation efforts) provided for in the *Paris Agreement* is a rigorous example. See Article 15 of the *Paris Agreement*, *supra* note 154.



traditional area of that country's Sámi people) in Norway, with varied capacities to receive IEL rules and otherwise govern for environmental protection. Meanwhile, the existence of transboundary, or circumpolar, Indigenous organizations has ensured the legitimacy of such sub-national entities while sustaining their interests in the international community's involvement in the Arctic. Third, Indigenous organizations have an established role as Permanent Participants in the Arctic Council including the identification of environmental priorities and governing.

For Canada, Greenland-Denmark and the United States, what constitutes their Indigenous peoples of the Arctic is easier to identify than the Eurasian states of the region. That is because colonial contact in the three countries occurred relatively recently in history and also distinctively, *i.e.* during a brief period, with limited settlement in latitudes at the Arctic Circle and further north. In the northern areas of Norway, Sweden, Finland and part of northwest Russia, the Sámi people are socially and politically accepted as the principal Indigenous inhabitants. In Siberian Russia, it is the ethnic Sakha people (the Yakuts) who comprise a northern (but not entirely Indigenous) population.<sup>173</sup> Of course, Iceland does not possess an Indigenous population in the sense of a long-existing ethno-linguistic group having met with European (or other) colonial contact.<sup>174</sup> The Indigenous peoples in seven of the eight states find identity (and can therefore be thought of as *Arctic peoples* in a Westphalian state-centric understanding of the region) in six transnational organizations: (i)

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<sup>173</sup> See notably Emilie Maj, "Internalisation with the use of Arctic indigeneity: the case of the Republic of Sakha (Yakutia), Russia" (2012) 48 *Polar Record* 210. "In this northern area, they are considered as native people but not as indigenous", numbering perhaps 500,000. *Ibid.* Russia created the Republic of Yakutia in 1992, an area of about three million square kilometres. Various other populations, each less than 20,000 people include the Evenki, Evens, Buryats, Dolgans and Yukagirs.

<sup>174</sup> On Indigenous identity in international law, see Benedict Kingsbury, "Indigenous Peoples" in Rüdiger Wolfrum, ed, 5 *Max Planck Encyclopedia of International Law* (Oxford: Oxford University Press, 2012) 116 and "Reconciling Five Competing conceptual Structures of Indigenous Peoples' Claims in International and Comparative Law" (2002) 34 *International Law and Politics* 189.



Arctic Athabaskan Council; (ii) Aleut International Association; (iii) Gwich'in Council International; (iv) Inuit Circumpolar Council; (v) Russian Association of Indigenous Peoples of the North; and (vi) Sámi Council.<sup>175</sup> The common thread of their aspiration for recognition and status as representative organizations in Arctic governance as a whole has been self-determination. However, as will be seen, this is an imperfect basis in law for participation in environmental governance and the application (and development) of international environmental law for the region.

The influence of Indigenous peoples in the Arctic has been the result of relatively recent historical advances. One, as noted, is comparatively late colonial contact and limited assimilation and notably in the non-Scandinavian/Russian states of Canada, Denmark and the United States. This ensured a preserving of identity until the ideals of self-determination could take hold in the second half of the 20th century. A second factor has been relatively limited resource development, notably fishing and mining, in the Arctic, which is the consequence of distances involved and the cost to extract resources. A third and significant factor has been the progress in domestic political treatment and according of political and land-use rights to Indigenous peoples in most Arctic states in the past half century. Autonomy status for Greenland in a unitary kingdom of Denmark, the Nunavut Land Claim Agreement in Canada, and completion of the Draft Nordic Sami Convention are evidence of the trend.<sup>176</sup> A fourth feature of a sustained Indigenous polity and therefore identity is the

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<sup>175</sup> The Russian transnational organization is properly styled as the *Association of Indigenous Minorities of the North, Siberia and Far East of the Russian Federation*. Russia has not participated in the preparatory work for implementation of the *Sámi Convention*, *supra* note 122. There is no Indigenous population as such in the Svalbard Archipelago.

On the involvement of the six groups in Arctic governance and their relationship to the Arctic Council, see notably "Status and Role of Indigenous Peoples in Arctic International Governance" *supra* note 25 and Leena Heinämäki, "Towards an Equal Partnership between Indigenous Peoples and States: Learning from Arctic Experiences" (2011) 3 *Yearbook of Polar Law* 193.

<sup>176</sup> A continuum of degrees of self-governance, and competence to both govern for environmental protection and to engage international organizations in environmental protection

partial homogeneity and social connection of Arctic peoples across state boundaries. The Inuit, for example, are a people of four countries (Canada, Denmark-Greenland, Russia and the United States), while the Sámi people, as noted, also reside across three Nordic states and Russia. The three factors or developments above contributed to the creation of the Sámi Council in 1956, and the Inuit Circumpolar Conference (as it was then) in 1977.<sup>177</sup> With an increasingly autonomous Inuit government in Greenland, consultation by the governments of some Arctic states in matters of land rights and resource access began to result, which then lead to Indigenous involvement in the 1991 creation of the AEPS and, in succession, the Arctic Council in 1996.<sup>178</sup> “At the formal signing of AEPS in 1991, the ICC, the Nordic Sami Council and the USSR Association of Small Peoples of the North were included as observers and as AEPS developed, the Indigenous role grew.”<sup>179</sup>

Three events of the 1990s contributed to securing Indigenous participation in Arctic

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matters) can be suggested across the three settings. The government of Greenland (the *Naalakkersuisut*) enjoys the greatest autonomy among them. For a useful analysis of sub-national, devolved Indigenous governance in Greenland, Nunavut and for the Sámi people of Norway, Sweden and Finland, see Asbjorn Eide, “Indigenous Self-Government in the Arctic, and Their Right to Land and Natural Resources” (2009) 1 *Yearbook of Polar Law* 245.

See respectively, Maria Ackrén and Uffe Jakobsen, “Greenland as a self-governing sub-national territory in international relations: past, current and future perspectives” (2015) 51 *Polar Record* 404; Nigel Bankes, “Land Claim Agreements in Arctic Canada in Light of International Human Rights Norms” (2009) 1 *Yearbook of Polar Law* 175; and Timo Koivurova, “Can Saami Transnational Indigenous Peoples Exercise Their Self-Determination in a World of Sovereign States?” in Timo Koivurova and Nigel Bankes, eds, *The Proposed Nordic Saami Convention: National and International Dimensions of Indigenous Property Rights* (Oxford: Hart Publishing, 2013) 105.

<sup>177</sup> Now the Inuit Circumpolar Council, ICC.

<sup>178</sup> Finland had proposed creation of the AEPS in 1989 to include Indigenous participation. On the involvement of Inuit, see “Changing the Arctic Paradigm from Cold War to Cooperation: How Canada’s Indigenous Leaders Shaped the Arctic Council”, *supra* note 46. The origins of a political thaw among Arctic states during the Cold War era can be traced to then Soviet Union President Mikhail Gorbachev’s “Murmansk speech” on 1 October 1987 which called for reduced military presence in the Arctic and greater environmental protection. Such a change in approach came after the 1986 Chernobyl disaster and the 1987 report of the World Commission on Environment and Development, WCED.

<sup>179</sup> *Ibid.* at 20. In geographic terms the three organizations present in 1991 can be thought of as high Arctic representative entities. Organizations from “Arctic Circle” latitudes of the mid-north, e.g. for the Aleut people, would later join.

governance. The first was the decision of the UNCED Río Conference in 1992 to include measures to strengthen aboriginal involvement in land use and environmental protection-decision-making.<sup>180</sup> Principle 22 of the UNCED Declaration was adopted at the 1993 Nuuk meeting of AEPS member state ministers, including that “indigenous peoples have a vital role in environmental management and development”.<sup>181</sup> A second event of the 1990s was the agreement of Canada and a part of its Inuit community to the 1993 Nunavut Land Claim Settlement Agreement.<sup>182</sup> The third was the decision to ensure Indigenous involvement in the Arctic Council on a standing basis, that is, uniquely through Permanent Participant organizations. Article 2(2) of the Ottawa Declaration provided that the Council’s decision-making is to be done only with “full consultation” of Indigenous participating organizations.<sup>183</sup> Such a trend of devolved governance and specifically for land rights and resource-use decision-making, continued into the 2000s, with the 2005 Draft Nordic Sami Convention and Denmark’s 2009 *Act on Greenland Self-Government*.<sup>184</sup> Both typify a particular Scandinavian (or Nordic) approach to the autonomy of Arctic Indigenous peoples

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<sup>180</sup> United Nations Sustainable Development, *Agenda 21* (Nairobi: UNEP, 1992), online at: <<https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>>. See Chapter 26. “Taken together, the agreements adopted at Rio acknowledge a special status for indigenous peoples which is justified by their traditional nature-based relationship with the environment, their sustainable management of natural resources and the traditional knowledge they have concerning the environmentally sustainable management. [sic]” “Towards an Equal Partnership between Indigenous Peoples and States: Learning from Arctic Experiences”, *supra* note 175 at 204.

<sup>181</sup> Rio Declaration on Environment and Development (13 June 1992), UN doc. A/CONF.151/26 (Vol. 1); 31 ILM 874.

<sup>182</sup> The Agreement is online at: <<https://ncla.tunnngavik.com>> The Agreement was legislated in Canada as the *Nunavut Land Claims Agreement Act*, SC 1993, c 29, and the *Nunavut Act*, SC 1993, c 28 which resulted in creation of the territory of Nunavut on 1 April 1999.

<sup>183</sup> Article 2(2) allowed for new Indigenous organizations to be admitted as Permanent Participants, on the basis such entities were either groups of a single people in more than one Arctic state or a group of multiple peoples within a single state, and that the number of permanent participants “should at any time be less than the number of [member] states.”

<sup>184</sup> *Act on Greenland Self-Government*, Act no. 473 of 12 June 2009, online at: <[www.stm.dk/\\_p\\_13090.htm](http://www.stm.dk/_p_13090.htm)>. Under section 12 of the Act, Greenland is competent to conclude international treaties “which exclusively concern Greenland and entirely relate to fields of responsibility taken over.”

not subscribed to by Russia and the United States. Greenland's substantial autonomy status means that its people have singular influence on Denmark's participation in the Arctic Council and international environmental treaty-making.<sup>185</sup>

The engagement of Arctic Indigenous peoples in questions of the application and development of international environmental law must be viewed within the whole of the region's environmental governance and their particular concerns. These concerns have been evidently accepted by the Arctic Council and in some instances for parallel development by governments of member states, in matters of land-use and resource access, environmental quality, and resilience against the adverse effects of climate change. Some examples from the Arctic Council are useful. In 2002, the then five Indigenous Permanent Participant organizations asked Arctic states to sign proposed protocols to the LRTAP Convention (for heavy metals and persistent organic pollutants) and the just-concluded *Stockholm Convention on Persistent Organic Pollutants*.<sup>186</sup> They observed that Russia had yet to sign the Stockholm Convention while only Canada among Arctic states had ratified it, despite an Arctic Council declaration in 2002 expressing "concern how global emissions of persistent organic pollutants have harmful effects on the Arctic environment".<sup>187</sup> Indigenous peoples had a credible, even overriding interest in eliminating organic pollutants given the direct

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<sup>185</sup> For example, when Denmark signed the Aarhus Convention in 1998, it declared that its eventual ratification would not necessarily include Greenland (and the Faroe Islands) because the treaty had been "prepared with a view to European countries with relatively large populations and corresponding administrative and social structures". Declaration of Denmark on signing the Aarhus Convention, online at: <[https://treaties.un.org/Pages/viewDetails.aspx?src=IND&mtdsg\\_no=XXVII-13&chapter=27](https://treaties.un.org/Pages/viewDetails.aspx?src=IND&mtdsg_no=XXVII-13&chapter=27)>.

<sup>186</sup> Letter of Arctic Council Indigenous Peoples' Secretariat to Mr. Peter Stenlund, Chair Arctic Council (15 May 2002), online at: <[https://oaarchive.arctic-council.org/bitstream/handle/11374/1640/MM02\\_5c\\_Permanent\\_Participants\\_and\\_POPs.pdf](https://oaarchive.arctic-council.org/bitstream/handle/11374/1640/MM02_5c_Permanent_Participants_and_POPs.pdf)>. The Aleut International Association was admitted as a sixth Permanent Participant of the Council in 2008.

<sup>187</sup> Barrow Declaration, *supra* note 57. The Stockholm Convention opened for signature on 22 May 2001 and entered into force on 17 May 2004, 90 days after a fiftieth ratification. Arctic states had by then ratified the Convention, except Russia (2011) and the United States (pending). Denmark deposited its ratification on 17 December 2003 with declaration that Greenland was territorially excluded from the Convention's application.

threat to quality of local food sources. Their influence may be imperceptible in how it motivated Arctic states to adopt the Stockholm Convention and ensured later meaningful implementation. However, their advocacy “was facilitated by their position as permanent participants in the Arctic Council [and] also helped to build important connections and interests and to build identity among the Indigenous peoples of the Arctic.”<sup>188</sup> At minimum, an Indigenous concerns for pollutants has sustained the Arctic Monitoring and Assessment Programme and, within that, the Arctic Contaminants Action Plan.<sup>189</sup>

The Arctic Council’s long-running assessment and program for environmental protection in shipping the region is an example of a regard for Indigenous interests, notably to avoid the effects of pollution on human health, resource use and food security. The May 2017 status update about of the Arctic Marine Shipping Assessment illustrates this: Themes I and III of the Assessment’s 2009 recommendations address marine safety and the building of “marine infrastructure”, respectively. Theme II is concerned with surveying Indigenous marine uses in the Arctic, engaging Arctic communities, oil spill prevention, and identifying and designated areas of heightened ecological and cultural significance.<sup>190</sup> This is consistent with the advocacy of Indigenous groups such as the Inuit Circumpolar Council, which has urged “that a comprehensive policy on Arctic marine transportation be devised and implemented” borne of concerns about “vessel noise, ship tracks, and oils spills and their

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<sup>188</sup> Henrik Selin and Noelle Eckley Selin, “Indigenous Peoples in International Environmental Cooperation: Arctic Management of Hazardous Substances” (2008) 17 *Review of European Community & International Environmental Law* 72 at 82.

<sup>189</sup> Arctic Council Action Plan to Eliminate Pollution of the Arctic, ACAP. “ACAP addresses specific Arctic challenges related to implementation of relevant international conventions. In addition, ACAP undertakes work in areas identified as concerns by Permanent Participants and endeavors to use traditional and local knowledge (TLK), as appropriate, to supplement scientific knowledge.” “ACAP Strategy to Address contamination of the Arctic Environment and its People” (2 September 2016), online at: <[https://oaarchive.arctic-council.org/bitstream/handle/11374/211/ACAP\\_2016\\_10\\_04Strategic\\_Plan\\_APPROVED-bySAOs.pdf](https://oaarchive.arctic-council.org/bitstream/handle/11374/211/ACAP_2016_10_04Strategic_Plan_APPROVED-bySAOs.pdf)>.

<sup>190</sup> PAME, “Arctic Council Status on Implementation of the AMSA 2009 Report Recommendations” (May 2017), online at: <<https://oaarchive.arctic-council.org/handle/11374/1957>>.

consequences of marine mammal migration as well as subsistence practices of Inuit, and their diverse use of sea ice.”<sup>191</sup> In addition to engaging in marine environmental protection in the Arctic Council (and working groups such as CAFF), the six Permanent Participant organizations have sought to join the International Maritime Organization in order to expand Indigenous influence on shipping regulation.<sup>192</sup>

It is climate change that most illustrates an Indigenous demand for responsive environmental governance by states and the organized international community, at both national and transnational settings in the Arctic. The problems of climate change are at the intersection of Indigenous life and identity in the region: preservation of habitat and food sources, the maintenance of cultural setting, and access to resources. The self-determination of Arctic Indigenous peoples is increasingly at risk under conditions of global warming:

The weather, which we had learned and predicted for centuries, had become *uggianaqtuq* – A Nunavut term for behaving unexpectedly, or in an unfamiliar way. Our sea ice, which allowed for safe travel for our hunters and provided a strong habitat for our marine mammals was, and still is, deteriorating.<sup>193</sup>

The most overt Indigenous demand in response to climate change has been for Arctic states to adopt specific targets for the reduction of greenhouse gases. “Arctic Council Ministers are requested to elaborate a specific course of action on mitigation of carbon dioxide emissions

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<sup>191</sup> Aqpaluk Lynge and Marianne Stenbaek, eds, *Inuit Arctic Policy* (3d ed), (Inuit Circumpolar Council, May 2016) at 45, online at: <[polarconnection.org/inuit-arctic-policy-inuit-circumpolar-council-2010/](http://polarconnection.org/inuit-arctic-policy-inuit-circumpolar-council-2010/)>. “There is a need to devise an overall policy for sea ice in circumpolar regions that is responsive to Inuit and ecological concerns. A sea ice policy that recognizes and protects the essential role of both ice cover and polynyas is crucial to the sound management of Arctic oceans, the conservation of marine resources, and their survival and on-going development of Inuit subsistence economy and culture.” *Ibid.* at 42.

<sup>192</sup> Levon Sevunts, “Arctic Indigenous Leaders to Push for Permanent Voice in World Maritime body”, Radio Canada International (20 October 2016), online at: <<http://www.rcinet.ca/en/2016/10/20/arctic-indigenous-leaders--to-push-for-permanent-voice-in-world-maritime-body>>.

<sup>193</sup> Sheila Watt-Cloutier, *The Right to be Cold: One Woman’s Story of Protecting Her Culture, the Arctic and the Whole Planet* (Toronto: Penguin, 2015) 193.

that will be adopted by all Arctic Council member states ...”<sup>194</sup> However, an Indigenous role in climate change is more complex, and includes a presence in research and monitoring activities and the design of adaptation measures. The 2016 *Arctic Resilience Assessment*, commissioned in 2011 by senior officials from Arctic Council states, is an example of the latter, relying extensively on Indigenous knowledge for particular measures and performance evaluation criteria.<sup>195</sup>

An Indigenous place for environmental governance in the Arctic has successfully evolved from a sustained presence in the Arctic Council and within the region’s states as sub-national organizations and governing entities.<sup>196</sup> The particular understanding of Indigenous peoples, coupled with their material dependence on the sound functioning of environmental amenities gives their place to shape such governance an undeniable credibility. This, in turn, reinforces the legitimacy of how Arctic states govern for the environment.<sup>197</sup> Not all is harmonious, or necessarily to be achieved in the Indigenous-

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<sup>194</sup> Letter of Arctic Council Permanent Participant Indigenous organizations to Arctic Council SAO meeting, Yellowknife (21 September 2014), online at: <[https://oaarchive.arctic-council.org/bitstream/handle/11374/1390/AC\\_SAO\\_CA03\\_Doc8-1\\_Letter\\_from\\_PPs\\_CO2\\_mitigation.pdf](https://oaarchive.arctic-council.org/bitstream/handle/11374/1390/AC_SAO_CA03_Doc8-1_Letter_from_PPs_CO2_mitigation.pdf)>.

<sup>195</sup> *Arctic Resilience Report*, *supra* note 2.

<sup>196</sup> “The Arctic Council, with its unique model of participation, could well serve as a new model enabling indigenous peoples to find a more reasonable status than that of an NGO in international decision-making concerning crucial issues to indigenous peoples, such as the environment. This would not only reflect the equal partnership idea but also the current commitment of states to the human rights of indigenous peoples that guarantee their effective participation in matters that directly affect them.” “Towards an Equal Partnership between Indigenous Peoples and States: Learning from Arctic Experiences”, *supra* note 175 at 235.

<sup>197</sup> “It can also be argued that indigenous peoples’ presence in the Council further legitimizes that Council’s work in the field of environmental protection. One reason is the importance of these organizations in the environmental and sustainable development work carried out in the council, where their contribution has been important as they have conveyed their views on how environmental protection should be carried out in an area in which indigenous peoples have lived sustainably for ages. Another reason is that indigenous organizations have also made a distinct contribution in providing their above-mentioned traditional knowledge to make the Arctic Council’s scientific assessments even more compelling for the general public and decision-makers.” “Status and Role of Indigenous Peoples in Arctic International Governance”, *supra* note 25 at 181.

Arctic Council relationship.<sup>198</sup> However, an Indigenous place on environmental governance for the Arctic would always turn on progress in domestic spheres and by transnational engagement, both among Indigenous groups and with international organizations.<sup>199</sup> The portents for what can be called *Indigenous environmental self-determination* are evident, and can be considered briefly. A first is the continuing extension of land use and resource access rights, or primacy of governance, to Indigenous peoples in sub-national settings. An example is Norway's legislation to create the Finnmark estate, to allow local Sámi greater participation in land planning and use. The estate, an area of about 45,000 km<sup>2</sup> encompassing most of the county of the same name, was created by national legislation in 2005 in the context of political advances for the Sámi people.<sup>200</sup> The substantial internal environmental governance of Greenland is a second example.<sup>201</sup> What will give continuing impetus to a conferring of Indigenous oversight of environmental protection by states is the

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<sup>198</sup> Recalling the Inuit response to the Ilulissat Declaration, *supra* note 25.

<sup>199</sup> "With regards to the question, 'Who has a say in international politics in the Anthropocene?' ... although states remain the actors with voting rights and hierarchical governance structures have not altered, the diversification of actor groups (the acknowledgment of other rightsholders than states, and also the formation of new international forums) and the diversification of regional bodies already provided new possibilities for non-state actors to participate in polar politics. These possibilities are however not distributed equally, as non-state actors are unequal with regard to their access to knowledge, resources, capacities, capabilities and also regarding their official statuses ..." Dorothea Wehrmann, "The Polar Regions as 'barometers' in the Anthropocene: towards a new significance of non-state actors in international cooperation?" (2016) 6 *Polar Journal* 379 at 393.

An example of Inuit cooperation between communities (and the ICC) in Canada and Greenland is the Pikialasorsuaq Commission created in 2013 to study human impacts and environmental changes in the "Great Upwelling" or North Water Polynya in the upper part of Baffin Bay. See *People of the Ice Bridge: The Future of the Pikialasorsuaq (Report of the Pikialasorsuaq Commission)* November 2017, online at: <[www.pikialasorsuaq.org/en/Resources/Reports](http://www.pikialasorsuaq.org/en/Resources/Reports)>.

<sup>200</sup> The 2005 statute, the *Finnmarksloven*, is available online at: <<http://www.finnmarksloven.no>>. The statute did not create Indigenous property rights nor exclusivity of use to county lands for the Sámi, however it can be compared somewhat to Canada's 1993 Nunavut Land Claim Agreement and subsequent legislation.

<sup>201</sup> See e.g. the government of Greenland *White Paper on Management and Utilization of Large Whales in Greenland* (June 2018), IWC doc. IWC/67/ASW/X, online at: <[https://iwc.int/private/downloads/pm6GZf3w7xVtXIWwsxOpA/Greenland\\_Whitepaper\\_on\\_whaling\\_2018\\_IWC\\_final.pdf](https://iwc.int/private/downloads/pm6GZf3w7xVtXIWwsxOpA/Greenland_Whitepaper_on_whaling_2018_IWC_final.pdf)>. See also Cécile Pelaudeix, Ellen Margrethe Basse and Natalia Loukacheva, "Openness, transparency and public participation in the governance of uranium mining in Greenland: a legal and political track record" (2017) 53 *Polar Record* 603.



adoption of the Sámi Convention by its signatories, Norway and Sweden, with domestic enabling legislation now pending.<sup>202</sup>

Two other emerging developments can be predicted to secure an Indigenous role for environmental governance in the Arctic, namely, the implementation of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and participation in ecosystem-based management, EBM.<sup>203</sup> No Arctic state has yet implemented UNDRIP in law and the Ilulissat Doctrine has forestalled a collective acceptance of it in the Arctic Council. In some of its elements, UNDRIP has been realized in the region, e.g. for consultation with and engagement of Indigenous peoples in land and resource use matters. But the hard obligation of UNDRIP Article 32 of ensuring Indigenous consent on a free, prior and informed basis before governments approve “any project affecting their lands or territories and other resources” will not soon be accepted by states.<sup>204</sup> Indigenous sovereignty in environmental-protection decision-making will be interstitial, through governance on the ground. As this accrues, we can expect a change in the structures of governance among all actors in the region, with lessons for other places in the necessity and worth of Indigenous participation.

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<sup>202</sup> On 13 January 2017, the signatory states agreed on a final text of the Convention. Its implementation includes corresponding national legislation. Atle Staalesen, “Historic Sámi agreement starts long way towards ratification” (16 January 2017) *The Barents Observer*, online at: <<https://thebarentsobserver.com/en/2017/01/historic-sami-agreement-starts-long-way-towards-ratification>>

<sup>203</sup> UN Declaration on the Rights of Indigenous Peoples (13 September 2007), UN General Assembly Resolution A/RES/61/295 (2 October 2007) (UNDRIP). Among Arctic states, the Declaration was initially opposed by Canada and the United States. On the self-determination of Indigenous peoples in the Arctic and application of UNDRIP, see Fiammetta Borgia and Paolo Vargiu, “The Inuit Declaration on Sovereignty in the Arctic: Between the Right to Self-Determination and a New Concept of Sovereignty” (2012) 4 *Yearbook of Polar Law* 189.

<sup>204</sup> “Despite the growing acceptance of FPIC in the Arctic, there is still little recourse for indigenous peoples when government entities or corporations do not engage in meaningful engagement or give effect to FPIC when required to do so. This is because in many cases FPIC is not legally required, and because many barriers to access to justice exist for indigenous peoples.” Layla Hughes, “Relationships with Arctic indigenous peoples: To what extent has prior informed consent become a norm?” (2018) 27 *Review of European, Comparative & International Environmental Law* 15 at 27.

## V. AN EMERGENT REGIME FOR IEL?

A quarter century after the Arctic Environmental Protection Strategy and more than two decades since the work of the Arctic Council overtook it, a regime for environmental protection regime in the polar north is discernable. However, it is one with strongly limiting qualifications: No specific framework exists to organize and ensure governance of IEL as such in the region, including through an accepted collective application of UNCLOS in the Arctic basin. To the extent that IEL operates in the Arctic – as a considerable number of treaties and spatially oriented regimes, e.g. RFMOs, the OSPAR Convention and UNCLOS Part XI do – there has been limited coordination for the law because states reject a unifying mechanism or collective governance through rules. However, the acceptance of the law of the sea as the principal source of norms for conduct, coupled with the systemic approach to identifying and establishing collective priorities for the region, has resulted in a regime for environmental protection in the Arctic and for the Arctic basin. It stops short of a conservation-preservation stance, as demonstrated by the slow development of a marine protected areas network. Nevertheless, the asserted commitments of Arctic states, their patterns of mutual governance thus far (notably through the Arctic Council), and the application of the law of sea have given sufficient identity to a nascent or bare regime to realize IEL in the Arctic marine setting. How such a regime should be evaluated – the *indicia* of its performance – together with the result of such an evaluation, is considered in Chapter 5.

Several things allow us to conclude that such a framework is emerging. First, what originated as a policy framework, the Arctic Environmental Protection Strategy (AEPS), has been continued by the measures and policies of the Arctic Council. These are routinely declaratory, but after 1996 have included action plans to promote safe shipping (the 2015

AMSA Report) and pursue biodiversity conservation in a network of marine protected areas. Second, the acceptance that the law of the sea is to apply and serve as regime imports, at least a preliminary framework for systemic governance. Two adjuncts to the law of the sea are complementary: The current IMO rule-complexes and the OSPAR Convention.<sup>205</sup> On the one hand, both adjuncts extend state responsibility for environmental protection into the Arctic Ocean. On the other, the two are fragmented from other instruments and between themselves, for example biodiversity conservation norms. Nevertheless, the Arctic shipping regime is advanced with rule-generating, capacity and enforcement structures distinct to other arrangements for environmental protection in the region. All Arctic states are what can be called advanced shipping regulation states, committed to safe operation of ships in the region, which explains their prominence in negotiations for the *Polar Code*.

The Antarctic experience offers useful indicators of what makes for an environmental regime in the Arctic. In some respects, the two regions are similar in the lack of formal agreements for environmental governance of the regional ocean. But this is a superficial likeness: CCAMLR may have subject-matter limits, but that treaty is part of the more detailed, interactive ATS environmental framework. The common source of norms and rules in both regions remains the law of the sea. Table II, overleaf, attempts to illustrate the salient IEL differences between the two polar regions. However, the comparison presented in the table reveals elements of an environmental governance framework, or regime, exist for the Arctic and especially its marine setting.

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<sup>205</sup> RFMOs in and adjacent to the region, and the *International Convention for the Regulation of Whaling* should be accepted as contributing to this framework, because they contain environmental protection and conservation prescriptions, have a nexus with other regimes (and expressly so with UNCLOS) and serve to engage the parties in specific governance action, if not subsidiary rule-making for environmental law in the Arctic.

**Table II – Comparative features of Southern Ocean  
and Arctic Ocean environmental governance regimes<sup>206</sup>**

Regime feature	Southern Ocean exemplar	Arctic Ocean exemplar	Remarks
Coordinate or single governance entity	Yes – ATS Antarctic Treaty states	Yes – Arctic Council states	Cf. CCAMLR which has a different membership than does the ATS
Region-specific environmental protection treaty	Yes – 1991 Madrid Protocol	No (UNCLOS declared to suffice in this regard)	Both regions have a stated environmental protection policy
Ocean-specific environmental protection treaty	No – But CCAMLR has extensive conservation measures	No ( <i>Idem</i> – UNCLOS is to operate as such)	
Regional seas treaty	No	No	The ATS (with CCAMLR and the 1991 Madrid Protocol) approximates a regional seas treaty
Regional fisheries treaty	Yes – CCAMLR	Yes, in part – See the 2017 agreement for the central Arctic	Near Arctic fisheries treaties are fragmented among themselves
Overt governance linkages and capacity to receive IEL treaty requirements	Yes – By ATS states governing as parties	No – Arctic states have a position to receive them singly	<i>E.g.</i> CITES, CBD, CMS, ICRW
Secretariat for administrative continuity and secondary rule-making	Yes – Since 2002	Yes – Since 2013, but without policy or rule-making competence	
External international organization support or inquiry into environmental protection	Yes – Across UN organizations	Yes – But limited from UN agencies; minor support from UNEP	
Application of the law of the sea and UNCLOS	Yes – Accepted and implemented widely by states present	Yes – Accepted and implemented widely by states present	Including by states in both regions the 1995 UN Straddling Stocks Agreement

**Table II continued overleaf**

<sup>206</sup> Because they are basic IEL norms, cooperation and its related principle of good faith can be held out as features of the polar regimes. And they animate the features described in this table.

Regime feature	Southern Ocean exemplar or feature	Arctic Ocean exemplar or feature	Remarks
Delegation of shipping rules to the IMO	Yes <sup>207</sup>	Yes	A strong delegation or <i>agency conferral</i> has been pursued in both regions
I – Region specific norms: Existence	Yes – Wide-ranging across several instruments and governance modes	Partially in only a few matters	Norms here are environmental protection-conservation ones
II – Region specific norms: Capacity to generate	Yes – The ATS system and governance allows for extensive rule-making	Yes – There is high capacity among Arctic states, but limited willingness to create norms	<i>Idem</i>
Synthesis (integration) of the regional regime with other IEL regimes	Weak/Strong – As with the Arctic, but the ATS scheme and the Madrid Protocol contain IEL norms	Weak – Few Arctic treaties and governance schemes integrate with specific IEL sources	UNCLOS should be a reconciling instrument in both regions. But it does not operate expressly as such
Science exegesis	High – The capacity for scientific research and policy advice on the environment is strong	High – <i>Idem</i> . Scientific inquiry is a leading marker of the Arctic regime at present	This feature illustrates the governance capacity to ensure scientific research with resulting policy advice for each regime
Public participation	Moderate	Moderate – Environmental assessment and therefore public consultation remains limited to states in the Arctic	Organizations for both regions allow public participation in governance and some decision-making; Neither region has Aarhus-type accountability measures

The Arctic's environmental governance regime has capacity to receive IEL norms and generate secondary, local rules. It possesses a scientific epistemic-structure no less comprehensive than Antarctica's. However, it is less than three decades old and does not have the benefit of a coordinating convention. As with others in regional settings, this emergent regime can hardly be considered mature. Nevertheless, the framework for the

<sup>207</sup> In 2010 Antarctic states adopted Resolution 7 "Enhancement of Port State Control for Passenger Vessels Bound for the Antarctic Treaty Area" as an exhortation to exercise port state control.

Arctic is capable of receiving or pursuing a basic governing organization of IEL norms.

Various roles for the law of the sea are evident in the progress of the Arctic environmental regime. The first is to underscore the rule of law and, insofar as it can be discerned, the rule of IEL. However, only one example, UNCLOS Article 234 and its application by some Arctic states for environmental protection in ice-covered waters, demonstrates this. The better empirical illustration is the extent to which states individually, and in the Arctic Council, accept the law of the sea norms for the environment. A second role for the law of the sea is to confer organizational principles and substantive ones.

For all the successes of implementing UNCLOS provisions in matters attractive to states such as expanded maritime space, along with dispute resolution and the regime of the Area, environmental measures from the law of the sea have not enjoyed the same success in the Arctic. It is through the law of the sea's role to cohere IEL in regional settings that the Arctic can acquire a more robust environmental governance regime, to which we now turn.

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## **CHAPTER 2**

# **INTERNATIONAL ENVIRONMENTAL LAW: TOWARD COHERENCE**

### **INTRODUCTION**

- I.     DEFINING IEL
- II.    THE ORIGINS OF IEL
- III.   STOCKHOLM: IEL'S MODERN TURN
- IV.    AFTER STOCKHOLM: CONSOLIDATION
- V.     TOWARD COHERENCE: REALIZING IEL

### **INTRODUCTION**

Modern international environmental law, the body of obligations between states directed to environmental protection and conservation, emerged in the second half of the 20<sup>th</sup> century and has a central place in international relations. From a handful of principles, including the rule against transboundary pollution, international environmental law (IEL) is now directed to complex remedial and environmental amenity restoration, and imposes considerable implementation and compliance costs, social and governmental, on states. IEL's progress to a kind of idealized maturity, a point of assured environmental protection, remains incomplete. That is because IEL is only slowly integrating across matters of collective regulation by states and has not yet extended to many underlying environmental problems from adverse impacts caused by human activity. An example of these two aspects of such progress is anthropogenic climate change: Measures collectively agreed by states to address greenhouse gas emissions have required decades of cooperative work and law-making attempts, with only recently some prospect of a reversal. Despite the challenges for IEL this chapter argues that this branch of international law is proving successful. In a brief span of time, humanity has acquired the

capacity to understand complex problems of environmental protection and create legal responses to them.

This chapter assesses IEL's evolution, current state and near-term progress. The relevance of an evaluating exercise to the Arctic which has only recently received and has few environmental protection rules specific to it is evident. A part of the analysis includes IEL's historical development toward what is now a substantial treaty form. The impediments to the law's evolution, or maturation, are considered to identify useful cohering features, ones to be applied for the law's successful implementation in the Arctic. Issues of IEL's development are examined, including the role of custom, the idea of *constitutiveness*, i.e. directing norms to organize and develop the law, and the problem of fragmentation. The chapter defines IEL before it turns to how the law has emerged in recent decades as a partly ordered system consisting of multiple norms.<sup>1</sup> It is argued that IEL is not finished its evolutionary course and continues to be created with remedial orientation disparately across treaties.

## I. DEFINING IEL

A threshold problem of assessing IEL's present state is the absence of an accepted definition. This is a question of subject matter boundaries: *What does IEL encompass and how does it overlap in its objects with other areas of international law as a whole?* What is referred to in this chapter as modern IEL emerged rapidly in response to numerous human activities, and would impose economic and sovereignty consequences on states that otherwise preferred to avoid the law's more onerous demands. Drawing a boundary around IEL, i.e. defining those

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<sup>1</sup> The large number of what can be called *international environmental regulatory projects*, finding form as bilateral and multilateral treaties, discussed below, has fostered normativity. But actually realized normativity in the receipt and meaningful implementation or compliance with IEL rules, discussed in Chapter 5, is not always capable of precise measure.

What is called *modern IEL* – the substantive and governance rules for environmental protection and related resource uses among states – emerged in the second half of the 20th century. The 1972 Stockholm Convention on the Environment and Human Development is a useful marker of this modernity because of civil society awareness – with a locus in Global North countries – that attended it and a resulting creation of IEL rules and agreements.



activities it creates obligations for, is a necessary step toward examining its development and performance. We can start by asking a fundamental question of law, namely, the characteristics and results desired of IEL. Kelsen's suggested categories to regulate human conduct through law are helpful because IEL is a governance response to the impact of human activities in a physical world. These are categories of spatial, temporal, material and subjects of law.<sup>2</sup> An idealized IEL is a collective project to govern the conduct of states and their agents in the physical realm, to account for and most often limit the adverse material consequences of human existence. In other words, the activities of states and their peoples, together with their relationships, have implications for environmental protection in a wide-ranging sense.

The canon of environmental protection subjects and activities are what can be called the *core materialities* of conservation, divided into three categories: (i) the maintenance of natural amenities (including resources) from depletion and for long term yield; (ii) a mitigation of adverse impacts on the environment; and (iii) an avoidance of consequences for human health caused by activities in the physical world. An appropriate definition of the environment itself which seems to fulfill the characteristics of what IEL as a whole regulates can be found in the 1993 Lugano Convention, which holds that the environment includes "natural resources both abiotic and biotic, such as air, water, soil, fauna and flora and the interaction between the same factors [*sic*]; property which forms part of the cultural heritage, and the characteristic aspects of the landscape."<sup>3</sup> This definition is similar to a widely-accepted one of the 1992 *Convention on Biological Diversity*. The CBD is an instrument directed to a wholesale conservation of the "biosphere" which includes "living organisms from all sources" and

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<sup>2</sup> Hans Kelsen, *Pure Theory of Law*, 2d ed., trans Max Knight (Berkeley, CA: University of California Press, 1967). For an assessment of Kelsen's legacy, see John Gardner, Leslie Green and Luis Duarte de Almeida, *The Pure Theory of Law Revisited: The Jurisprudence of Hans Kelsen* (Oxford: Oxford University Press, 2013).

<sup>3</sup> *Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment* (21 June 1993), ETS 150, 32 ILM 480, Article 2(10) (the Lugano Convention), online: COE <<http://conventions.coe.int/Treaty/en/Treaties/Word/150.doc>>.

ecosystems as “a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.”<sup>4</sup> The *Convention on Environmental Impact Assessment in a Transboundary Context* (the Espoo Convention) is another broad-ranging point of reference, declaring the environment as “including human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interaction among these factors ...”<sup>5</sup> By suggesting principles for the obligations of states to the environment, the World Commission on Environment and Development (WCED) observed IEL’s role to “maintain ecosystems and ecological processes essential for the functioning of the biosphere ... preserve biological diversity, and ... observe the principle of optimum sustainable yield in the use of living natural resources and ecosystems.”<sup>6</sup> The World Charter for Nature is also prescriptive of environmental responsibilities of states, offering an ethical code rooted in the intrinsic worth of nature, with “all areas of the earth, both land and sea” to be subjected to “principles of conservation”.<sup>7</sup>

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<sup>4</sup> *Convention on Biological Diversity* (5 June 1992) 1760 UNTS 79 (in force 29 December 1993) (the CBD). The CBD was a product of the 1992 UN Conference on Environment and Development (UNCED, the Río Conference) Agenda 21 principles for sustainable development which did not contain a definition of the environment, instead addressing several subjects of humanity’s engagement with the natural world. UNCED, *Agenda 21: The United Nations programme of action from Rio* (New York, NY: United Nations, 1993) (Agenda 21).

For a commentary about the defining of IEL, see Stakeholder Forum for a Sustainable Future, *Sustainable Development in the 21<sup>st</sup> Century (SD 21): Review of implementation of the Agenda 21 and Rio Principles* (UN Department of Economic and Social Affairs, 2012), online: UNCSD <[www.uncsd2012.org](http://www.uncsd2012.org)>.

<sup>5</sup> *Convention on Environmental Impact Assessment in a Transboundary Context* (25 February 1991) 30 ILM 802 (in force 10 September 1997) (Espoo Convention), Article 1(viii), online: UNECE <<http://www.unece.org/env/eia/>>. The Convention’s definition of the environment was adopted in its 2003 Protocol for Strategic Environmental Assessment.

<sup>6</sup> “Summary of Proposed Legal Principles For Environmental Protection and Sustainable Development adopted by the WCED Experts Group on International Law”, Annex 1 to *Our Common Future: Report of the World Commission on Environment and Development* (1987), UN doc. A/42/427 (*Our Common Future*), online: UN Documents <<http://www.un-documents.net/our-common-future.pdf>>.

<sup>7</sup> World Charter for Nature (28 October 1982) UN doc. A/Res/37/7, online: UN <<https://www.un.org/documents/ga/res/37/a37r007.htm>>. The Charter prescribes five principles for conservation too general to have become IEL principles, although they were adopted as animating provisions of the CBD. The principles are notable for what they reveal about the ideals of the early years of modern IEL and the law’s progress since:

### ***Custom, treaty and remedial character***

IEL's form is now substantially as treaties. That result has been desirable and necessary but, as will be discussed, created impediments to the law's function and development. A now large number of treaties – of bilateral, regional (several party) and multilateral types – allows us to gauge how IEL developed and identify its scope, *i.e.* the matters regulated by a collective, negotiated approach of states. In accounting for the range of treaty topics, IEL's animating customary law principles stand out for two reasons. The first is that customary principles (as meta-animating rules) have not always been reduced to codification in treaties of universal application. The rules of customary international law for environmental protection and conservation could be reduced into a treaty, as a kind of agreement for the environmental responsibilities of states. The 1982 World Charter for Nature was an attempt in that direction. But the risk – and the idea of such a normative instrument has received limited debate in the years since – is being excessively general. The customary rule against transboundary pollution between states is an example. The threshold for invoking the rule is vague, a question of the apprehended pollution's "seriousness". What constitutes this is infinitely variable.

The second problem of customary law that explains why IEL is created by treaty is substantive, in that as a source of law it offered only a few principles to guide the conduct of states. The key principles, expressed as obligations are the following: (i) the duty against serious transboundary harm; (ii) the duty to notify of apprehended or likely environmental

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1. Nature shall be respected and its essential processes shall not be impaired.
  2. The genetic viability of the earth shall not be compromised; the population levels of all life forms, wild and domesticated, must be at least sufficient for their survival, and to this end necessary habitats shall be safeguarded.
  3. All areas of the earth, both land and sea, shall be subject to these principles of conservation; special protection shall be given to unique areas, to representative samples of all the different types of ecosystems and to the habitats of rare or endangered species.
  4. Ecosystems and organisms, as well as the land, marine and atmospheric resources that are utilized by man, shall be managed to achieve and maintain optimum sustainable productivity, but not in such a way as to endanger the integrity of those other ecosystems or species with which they coexist.
  5. Nature shall be secured against degradation caused by warfare or other hostile activities.

harm across a boundary; (iii) the duty of consultation in shared works and ecosystem areas where impacts are demonstrable; (iv) the equitable use of shared resources, especially in common settings; and (v) a general duty to conserve resources within the understood limits of sustainability. An arguably sixth customary duty, the obligation of states to conduct environmental impact assessment, has been slow to evolve.<sup>8</sup> Neither the acceptance and application of the precautionary principle (the great project of customary IEL) nor the rule to ensure sustainable development, have matured, *i.e.* come to be universally accepted by states.<sup>9</sup> Recent proposed measures to protect the atmosphere are an example: The International Law Commission's 2016 draft guidelines recommend that states "exercise due diligence ... to prevent, reduce or control atmospheric pollution and atmospheric regulation." This idealized obligation is accompanied by a guideline for prior environmental assessment where there may result "a significant adverse impact" and others for sustainable use, together with "equitable and reasonable utilization of the atmosphere."<sup>10</sup> Following the World Charter for Nature, a

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<sup>8</sup> The Espoo Convention, *supra* note 5 and some regional instruments that provide for EIA, after all are not universal. The gap has arguably been filled through discernment of a customary rule by tribunals such as the ICJ and the ITLOS. See the discussion *infra* at note 105.

"The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment." *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports 1996, para. 29.

See Günther Handl, "The Environment: International Rights and Responsibilities" (1980) 74 *ASIL Proceedings* 223, who suggests that the customary obligations of states pursuant to Principle 21 of the Stockholm Declaration (the sovereign right to exploit resources and the duty to not cause transboundary damage) extends to notice and consultation of potential adverse impacts.

<sup>9</sup> The precautionary principle has been adopted in a few resource agreements, *e.g.* the *Convention for the Conservation of Antarctic Marine Living Resources* (20 May 1980) 19 ILM 841 (in force 7 April 1982) (CCAMLR). The ITLOS concluded in its 2011 *Area* advisory opinion that adoption of the precautionary principle in environmental treaties was evidence of custom, causing the norm to accrete: "[T]his has initiated a trend towards making this approach part of customary international law [and under] article 31, paragraph 3(c), of the Vienna Convention, according to which the interpretation of a treaty should take into account not only the context but 'any relevant rules of international law applicable in the relations between the parties'." *Responsibilities and obligations of States with respect to activities in the Area*, Advisory Opinion, ITLOS Reports 2011, 10 at para. 135. See Tim Poisel, "Deep Seabed Mining: Implications of Seabed Disputes Seabed Chambers' Advisory Opinion" (2012) 11 *Australian International Law Journal* 213.

<sup>10</sup> International Law Commission, 68th session, "Protection of the Atmosphere" (10 June 2016), UN doc, A/CN.4/L/875, draft guidelines 3 – 6, respectively.

*constitutionalizing* instrument to identify and define customary IEL principles could have unintended consequences, entailing unforeseen adverse environmental impacts or avoidance behavior by states. IEL gains legitimacy and therefore an influence on states toward receipt, implementation and compliance through underlying norms long accepted by states as governing their conduct, and as implicit rules for the application of treaties. Of course, IEL treaties incorporate and occasionally give additional emphasis to customary law principles.<sup>11</sup> Examples include those for preservation of specific places and environmental features such as the Antarctic Treaty System, where the fisheries regime operates under the CCAMLR by the precautionary principle which does not otherwise feature much in treaties for other places.

Because environmental treaties contain much of IEL, they are a proxy for IEL as a whole when examining the law's limits and developmental progress. The landscape of IEL treaties – what they are directed to and the outcome that is to be achieved by the compliance of states – is distinctly remedial. The treaties reveal IEL as directed to attenuating and reversing adverse environmental impacts. The law offers few *a priori* rules to preserve the environment. Even in the form of conservation-oriented treaties, IEL is not often directed to some idealized setting-aside of nature to ensure its original existence or for aesthetic purposes. Such a restorative stance contrasts with international human rights law oriented to expand protective and participatory norms.<sup>12</sup> The leading remedial IEL instruments remain the pollution mitigation treaties. The treaties to address the reduction of mercury (the *Minamata*

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<sup>11</sup> Customary international law has benefitted from recent work of the International Law Commission, by a clarification of the elements needed to reveal the existence of such law. See "Identification of Customary International Law" UN doc. A/CN.4/L.873 (30 May 2016). States have been asked to comment (until 2018) on draft conclusions about what constitutes customary law. An important result for IEL is draft conclusion 11(1)(c): "A rule set forth in a treaty may reflect a rule of customary international law if it is established that the treaty rule [...] has given rise to a general practice that is accepted as law (*opinio juris*), thus generating a new rule of customary international law."

<sup>12</sup> For environmental law the experience of international human rights law is instructive. General instruments of global application are formally joined by many states because there is no coerced implementation of their norms and because the general expression of such norms can be pointed to as being complied with. See Oona A Hathway, "Do Human Rights Treaties Make a Difference?" (2002) *Yale Faculty Scholarship Series*, Paper 839.

*Convention*), persistent organic pollutants (the *Stockholm Convention*), greenhouse gases (the *UN Framework Convention on Climate Change*), and ozone depleting substances (the *Vienna Convention*) are designed to limit and eventually reverse these pollutants. They are less what can be called “rule sets” directed to underlying conditions which cause their pollutants to be created and enter the environment.<sup>13</sup> IEL’s treaty rules only occasionally direct safeguarding of nature for nature’s sake, even as the necessity of biodiversity preservation is increasingly accepted. An initial observation can therefore be made that a role for customary IEL is undeniable, as interstitial animating norms in the treaty landscape and idealized principles to guide behaviors desired of states (and others) toward the environment.

### ***An axial definition***

The treaty-remedial direction of a treaty-based IEL allows us to define the law along two axes, beyond a linear continuum having at one end a regulation of pollution and resource uses to, at the other end, rules for conservation that sometimes extend to outright preservation. These two notional axes result from the materialities above, namely: (a) regulation of environmental uses and impacts from allocation of resources ranging to idealized conservation-preservation; and (b) the extent to which quantifiable and realizable norms exist as rules to govern the conduct of states and sub-state actors. This should allow more accuracy in defining IEL’s scope or extent. It is evident that, when creating IEL, states have been concerned with problems they consider to be acute and needing directed remediation, e.g. globally distributed pollutants presenting human health consequences. By contrast, the pursuit of conservation for

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<sup>13</sup> An example of the limits of a remedial regime is the agreement South East Asian states to control air pollution from clearing of forests by fire. The agreement has arguably failed because the underlying cause, the need for space in forested areas for human activities, goes unaddressed. See David S Jones, “ASEAN and transboundary haze pollution in Southeast Asia” (2006) 4 *Asia Europe Journal* 431; DV Spracklen, CL Reddington and DLA Gaveau, “Industrial concessions, fires and air pollution in Equatorial Asia” (2015) 10 *Environmental Research Letters* 091001; and Koh Kheng-Lian, Nicholas A Robinson and Lye Lin-Heng, *ASEAN Environmental Legal Integration: Sustainable Goals?* (Cambridge, UK: Cambridge University Press, 2016). See the discussion of the effectiveness of the ASEAN air pollution regime *infra* at note 112.

an intrinsic preservation of nature commands much less interest, or at least commitment by states. Examining phenomena of IEL across the two notional axes can also reveal the law's progress. A topic for IEL's operation with little presence are the administrative norms to evaluate and reform the law.

In addition, a survey of IEL's reach across topical areas should expectedly reveal the state of customary IEL principles. This leads to reckoning the extent to which customary principles have been outpaced by IEL's treaties. If making IEL is worthwhile because the activity supports the rule of law and motivates states to commit to environmental protection, it should follow that a diminishing of custom's role is tolerable because of the making of IEL by treaty. Treaties, after all, are understood to more precisely regulate states' behavior and exist now as multiple expressions of rules for desired conduct.<sup>14</sup> Of course, in some IEL-governed matters, the reverse is true: By regulating activities through treaty rules we leave other matters without rules and fail to coordinate between treaty rule-sets when needed. Another approach to locating treaty and custom relative to each other in this definitional exercise is the temporal dimension. As noted in the previous section, custom operates *a priori* and with a foreseeability character to govern the anticipated behavior of states. In contrast, the majority of bilateral, regional and multilateral IEL treaties are restorative, to address existing problems.<sup>15</sup>

The *International Agreements Database Project* is a useful reference because it is the definitive catalog of bilateral, regional and multilateral environmental agreements.<sup>16</sup> Treaties are listed in the *Database* by the following topic areas: energy, freshwater resources, habitat,

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<sup>14</sup> There is the question of whether creating environmental rules by treaty is less efficient than recourse to other sources of law. However, the next best practical source is custom, time-consuming to develop and be accepted in specific matters such as the regulation of chemical pollutants.

<sup>15</sup> Conservation-preservation oriented treaties are discussed in Part IV below.

<sup>16</sup> IEL is a part of international law, sharing features of: (a) the collective action problem for states to identify matters to be captured as legal norms and resulting rules, (b) the capacity of states to receive and implement law, (c) questions of fairness and burden sharing in the design of legal rules and how states bear the costs of applying such rules, and (d) an absence of coordinating institutions to establish priorities for law-making, review (and reform).

nature, ocean, pollution, species, and weapons and the environment.<sup>17</sup> However, on the two axes of defining IEL - purpose and output – we need to classify treaties as having four remedial purposes, namely: (i) pollution responsive; (ii) resource use governing; (iii) conservation-preservation normative; and (iv) integrative-administrative. Respective examples of the four from multilateral IEL conventions are: (i) the UNFCCC; (ii) the ICRW whaling regime; (iii) the Ramsar Convention wetlands preservation scheme; and (iv) the Basel and Bamako Conventions for the movement and trade in pollutants. The advantage of this definitional approach is that disparities across IEL's subject areas are better revealed. This allows for custom's place in IEL to be identified, which has come to be as much a source of law as a means to reconcile principles that allow for commonality and uniformity across treaty IEL, and in the analysis of whether the law is capable of systemic application, *i.e.* of *cohering*.

The four categories illustrate how treaty IEL is oriented to short-term remedying of environmental problems on the basis of social, economic and resource-use interests. IEL treaties are routinely directed to accepted adverse impacts on human health (e.g. toxic pollutants), economic degradation (e.g. loss of commercial and food resources) and social expectation (e.g. impairment of valued natural features). IEL has by treaty – and less from custom – only recently started to address what can be called *environmental capital*, whether the ideal of a preserved natural environment or otherwise natural capacity for human consumption, or environmental quality for human social and economic interest.<sup>18</sup> Some

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<sup>17</sup> The extensive *International Environmental Agreements Database Project* classifies agreements as multilateral, bilateral, and "other": "The Project defines agreements as environmental if they seek, as a primary purpose, to manage or prevent human impacts on natural resources; plant and animal species (including in agriculture, since agriculture modifies both); the atmosphere; oceans; rivers; lakes; terrestrial habitats; and other elements of the natural world that provide ecosystem services". (Citation omitted.) See the IEA Database at: IEA Project <<http://iea.uoregon.edu/>>.

The *Database* lists 1248 multilateral IEL agreements created from 1857 until 2014. Bilateral agreements during the same period number 1598. These figures include subsidiary instruments such as protocols to treaties.

<sup>18</sup> The multilateral agreement being the *Convention on Biodiversity*, *supra* note 4. The sustainable development principle is arguably its policy analog.



multilateral treaties provide for the ideal of long-term assurance of environmental quality, e.g. that part of the *Stockholm Convention* to eliminate specific pollutants. The UNFCCC climate change regime can be included here because it seeks to maintain a functioning earth-atmosphere system by preventing a natural amenity from becoming permanently altered. It also seems, for conventional IEL to be agreed upon, environmental problems need sufficient scientific and political understanding. This was to be expected in the law's evolution after the Stockholm Conference, where the combination of needed scientific knowledge (e.g. in identifying acid rain as a pollutant) and chronic problems made it difficult for governments to respond.<sup>19</sup> It explains why sustainable development norms have yet to become common in IEL as wide-ranging rules. It also a reason why resource use treaties can shift in emphasis, by formal revision as well as informally, toward greater conservation.

In defining IEL's compass, the four treaty categories described above are recalled: (i) pollution responsive; (ii) resource use governing; (iii) conservation-preservation normative; and (iv) integrative-administrative – before being examined relative to each other and how they provide for sustainability, i.e. the assurance of environmental capital.<sup>20</sup> Defining IEL's

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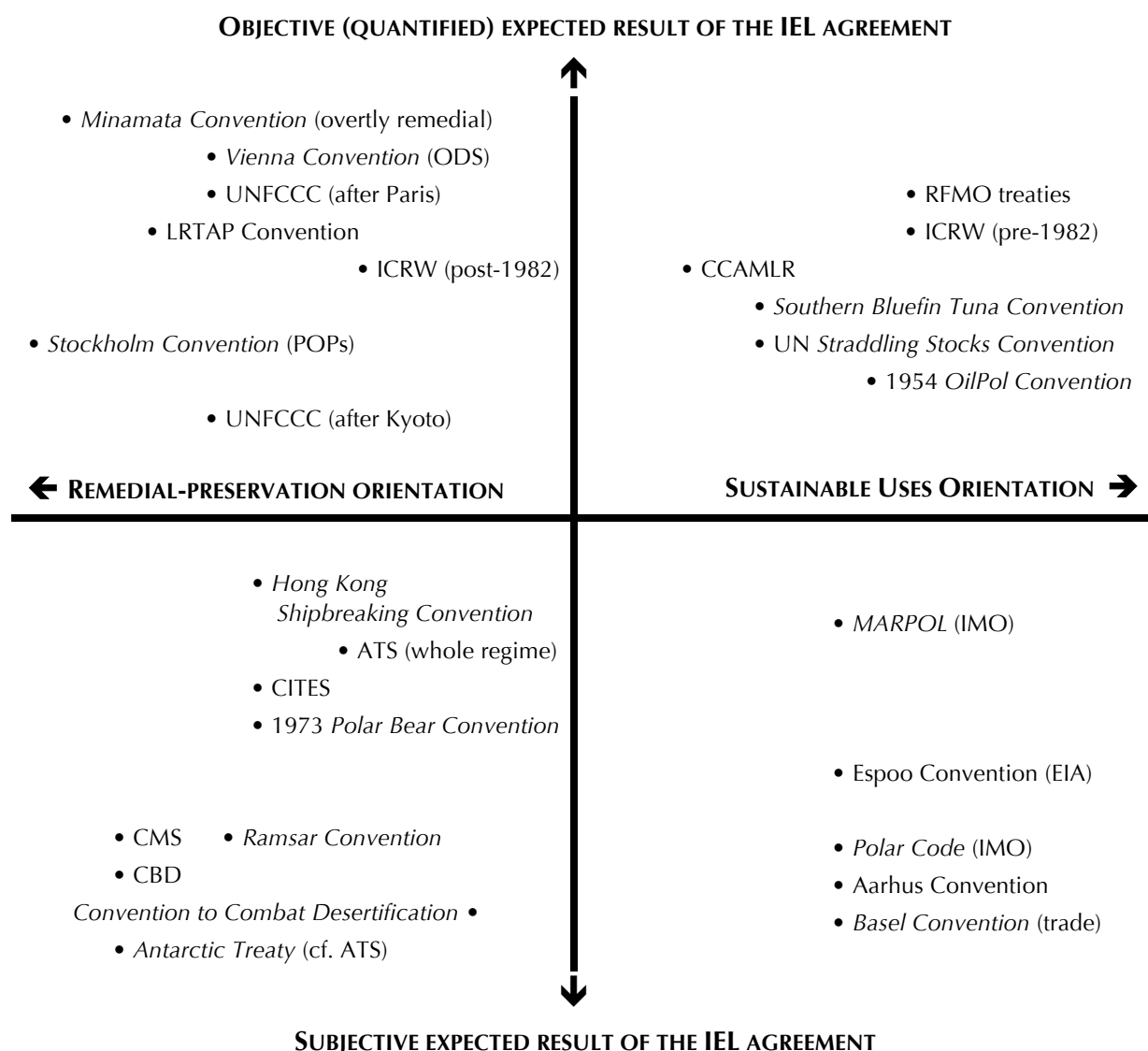
<sup>19</sup> Climate change is the environmental problem *par excellence*, its impacts now accepted because of an increase in knowledge and increasing costs to states. *UN Framework Convention on Climate Change* (9 May 1992) 1771 UNTS 107 (21 March 1994) (UNFCCC).

“In practice, we are still in the early states of developing the scientific basis, and the policy and finance mechanisms, for integrating natural capital into land use and other resource decisions on large scales. Relative to other forms of capital, assets embodied in ecosystems have been poorly understood and scarcely monitored, and are undergoing rapid, unchecked degradation. Natural capital and the ecosystem services that flow from it are typically undervalued – by governments, businesses and the public – and recognized only upon their loss.” Paul R Erlich, Peter M Kareiva & Gretchen C Daily, “Securing natural capital and expanding on equity to rescale civilization” (2012) 486 *Nature* 68 at 70.

<sup>20</sup> “Environmental capital” is capable of wide meaning. A suggested definition is the sustained, i.e. unimpeded, functioning of the Earth's ecosystem across its related elements. The advancement of IEL after Stockholm did not immediately need to address the goal of sustainable development as that concept was later expressed in after the WCED. Sustainable development as an idealized principle has arguably been limited to areas of environmental regulation and not what are increasingly understood as functional connections for operation of the “Earth System” as a whole. The Earth System was defined by the International Geosphere-Biosphere Programme as “earth's interacting physical, chemical and biological processes”, online: <www.igbp.net> and Lee R Kump, James F Kasting and Robert G Crane, *The Earth System*, 3d ed (San Francisco: Prentice Hall, 2010). Environmental capital can be thought of as the entirety of such amenities.

boundaries, recalling the limit of doing so through treaties, offers answers about its evolution since Stockholm. We can locate IEL topics ranging from remedying and preservation of the natural environment to the opposite, namely, the regulation of resource use between states. This continuum is shown as the horizontal axis in Figure I, below. The vertical axis illustrates IEL treaties on an objective-subjective span of the law's intended result, *i.e.* the extent to which prescriptions for action by states and also "output" can be discerned in the treaty as a rule-set.

**Figure I – Locating IEL's Subject Boundaries by Purpose and Intended Result**



For clarity, multilateral environmental agreements directly applicable, *i.e.* operating in the Arctic, and other ocean-related agreements for comparison, are shown in Figure I. The assumptions on which the model is premised must be explained. First, IEL should not be confused with the administrative features within treaties such as CITES and the Basel Convention. Administrative measures can be the basis for secondary rule-making which is useful for states to receive and implement IEL. A second assumption is concerned with IEL's temporal quality. This is meant to ensure the model accounts for changes to environmental law subjects over time that result from changes by the action of states or through judicial decisions or by the advent of new, related IEL agreements. Figure I illustrates the character of environmental rules through time by depicting the original *Antarctic Treaty*, with later instruments forming the Antarctic Treaty System (ATS).<sup>21</sup> Environmental protection evolved to be intrinsic to the ATS, most obviously by the acceptance of CCAMLR in 1982 and the Madrid Protocol in 1991.<sup>22</sup> Similarly, the example of the global scheme to regulate whaling is depicted before and after the 1982 decision of participating states end commercial whaling.

A third assumption for the depiction of IEL in Figure I is the need to include specialty, limited application treaties having ostensible global importance. Because they have roles in the Arctic, the MARPOL and *Polar Code* treaties are depicted in Figure I together with regional fisheries management treaties. In contrast, UNCLOS is not illustrated because of the extensive variety of rules prescribed by it. Moreover, while that treaty has important environmental protection provisions, it is permissive of resource uses. Some UNCLOS elements could singularly be shown in Figure I, but it is more useful to consider the Convention as animating

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<sup>21</sup> *Antarctic Treaty* (1 December 1959) 402 UNTS 71 (in force 23 June 1961). The ATS consists of the *Antarctic Treaty*; the *Convention for the Conservation of Antarctic Seals*, 1972; the *Agreed Measures for the Conservation of Antarctic Fauna and Flora*, 1982; the *Conservation of Antarctic Marine Living Resources*, 1982 (CCAMLR); and the *Protocol on Environmental Protection*, 1998 (the 1991 Madrid Protocol).

<sup>22</sup> Are the polar regions more important to the global environment than others? Maintaining ice-cover is intrinsic to regulating temperature and stable functioning of systems such as the atmosphere-ocean exchange. The law has yet to catch up to such imperatives.

discrete rules. In addition, where regional seas agreements, such as the OSPAR Convention, would be located on Figure I is unclear. These agreements are setting-specific, tailored to particular interests of a few coastal states.

Similarly, it is difficult to make general conclusions about treaties concerned with rivers, insofar as showing them on Figure I is concerned. Such treaties occupy the middle ground between resource-allocative IEL and more remedial instruments. “Waterway instruments”, given common interests in shared river situations, contain similar provisions and address the taking of water as resource and its conservation for wider purposes, including environmental amenities such as wildlife habitat. Those for the Nile River and the Tigris and Euphrates Rivers in Mesopotamia are examples.<sup>23</sup> Europe has numerous riparian treaties for a variety of purposes that have evolved in a common framework of “basin agreements” with the goal of reconciling industrial uses with environmental protection.<sup>24</sup>

In Figure I, the manner by which the range of quantitative to qualitative expressed output (the vertical axis) is defined is that of the relative specificity of rules. Where a treaty’s rules are prescribed in detail with ascertainable results and specific required actions, then the quantitative element is increased. This should not be taken to suggest that such IEL treaties are preferred or more successful in implementation. Nevertheless, it is evident that individual regimes such as those for pollution regulation can have the output required by their rules quantified. This is clear where such rules demand measurable reduction of prescribed chemicals, an elimination of them, and adoption of substitutes. A treaty regime can evolve over time, e.g. the UNFCCC-Kyoto-Paris example where changed areas of emphasis result in

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<sup>23</sup> Riparian agreements often have a frontier delimiting purpose and measures for navigation.

<sup>24</sup> Those for the Danube, Meuse (Maas), Mosel, Oder and Rhine being the leading examples. Their evolution was animated by the UNECE *Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (17 March 1992) 31 ILM 1313 (in force 6 October 1996). The “Water Convention” as it is known was amended in 2013 to allow non-European states to join after 1 March 2016. The 1997 New York *Convention on the Law of Non-Navigational Uses of International Watercourses*, in force in 2014, is an alternative, acceded to by some African and Latin American states.

more objectively required results.<sup>25</sup> An example from the process-administration area shown in the lower right of Figure I is helpful. On its own, the Espoo Convention – not an instrument of global application – imposes subjective requirements for states to engage in environmental impact assessment. The adoption in 2003 of the Convention’s Protocol on Strategic Assessment increased the quantitative aspect of this assessment regime by listing specific activities for assessment.<sup>26</sup> This would move the Convention higher on the vertical axis of Figure I, toward greater objective output driven by treaty rules.

It seems necessary to include natural resources-related treaties in the Figure 1 canon. While such agreements between states are concerned with allocating common resources for economic purposes, they have a secondary purpose to ensure conservation for long term yields. The ICRW, with its subsidiary Schedule that details annual whaling quotas, is an example. The reason to include resource treaties in Figure 1 is that there are only two such treaties for the global commons, namely the ICRW for listed species of large (formerly commercially exploited) cetaceans, and the UNCLOS Part XI rules for seabed mining which operate alongside the regulations of the International Seabed Authority. Leaving aside for the present the 1995 UN *Straddling Stocks Agreement*, no fisheries treaty or related governance regime operates globally. There is no coordinating or reconciling framework for larger regional ones, such as those for pelagic fisheries in the Pacific Ocean. For example,

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<sup>25</sup> The Kyoto regime required reductions in GHG emissions by developed states in the pursuit of a common result. The Paris Agreement provides for a “regime of result”, the limiting of global average temperature increase. See Daniel Bodansky, “The Paris Climate Change Agreement: A New Hope?” (2016) 110 AJIL 288. The limits of tolerable heat are becoming clear. See e.g. Eun-Soon Im, Jeremy S Pal, Elfatih AB Eltahir, “Deadly heat waves projected in the densely populated agricultural regions of South Asia” *Science Advances* (2 August 2017), e1603322.

<sup>26</sup> See Annex II to the Protocol on Strategic Environmental Assessment to the Espoo Convention, *supra* note 5. The Protocol opened for signature on 21 May 2003 and came into force on 10 July 2010. UNCLOS arguably prescribes a duty on states to conduct environmental impact assessments of significant potential impacts in a transboundary context. The lack of clarity in law about the requirement and threshold for states to conduct EIA, whether of domestic matters or to address possible transboundary pollution, is a problem. The 2001 ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities note a requirement for risk assessment in governmental decision-making. Most activities are not assessed. See John H Knox, “The Myth and Reality of Transboundary Environmental Impact Assessment” (2002) 96 AJIL 291.

Antarctica's CCAMLR regime has a strong conservation orientation and prescriptive quota allocation measures. ICCAT's governing framework for Atlantic tuna, by contrast, has no mechanisms which bind member states, although the presence of a continuing forum promotes cooperation that in turn should support regulation of national fleets on the high seas. Accordingly, resource treaties and related principles of customary law cannot be excluded from IEL's canon.<sup>27</sup>

The exercise of defining IEL reveals a few things of import to the law's application and regional development in the Arctic. As has been observed, customary rules are at a point of stasis and may not entirely reconcile or foster the coordination of rules across remedial treaties. A second conclusion is that IEL continues to be fragmented across topical or issue areas. (The phenomena of fragmentation is considered in Part V below.) It follows that there is limited opportunity for particular reconciliation of IEL in the Arctic, except the rejected approach of a coordinating instrument or otherwise by applying the law of the sea. Coherency in the law therefore needs incremental measures both in a practical pursuit of governance and in the design of the law itself, including at a secondary rule-making level in the Arctic.

## **II. IEL's ORIGINS**

IEL existed in tangible form sufficient to bind states to a few agreed behaviors in the centuries before a coordinated approach began at the 1972 Stockholm Conference. After the concept of the European nation-state emerged out of the Peace of Westphalia, there was little need for a shared acceptance of responsibilities for conservation of common resources or to have states commit to the very few norms of environmental protection.<sup>28</sup> Agreements between states and

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<sup>27</sup> An approach to the question of including resource treaties in the IEL canon is to account for the now numerous declaratory texts including the Stockholm Principles, UNCED's Agenda 21 and the 1982 World Charter for Nature.

<sup>28</sup> "International law, in short, was playing an increasing role in the day-to-day activities of states in the nineteenth century ... The states of the world could be said to form a community, too – of sorts.

the resulting emergence of principles that are now accepted as the foundation of IEL were arrived at on a case-by-case basis for the exploitation of natural resources.<sup>29</sup> Except for fisheries, no tangible pursuit of conservation measures between states or responses to globally occurring pollutants began until the 20<sup>th</sup> century. The increasing industrialization which the states of the Global North experienced beginning in the mid-1850s, along with greater resource extraction made possible by technology and the use of fossil fuel energy, marked a turning point in what would be asked of the law. In later decades until the turn of the century, states were slow to respond. There was not yet an identified need for negotiated (or any other) rules to govern commonly accepted impacts of human activity in the physical world. Only after the First World War did states have sufficient governance, interest and a scientific capacity to understand adverse environmental impacts could there be a shaping of norms for environmental protection beyond the allocation of natural resources for economic purposes.<sup>30</sup>

What we now regard as environmental treaties in the industrial era after 1850 had little to do with pollution prevention or meeting any concern that nature be conserved.<sup>31</sup> All were

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But it was not one that was characterized by the equality of its members. It became all too apparent that the positivist dogma of equality of states was subject to some important caveats. Equality was soon seen to be the preserve of the European states and their offshoots in the Americas. The states of the Middle East and Far East were second-class citizens. Much of the rest of the world was not even that, but was reduced to outright colonial status or to some form of 'quasi-sovereignty', in the terminology that became common." Stephen C Neff, *Justice Among Nations: A History of International Law* (Cambridge, MA: Harvard University Press, 2014) at 299.

<sup>29</sup> Consider 19th and 20th century fisheries treaties and the 1930s commercial whaling conventions. There were exceptions, including the efforts for conservation in trust of northern Pacific fur seals in the 1890s. The 1909 Paris Conference for the Protection of Nature was a transition but without much result. The 1913 agreement to establish a Consultative Commission for the International Protection of Nature did not survive the First World War. "During the first half of the twentieth century, governments hosted congresses in which they did not officially participate". Lynton Keith Caldwell, *International Environmental Policy: From the Twentieth to the Twenty-First Century* 3d ed. (Durham, NC: Duke University Press, 1996) at 50.

<sup>30</sup> See John McCormick, *Reclaiming Paradise: The Global Environmental Movement* (Indianapolis: Indiana University Press, 1991).

<sup>31</sup> Daniel Bodansky, *The Art and Craft of International Environmental Law* (Cambridge, MA: Harvard University Press, 2010), Chapter Two. On the eras of development of treaties in international law see Joseph H H Weiler, "The Geology of International Law – Governance, Democracy and Legitimacy" (2004) 64 *Heidelberg Journal of International Law* 547. "Towards the end of the century, in

bilateral agreements and primarily dealt with the division or regulation of resources between states, routinely near their territories, especially for fisheries and marine mammals. Examples include the 1867 France/Great Britain fisheries treaty, the 1892 Bering Sea fur seals convention, a 1902 convention for birds useful to agriculture and the 1946 *International Convention for the Regulation of Whaling*.<sup>32</sup> The 1913 Berne treaty for international environmental cooperation, the *Act of Foundation of a Consultative Committee for the International Protection of Nature*, illustrates the shared concern to preserve common pool resources.<sup>33</sup> Seventeen European and South American states committed to “collecting and classifying and publishing” information about the “international protection of nature”, as well as promoting such measures.<sup>34</sup> (The creation of the International Union for the Protection of Nature in 1948, later the IUCN, would realize these intentions.) The events marked the start of a shared international regard for environmental protection.<sup>35</sup>

IEL’s defining moment during the 1920s was the commitment of the League of Nations to examine norms for conservation and resource preservation. In proposing that international law for the environment be codified, a starting point was the idea of preserving ocean resources by agreement. In 1926 the League accepted the recommendations of its rapporteur, M. José León Suárez, who articulated the problem of overfishing:

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addition to the bilateral, multilateral and constitutional layers of law-making, one detects the emergence, or thickening, of a fourth layer ... a regulatory layer.” *Ibid.* at 549.

<sup>32</sup> *Convention Between France and Great Britain Relative to Fisheries* (11 November 1867) 21 IPE 1 (in force 18 January 1868); *Convention Between the Government of the United States of America and the Government of Her Britannic Majesty for the Renewal of the Existing Modus Vivendi in the Bering Sea* (18 April 1892) 4 IPE 3656; *Convention for the Protection of Birds Useful to Agriculture* (19 March 1902) 4 IPE 1615 (in force 20 April 1908) (see also the *Provisional Fur Seal Treaty*, 1942 156 UNTS 363 and the 1957 North Pacific fur seals treaty); *International Convention for the Regulation of Whaling* (2 December 1946) 161 UNTS 72 (in force 10 November 1948).

<sup>33</sup> 19 November 1925, 4 IPE 1638. The Commission did not meet again for many years after 1913.

<sup>34</sup> Article 6, *ibid.*

<sup>35</sup> See the constituting text of the Union in *Summary Report of the Conference at Fontainebleau* (Gland: IUPN, 1948) 16, The preamble defines protection of nature as the “preservation of the entire world biotic community, or man's natural environment, which includes the earth's renewable natural resources of which it is composed, and on which rests the foundation of human civilization”.



To save this wealth [the riches of the sea], which, being to-day the uncontrolled property of all, belongs to nobody, the only thing to be done is to discard the obsolete rules of the existing treaties, which were drawn up with other objects, to take a wider view, and to base a new jurisprudence, not on the defective legislation which has failed to see justice done but on the scientific and economic considerations which, after all the necessary data has been collected, may be put forward, compared and discussed at a technical conference by the countries concerned. In this way a new jurisprudence will be created of which today we have no inkling, owing to the fact that the necessity which now arouses our legitimate apprehensions was never contemplated.<sup>36</sup>

Nature's *conservation* from excessive exploitation and preservation for aesthetic value – something that overlooked the perspectives of Indigenous peoples – influenced some states in these early decades of the 20<sup>th</sup> century. It was the increasing understanding and shared acceptance among states which shifted treaty-making from resource allocation to the first purpose-directed conservation agreements such as the 1951 *International Plant Protection Convention*.<sup>37</sup> However, treaties in the years after 1945 continued to be about ocean and riparian fisheries, and for the governance of boundary rivers.<sup>38</sup> They were instruments of limited local scope that contributed only incrementally to advancing custom as a source of environmental protection norms.<sup>39</sup>

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<sup>36</sup> League of Nations – Committee of Experts for the Progressive Codification of International Law, “Exploitation of the Products of the Sea” in (1926) 20 AJIL 230 at 236. Suárez’s recommendations for conservation measures were largely unrealized until the 1995 *Fish Stocks Agreement* under the UN *Convention on the Law of the Sea*. See Gordon R Munro, “The United Nations Fish Stocks Agreement of 1995: History and Problems of Implementation” (2001) 15 *Marine Resource Economics* 265.

<sup>37</sup> *International Plant Protection Convention* (6 December 1951) 150 UNTS 67 (in force 3 April 1952). The 1954 Oilpol Convention for marine pollution avoidance was arguably a conservation agreement: *International Convention for the Prevention of Pollution of the Sea by Oil* (12 May 1954) 327 UNTS 3 (in force 26 July 1958).

<sup>38</sup> See the multilateral and bilateral treaty lists for the period 1940-59 at the *International Environmental Agreements Database Project*, *supra* note 17. The *International Convention for the Protection of Birds* (18 October 1950) 638 UNTS 185 (in force 17 January 1963) was an exception. Consensus had been building since the 1909 Paris Conference for an agreement that would bind states to prevent problematic taking of birds. The Convention was the first with a provision for animal welfare, in its Article 5 provision against “unnecessary suffering” in the killing or capture of birds.

<sup>39</sup> From the 1909 Paris Conference until the 1958 UN Law of the Sea Conference, environmental treaty making was episodic and mostly between industrial states of the Global North. A colonial attempt at conservation in Africa was the 1933 *Convention Relative To The Preservation Of Fauna And Flora In Their Natural State* (8 November 1933) 162 LNTS 73 (in force 14 January 1936). It was a wildlife conservation treaty in the full sense, creating “national parks” and “strict natural reserves” while

The 1958 Geneva Conference on the Law of the Sea and the *Antarctic Treaty* were a watershed in the perceived necessity to direct treaty provisions to environmental protection in a wholesale sense. A new period in rule-making by agreement among states for the environment had begun.<sup>40</sup> Treaties with global application would now be negotiated because states recognized the need to “adopt ... such measures ... as may be necessary for the conservation of the living resources” of an entire continent – Antarctica – and the oceans.<sup>41</sup> The treaties established that conservation could be pursued even when it could restrict states’ economic interests. The 1960s saw states agree to a few multilateral and bilateral treaties, again ones for fishing, riparian uses, and local whaling arrangements, but also for liability for accidental nuclear releases. Treaties of global application had yet to be conceived, except to create the International Commission for the Conservation of Atlantic Tunas in 1996. While there were no obvious developments in customary law for environmental protection, there was a consensus among states for advancement of international law as a whole. This can be seen in the acceptance to bring disputes to the International Court of Justice, including reference cases by the UN General Assembly, and the International Law Commission’s work to create the *Vienna Convention on the Law of Treaties*.<sup>42</sup>

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prohibiting the taking of 17 listed species. The Convention was superseded by another in 1968. For a criticism of colonial conservation in 20th century Africa, see Joachim Radkau, trans Patrick Camiller, *The Age of Ecology: A Global History* (Malden, MA: Polity Press, 2014) at 71.

<sup>40</sup> *Convention on Fishing and Conservation of the Living Resources of the High Seas* (29 April 1958) 559 UNTS 285 (in force 20 March 1966), and *Antarctic Treaty*, *supra* note 21. The treaty did not specifically prohibit exploitation of natural resources on the Antarctic continent. Fishing in the Southern Ocean continued unrestricted until CCAMLR in 1982, *supra* note 9.

<sup>41</sup> *Convention on Fishing and Conservation of the Resources of the High Seas*, *ibid.* Article 2(2). The obligation came with affirmation of the right of states to fish the high seas, in Article 2(1).

<sup>42</sup> See *South West Africa, Second Phase*, Judgment, ICJ Rep. 1966, 6 and *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) Notwithstanding Security Council Resolution 276 (1970)*, Advisory Opinion, ICJ Rep. 1971, 16; *North Sea Continental Shelf*, Judgment, ICJ Rep 1969, 3; *Barcelona Traction, Light and Power Company Limited*, Judgment, ICJ Rep 1970, 3.

*Vienna Convention on the Law of Treaties* (23 May 1969) 1155 UNTS 331 (in force 27 January 1980) (VCLT).

During the 1960s social concern about the state of the environment and the risks to humanity from industrial development grew, and was a clear impetus for states to pursue a coordinated approach.<sup>43</sup> The problems of humanity's relationship with the natural world were becoming rooted in the popular consciousness of developed societies, reinforced by events such as the 1967 stranding of the oil tanker *Torrey Canyon* and nuclear weapons proliferation.<sup>44</sup> Toward the end of the decade, there was sufficient agreement between states to work through the UN General Assembly in preparation for the 1972 Stockholm Conference.<sup>45</sup> IEL had not yet been thought of a discrete body of law that could regulate activities with implications for humanity such as the sustainability of resources.

The period from 1945 until 1972 resulted in the expansion of legal topics and norms. This was a time of the post-colonial creation of states, an ordering of international relations under a UN *Charter* that prescribed sovereign equality and territorial integrity, and an increasing use of law between states. With these events came greater specificity in law for particular activities and a greater acceptance that the scope of sovereign behaviors could be restrained by agreement.<sup>46</sup> An example is the ILC's work to create the *Vienna Convention on*

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<sup>43</sup> This period of civil society response to environmental problems states can be traced partly to Rachel Carson's *Silent Spring* published in 1962. Joachim Radkau characterizes an emergent ecological social understanding at the end of the decade as the "great chain reaction". *The Age of Ecology*, *supra* note 39 at 79. "All in all, there is much evidence that the 'ecological revolution' in and around 1970 marked a real turning point, not a pseudo event." *Ibid.* at 90. See also Frank Zelko, *Make it a Green Peace: The Rise of Countercultural Environmentalism* (Oxford: Oxford University Press, 2013) and Paul Wapner, *Environmentalism and World Civic Politics* (Albany, NY: State University of New York, 1996).

<sup>44</sup> *The Treaty on the Non-Proliferation of Nuclear Weapons* was negotiated in 1968; (1 July 1968) 729 UNTS 161 (in force 5 March 1970). The requirement to eliminate nuclear weapons was the subject of a 2014 case by the Marshall Islands against some nuclear equipped NPT member states; India, Pakistan, and the United Kingdom. In 2016 the Court determined that no dispute existed, the Marshall Islands not having first engaged the respondent states. See *inter alia*, *Obligations concerning Negotiations relating to Cessation of the Nuclear Arms Race and to Nuclear Disarmament (Marshall Islands v. United Kingdom)*, *Jurisdiction and Admissibility, Judgment*, ICJ Rep 2016, 833.

<sup>45</sup> UN General Assembly Resolution 2398 (XXIII), "Problems of the Human Environment" (3 December 1968). The Resolution called "for intensified action at the national, regional and international level in order to limit and, where possible, eliminate the impairment of the human environment [and] to protect and preserve the natural surroundings in the interest of man". *Ibid.*, Preamble.

<sup>46</sup> A useful term for deepening norms of international law is *concretization*. See Erika de Wet, "The International Constitutional Order" (2008) 55 ICLQ 51. "[A]n elaborate system for human rights

*the Law of Treaties*, which would later allow for certainty when large-scale environmental (and other) treaty-making was about to begin.<sup>47</sup> For its part, the UN General Assembly could underscore legitimacy for law's projects by initiating such things as the negotiation of UNCLOS while offering a discursive space for collective appreciation of problems needing legal rules.<sup>48</sup> However, even the most important of projects – human rights – was slow to be implemented across the organized international community. States will accept a reduction of sovereign discretion and autonomy in their relationships with other states only to a point.<sup>49</sup> For an identifiable IEL to emerge there first had to be a consensus about its desired objectives. This would entail the cooperation manifested at Stockholm in 1972.

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protection was created within the UN Charter system, as well as within regional and/or (other) functional regimes. These protection mechanisms and the concretization of the norms in question resulting from them, in turn significantly contributed to the recognition of the *erga omnes* character and, in some instances, even peremptory status of human rights norms. Within the UN Charter system the concretization of human rights norms has occurred, in part, through the activities of the principal organs of the United Nations itself." *Ibid.*, at 57, footnote omitted.

<sup>47</sup> VCLT, *supra* note 42. The connection between the VCLT, at first in the form of the ILC's mid-1960s recommendations and the growth in treaties of all kinds especially multilaterals, was inescapable. Treaties for states to participate in organizations or schemes had long existed, but only recently did states pursue them for obligations directly beneficial to civil society in such matters as human rights.

<sup>48</sup> The United Nations Environment Programme, UNEP, fulfils the UN's present managerial role for the environment. There is no equivalent organization for oceans matters, the function delivered partly by the UN Division for Ocean Affairs and the Law of the Sea, meetings of states parties to UNCLOS, and occasional General Assembly arranged consultative processes on the law of the sea.

An example of increasing state participation in environmental protection matters in the international community, a kind of pluralism that had a parallel in human rights law and policy, can be seen in the opening of whaling governance to non-whaling states and influence of the NGOs after the Stockholm Conference. This increased participation ensured a near global ban on commercial whaling. See Jeffrey Smith, "A Double-Edged Harpoon: The Trial of Science in the Antarctic Whaling Case before the International Court of Justice" (2014) 28 *Ocean Yearbook* 445.

<sup>49</sup> IEL entails modest *compromised sovereignty* for states because of the constraints to physical and economic activity assumed when the agreeing to environmental protection obligations. On why states accept international regulation, see Abraham Chayes and Antonia Handler Chayes in *The New Sovereignty: Compliance with International Regulatory Instruments* (Cambridge, MA: Harvard University Press, 1995). Changes in international responsibility of states for human rights and environmental protection is discussed by Antônio Cançado Trindade, *International Law for Humankind: Towards a New Jus Gentium* (Leiden: Martinus Nijhoff, 2010).

### III. STOCKHOLM: IEL'S MODERN TURN

The Stockholm Conference marked the start of the current era of international environmental law making. The Conference's origins lay in the 1968 recommendation of the UN Economic and Social Council that states should meet to consider "the problems of the human environment."<sup>50</sup> The same year, the UN General Assembly declared the "need for intensified action ... to limit and, where possible, to eliminate the impairment of the human environment".<sup>51</sup> However, the goal of the 1972 conference was open-ended, with no specific result intended: "At its second session the Preparatory Committee of the Conference agreed that the declaration should be inspirational and concise and it entrusted a Working Group with the task of drafting the text ... The principles formulated were of a programmatic character rather than texts susceptible of transformation into legal language."<sup>52</sup>

Even as the Stockholm Conference marked the consensus toward collective measures for environmental protection, its recommendations would take time to be realized. Problems of environmental degradation in matters ranging from the global transport of toxic pollutants to desertification were increasingly understood. But there was not yet a project for a sustained and integrative approach to fashioning IEL. The treaties and customary obligations for such an objective continue today to be incomplete, including for the law's administration, reform and

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<sup>50</sup> The phenomena included the increasing understanding of widely transported air and water pollution, and concern about nuclear technology. See Economic and Social Council Resolution 1346 (XLV), "Questions Relating to Science and Technology" (30 July 1968). The origins of popular concern for the environment were equally about conservation and pollution causing a "continuing and accelerating impairment of the quality of the human environment". The stated goal (or ideal) was "to protect and preserve the natural surroundings in the interest of man." *Ibid.*, preamble.

<sup>51</sup> UN General Assembly Resolution, "Problems of the human environment", *supra* note 45.

<sup>52</sup> Hans Blix, "History of the Stockholm Declaration" in Myron H Nordquist, John Norton Moore & Said Mahmoudi, eds, *The Stockholm Declaration and Law of the Marine Environment* (Leiden: Martinus Nijhoff, 2003) 15 at 16. "No one ever advocated that the Declaration should be binding, but there were differences as to how much of a governmental commitment it should carry ... There were of course, at the time, specific reasons why many governments wanted to downplay certain commitments." *Ibid.* at 17.

efficient implementation by states.<sup>53</sup> All the same, Stockholm was a clear turn in defining and creating law for environmental protection. The 26 summary principles that resulted from the Conference encompassed an entirety of ideals and problems thought to need collective action among states.<sup>54</sup> Some principles were directed to creating new IEL rules through identifying priorities and giving legitimacy for formalized environmental governance. Others were pursued immediately such as when UNCLOS negotiations opened in 1973:<sup>55</sup> “During the twenty years that followed the Stockholm Conference and even after, the development of treaty law tending to protect the environment was essentially guided by the Declaration.”<sup>56</sup> Others languished, too costly to achieve or perceived by states to limit resource exploitation and constrain their sovereignty.<sup>57</sup>

In addition to a catalog of normative ideals, Stockholm ensured a foundation for IEL’s two important determinants: (a) consensus among states, *i.e.* an understanding of the need to engage commonly shared problems; and (b) the creation of organizations to pursue specific development of international environmental governance, leading to the multilateral treaties that comprise much of IEL today.<sup>58</sup> Among the post-1972 institutions, the UN Environmental

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<sup>53</sup> What can be called IEL’s multilateral administrative treaties, the Espoo Convention for environmental impact assessment and the Aarhus Convention for public participation in environmental decision-making are discussed below. No regime exists for states to disclose information about other than serious transboundary environmental problems, although individual chemical pollutant and some regional treaties contain such measures. Espoo Convention, *supra* note 5 and the *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters* (25 June 1998) 2161 UNTS 447 (in force 30 October 2001) (Aarhus Convention).

<sup>54</sup> Declaration of the United Nations Conference on the Human Environment (16 June 1972), UN doc A/Conf.48/14/Rev. 1(1973); (1972) 11 ILM 1416 (the Stockholm Principles).

<sup>55</sup> Principle 7, prevention of marine pollution, was most relevant to UNCLOS, followed by Principles 4 (wildlife management) and 24-25 (cooperation of states).

<sup>56</sup> Alexandre Kiss, “The Destiny of the Principles of the Stockholm Declaration” in *The Stockholm Declaration and Law of the Marine Environment*, *supra* note 52, 53 at 55.

<sup>57</sup> Principle 6 is an example: “The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of ill countries against pollution should be supported.”

<sup>58</sup> Alexandre Kiss contends that the Stockholm Declaration Principles were translated into treaties for air pollution control, protection of inland waters, protection of wild flora and fauna, and marine

Programme has been a platform for identifying problems and negotiating legal responses to them, and the pursuit of improved capacity in states to implement their obligations. While UNEP was not given a standard-setting or regulatory role, it has succeeded with initiatives that resulted in greater application of the law. Examples include the regional seas program, and responses to singular problems, such as the 2013 *Minamata Convention on Mercury*.<sup>59</sup> The acceptance of organizations as clearing-houses among states for environmental protection matters was accompanied by the creation of administrative centers – secretariats – in existing environmental and resource treaty organizations, e.g. the Antarctic Treaty Secretariat. The creation of standing organizations to administer IEL treaties found a basis in post-Stockholm multilateral conventions, for example for the trade in endangered species (CITES) and regulation of greenhouse gas emissions, the UNFCCC.<sup>60</sup> The expansion of IEL as a whole was reinforced in transnational civil society by a rise in activities of non-governmental organizations, such as the IUCN and Greenpeace International. Moreover, in some environmental matters, because of their complexity, the delegation of environmental rule-making by states to international organizations began. Leading examples include the International Maritime and International Civil Aviation Organizations because of the regulatory burden on individual states and commercial nature of global transportation.<sup>61</sup>

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pollution, *supra* note 52 at 65. However, some principles were general in nature and already had a basis in customary international law, and would therefore have found inevitable expression.

<sup>59</sup> *Minamata Convention on Mercury* (10 October 2013) XXVII UN Treaty Collection 17 (in force 16 August 2017). The Convention is linked to energy production in developing states by its measures to reduce mercury emissions from combustion of coal. This is why it received extensive acclaim but initially limited ratification. The Convention came into force 90 days after its fiftieth ratification. Negotiations for it were administered by UNEP.

<sup>60</sup> Core environmental protection treaties such as CITES and the CBD, and global commons resources treaties including for regional fisheries management, arguably became too complex for governance through meetings alone of the parties, as had been the experience of the IWC until 1972. Article 24 of the *Minamata Convention* provides for a secretariat administered by UNEP.

<sup>61</sup> States achieve what can be called common pool regulation-making efficiency through the IMO and ICAO because of the complexities of ships and aircraft and, by their participation, legitimacy for what nationally-based industries do beyond their jurisdictions. An example is port state control of ships registered states that are perceived to themselves have implemented environmental protection rules.

Stockholm did not immediately generate suggestions for codification and treaty responses to identified problems, except Principle 22, which was an exhortation that the law be developed to better provide for liability and compensation regimes for “the victims of pollution”. However, a few principles captured or reformulated accepted customary obligations, e.g. Principle 21’s prohibition of serious transboundary pollution and the requirement of states to exercise due diligence to avoid it. Decades later, it is not clear that Stockholm’s legacy was a catalyst for an identifying of norms that could be reduced to legal rules for international and domestic settings alike. But the Conference was an indispensable vehicle to identify priorities for the law, borne of social concern for environmental protection. States could now more readily accept the desirability of Principles 1 and 21 of the Stockholm Declaration, respectively, a right of peoples to environmental quality and the requirement that states avoid damage to the environment beyond their borders. Principle 11 advanced the idea of common but differentiated responsibility between developing and developed states.<sup>62</sup> The arrival of sustainable development as a policy goal can be seen in Principle 3.<sup>63</sup> The precautionary principle is manifested in Principle 5.<sup>64</sup> The three would inform IEL’s development in later decades. In contrast, Stockholm’s ideal of liability and compensation

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<sup>62</sup> “The environmental policies of all States should enhance and not adversely affect the present or future development potential of developing countries, nor should they hamper the attainment of better living conditions for all, and appropriate steps should be taken by States and international organizations with a view to reaching agreement on meeting the possible national and international economic consequences resulting from the application of environmental measures.” Stockholm Principles, *supra* note 54.

<sup>63</sup> CCAMLR as a regional fisheries treaty exemplifies the adoption of Principles 3 and 5. The UN *Framework Convention on Climate Change* illustrates the problem of achieving common but differentiated responsibility (CBDR). A successful example of CBDR resulting from the seriousness of the problem, an available technical solution and funding for developing (Global South) states is the *Vienna Convention for the Protection of the Ozone Layer* (22 March 1985) 1513 UNTS 293 (in force 22 September 1988).

<sup>64</sup> Respectively, “The capacity of the earth to produce vital renewable resources must be maintained and, wherever practicable, restored or improved.” And, “The non-renewable resources of the earth must be employed in such a way as to guard against the danger of their future exhaustion and to ensure that benefits from such employment are shared by all mankind.” Stockholm Principles, *supra* note 54.



regimes at Principle 22 has languished. Arrangements and treaties between states to address responsibility for adverse environmental impacts remain notably few in number.<sup>65</sup>

IEL's development after Stockholm would contend with three challenges. The first was a growing preference for the treaty to secure mutually agreed IEL rules between states. The rationale is that assumed environmental obligations fare better when negotiated as a text of agreed rules with a contractual approach. A second challenge continues to be the fragmentation or lack of synthesis across regimes, e.g. for species and habitat conservation for biodiversity, trade, and regional environmental regimes. A third problem has arguably been the impaired development of principles of customary environmental law. An example of this problem has been the slow journey of the precautionary principle. Where the principle has been adopted, it has been through limited and specific definition in a handful of regimes. Only with experience might a coherent customary IEL emerge that allows for better consistency across a law now heavily comprised of disparate treaty instruments.<sup>66</sup>

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<sup>65</sup> "During the following decade it became clear that due to the difficulty, in establishing the cause of environmental harm (especially in transfrontier relations), to the problems that the identification of the actor can raise, and to the uncertainties in the evaluation of the damage, no progress was to be hoped for." "The Destiny of the Principles of the Stockholm Declaration", *supra* note 56 at 62. Examples of limited progress toward voluntary assumption of liability regimes can be seen in the Madrid Protocol to the *Antarctic Treaty* and the International Law Commission's 2006 *Draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities*, UN doc. A/61.10. "The Liability Principles sent to governments for comment in 2004 and finally adopted with some revisions in 2006 are far from radical ... [and states are unwilling] to extend their own liability on a no fault basis." James Crawford, Alain Pellett and Simon Olleson, *The Law of International Responsibility* (Oxford: Oxford University Press, 2010) 99-104.

For a discussion of Principle 21 see Simon Tay, "Transboundary pollution in a global economy: general principles and problems in practice" in S Jayakumar *et al*, eds, *Transboundary Pollution: Evolving Issues of International Law and Policy* (Cheltenham, UK: Edward Elgar, 2015) at 36.

<sup>66</sup> It is not experience but evidence that states consider themselves bound by particular rules applied in practice. "Because CITES requires domestic implementation by parties to it, and because the overall level of compliance seems quite high, the general principles embodied in states' domestic endangered species laws may be relied upon as another source of customary law. Even apart from the CITES requirements, states that lack laws protecting endangered species seem now to be the clear exception rather than the rule. That there exists *opinio juris* as to the binding character of this obligation is suggested by the firm support given endangered species protection by the UN General Assembly and various international conferences (citations omitted). Michael Glennon, "Has International Law Failed the Elephant?" (1990) 84 AJIL 1 at 31.

#### IV. AFTER STOCKHOLM: CONSOLIDATION

IEL's development since 1972 has been the result of several phenomena, including increasing scientific knowledge, civil society apprehensions, greater resource consumption, and the preference of states to define governance agreements in treaty form. What may be thought of as a maturing of the law occurred over three phases after Stockholm: (i) emergence and consolidation of consensus among states until 1987; (ii) a pronounced treaty-making period from 1987 until 2004; and (iii) secondary treaty-making and the growth of administration since 2004.<sup>67</sup> The catalysts for transition to a succeeding period were the international conferences galvanizing states (and actors such as UNEP and leading environmental NGOs) to pursue new projects: WCED in 1987, UNCED (the Río Conference) 1992, and Río+20 in 2012. Each of these events was thought necessary at the time because of an increased understanding of environmental problems, such as acid rain and stratospheric ozone depletion in the 1970s, and climate change and globally transported chemicals in the 1980s.<sup>68</sup>

We should ask if IEL's development would have been different in the absence of global-scale initiatives to establish principles and priorities for action, for example the oft-cited Agenda 21 action plan which came out of UNCED in 1992. The causal linkages seem clear. States were motivated to participate in discrete *projets de loi*, because of a consensus on the issues and an acceptance that important matters should yield treaties. This is true of the era

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<sup>67</sup> International law-*generating* institutions can be assigned a taxonomy: courts and tribunals, the UN and its organizations such as the ILC, regional cooperative and treaty entities such as the European Union and the African Union, and international organizations such as the IMO and IUCN, and global animating meetings such as the Stockholm Conference. Non-state actors, *i.e.* individuals, sub-state entities and non-governmental organizations remain outside this pantheon.

<sup>68</sup> The tradition of global general environment conferences has been overtaken by a need to routinely meet in negotiation of the climate change regime including at the Copenhagen (2009), Durban (2013) and Paris (2015) UNFCCC conferences.

Social consensus in some societies for environmental protection and species conservation created a feedback loop of responsiveness by governments and thereby the commitment of such states. An example of social impetus for government action is the European Union's prohibition of imports of fur seal products from Canada and Norway on the basis of public morality rooted in animal welfare. See the decision of the WTO Appellate Body, *European Communities – Measures Prohibiting the Importation and Marketing of Seal Products*, WT/DS400/R; WT/DS401/R (22 May 2014).

after 1992 in which a large number of multilateral and bilateral IEL treaties were created. For all this, however, the path to a mature IEL for implementation by states and identifying matters needing attention continues to be incomplete.

### ***A frame of law emerges***

The shift of the organized international community toward environmental rule-making after Stockholm can be seen in a single example, the visit of the conference's secretary-general to the annual meeting of the International Whaling Commission (IWC) a short time later. At the meeting, ICRW states were reminded of Stockholm's resolution to conserve whale stocks and a call was made to change the international whaling regime to one of conservation.<sup>69</sup> This was the catalyst for the decision of ICRW states in 1982 to prohibit commercial whaling.

Following Stockholm, states concluded negotiations for the London Dumping Convention and the IMO's maritime pollution treaty, MARPOL.<sup>70</sup> A second aspect of the shift to create IEL in a more organized manner lay in the conflicts between states over coastal fisheries that had resulted from an expansion of claimed maritime areas, e.g. the dispute between Iceland and the United Kingdom.<sup>71</sup> The controversies of the era which galvanized public opinion toward

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<sup>69</sup> The resolution was one for a 10-year moratorium on whaling. In the result, the IWC (*i.e.* states party to the ICRW) adopted a program for a "decade" of whale conservation. See Sally Jacobsen, "Maurice F. Strong – Stockholm: A Year Later" (June 2003) *Bulletin of the Atomic Scientists* 35 at 39, and Peter J Stoett, *The International Politics of Whaling* (Vancouver: UBC Press, 1997) at 66.

<sup>70</sup> Both were remedially driven after the *Torrey Canyon* disaster. See *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter* (29 December 1972) 1046 UNTS 120 (in force 30 August 1975), superseded by its 1996 Protocol. And see *International Convention for the Prevention of Pollution from Ships* (2 November 1973) 1340 UNTS 184 (in force 2 October 1983) (MARPOL), amended notably by its 1978 Protocol.

<sup>71</sup> *Fisheries Jurisdiction (United Kingdom of Great Britain and Northern Ireland v. Iceland)*, Merits, ICJ Rep 1974, 3. The case arguably led to improved cooperation for conservation of ocean resources: "It is one of the advances in maritime international law, resulting from the intensification of fishing, that the former *laissez-faire* treatment of the living resources of the sea in the high seas has been replaced by a recognition of a duty to have due regard to the rights of other States and the needs of conservation for the benefit of all. Consequently, both Parties have the obligation to keep under review the fishery resources in the disputed waters and to examine together, in the light of scientific and other available information, the measures required for the conservation and development, and equitable exploitation, of those resources ..." *Ibid.* at para. 72.

greater environmental protection had an example in the ICJ case pursued by Australia and New Zealand against France for atmospheric nuclear weapon testing in the South Pacific after 1966.<sup>72</sup> The post-Stockholm decade culminating in the 1982 World Charter for Nature witnessed the emergence of multilateral treaties for environmental protection and conservation on a global scale. It marked the consolidation of IEL as conventionally-derived, even as the making of treaties was anything but systemic. Arguably, the most important outcome of this decade was to ensure that states would accept they could benefit from the negotiating of instruments for environmental protection.<sup>73</sup> The agreements started with the *Ramsar Convention on the Protection of Wetlands*, the *London Dumping Convention*, the *World Cultural Heritage Convention*, the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES), the *International Convention for the Prevention of Pollution from Ships* (MARPOL) and, in 1979, the *Convention on the Conservation of Migratory Species of Wild Animals* (the CMS), concluding with the *Convention on Long-Range Transboundary Air Pollution* (the LRTAP Convention). These treaties entailed considerable implementing work for states confronted with new commitments to internalize regulation more refined than the customary rule of “no serious resulting transboundary pollution”. Treaty-making was also pursued through regional agreements such as CCAMLR in 1982, and to protect the Baltic Sea in 1973 and the Mediterranean Sea in 1976.<sup>74</sup> There was an equal making of bilateral treaties concerned with resources and spatial management.<sup>75</sup> The legacy of post-1972 treaties was to

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<sup>72</sup> *Nuclear Tests (Australia v. France)*, Judgment, ICJ Rep 1974, 253 and *Nuclear Tests (New Zealand v. France)*, Judgment, ICJ Rep 1974, 457. The Court made no pronouncement about environmental obligations, accepting that France had committed to end atmospheric testing.

<sup>73</sup> But without litigation. That would emerge later and in a limited way, considering the number of environmental treaties and transaction between states manner. Territorial and resources cases would outnumber those for environmental protection. There were also fewer fora for the resolution of such disputes; *ad hoc* arbitral tribunals and the ICJ.

<sup>74</sup> The Baltic and Mediterranean Sea regional agreements were useful forerunners of the regional seas provisions of UNCLOS.

<sup>75</sup> Such treaties were numerous in Global North states. Few in any matter were concluded in Africa, the Indian subcontinent, the Middle East and South East Asia. The cause is apparent, and

give form to IEL. The treaties established governance structures necessary to achieve their goals, were remedial in focus and could evolve by amending mechanisms and decision-making meetings of states. Despite these advances, there was not yet an administrative scheme to consider the priorities for IEL or for treaty-making. There were also no measures in law to reconcile possible efficiencies and conflicts between IEL rules in the emerging treaties. Finally, the capacity of states to implement their treaty commitments was only starting to be understood including with UNEP's work in the Global South.

The progress in this decade to establishing norms is demonstrated by the World Charter for Nature.<sup>76</sup> Its provisions revealed that states could accept both general principles and specific rules to govern their conduct: cooperation, conservation of nature in the global commons, the prevention of transboundary pollution and the application of law in the pursuit of such goals.<sup>77</sup> The Charter also marked out ongoing momentum to the 1987 UN-sponsored World Commission on Environment and Development. The influence of civil society was being realized in domestic environmental law-making and creation of permanent environment ministries in governments. This was coupled with a growing legitimacy of international organizations, such as the IUCN and environmental NGOs, enjoying the success of campaigns to reject mining in Antarctica and protect the stratospheric ozone layer.<sup>78</sup> The identification of

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includes the industrialization and therefore competition for resources among so-called developed states and their capacity to engage international treaty-making in their interests. What would become the constellation of marine oil pollution prevention and liability treaties also took form in the 1970s.

See "Annual Count of Agreements in the IEA Database". In the 1970s, there were three times as many bilateral environmental agreements identified by the database project over the previous decade, and in four of 10 years there were more bilateral agreements than in any previous year including three of those four years, *International Environmental Agreements Database Project*, *supra* note 17.

<sup>76</sup> World Charter for Nature, *supra* note 7. The Charter highlighted the emerging role of UN institutions in environmental protection. The Charter's principles, listed *supra*, illustrate the goal of protecting nature and its functioning.

<sup>77</sup> "States and, to the extent they are able, other public authorities, international organizations, individuals, groups and corporations shall ... (c) Implement the applicable international legal provisions for the conservation of nature and the protection of the environment". *Ibid.* at para. 21.

<sup>78</sup> *Vienna Convention on the Protection of the Ozone Layer*, *supra* note 63. No treaty better demonstrates IEL's evolution from Stockholm until the WCED. The Convention dealt with an industrially

priorities and response of governments was uneven, as the example of a slow-to-engage South East Asia reveals.<sup>79</sup> IEL in the second half of the 1980s continued to be an incomplete vehicle to assure the reception by states of needed norms. It must be asked if a constitutional moment went unrealized in this period. Could a single instrument as a charter for environmental protection have conferred wide-ranging and causally directed norms? That seems doubtful. Getting agreement of states to accept economic and political costs in resolving environmental protection problems when there is an absence of public concern is difficult. The early attempts to regulate greenhouse gas emissions prior to the 1992 UNFCCC illustrates this.

It was the World Commission on Environment and Development (WCED) that moved the law toward greater treaty-making, *i.e.* a capturing of responses to particular problems in agreed treaties. The Commission's report, *Our Common Future*, reflected the consensus of states to address collective environmental problems.<sup>80</sup> IEL's modern turn, only beginning its

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and economically important chemical pollutant (chlorofluorocarbon refrigerants) in a short period under a scheme which has since held. But the treaty's success must not be overstated, however, as acceptable chemical substitutes were available, provisions were made to assist developing states, and human health risks were understood. The response to other pollutants (e.g. mercury) should be understood in this context.

In industrialized northern states, the problem of acid rain became understood during this period. In the United States two NGOs were influential in the promotion of legal and policy remedies, the Natural Resources Defense Council and the Environmental Defense Fund. See James L Regens and Robert W Wycroft, *The Acid Rain Controversy* (Pittsburg: University of Pittsburg Press, 1988).

<sup>79</sup> "[D]omestic constitutional law is increasingly absorbing the values and principles of international law, including both environmental and human rights law. Conversely, and in part because of this convergence, international and supra-national tribunals are increasingly looking to domestic constitutional practices in interpreting their own charters and conventions ... the international and regional turn toward environmental protection may buttress and help to promote these values at the national level." James R May and Erin Daly, *Global Environmental Constitutionalism* (Cambridge, UK: Cambridge University Press, 2015) 32, footnote omitted. The authors advocate for advancement of environmental norms in national constitutions "to help demonstrate the value of environmental constitutionalism in the slow but steady entrenchment of environmental values worldwide." *Ibid.* at 13.

There is an emerging regional environmental law in Africa. It is not so much continent-wide agreements (e.g. the AU Charter, the 1968/2003 *African Convention on the Conservation of Nature and Natural Resources*, and the 1994 *Lusaka Agreement on the Illegal Trade in Wild Fauna and Flora*) as it is sub-regional arrangements, e.g. regional seas, which contribute to the realization of IEL. See Hennie Strydom, "Introduction to regional environmental law of the African Union" in Werner Scholtz and Jonathan Verschuuren, eds, *Regional Environmental Law: Transregional Comparative Lessons in Pursuit of Sustainable Development* (Cheltenham, UK: Edward Elgar, 2015) at 21.

<sup>80</sup> *Our Common Future*, *supra* note 6. And see UN doc. A/42/427.

systemic development, was acquiring a foundation.<sup>81</sup> *Our Common Future* established the need for continuing negotiation of environmental protection rules that would be pursued at the 1992 UNCED Río Conference:

National and international law is being rapidly outdistanced by the accelerating pace and expanding scale of impacts on the ecological basis of development. Governments now need to fill major gaps in existing national and international law related to the environment ... to prepare under UN auspices a universal Declaration on environmental protection and sustainable development and a subsequent Convention, and to strengthen procedures for avoiding or resolving disputes on environmental and resource management issues.<sup>82</sup>

WCED's second legacy was the concept of sustainable development as a focal point for environmental protection. Identifying it had been part of the Commission's mandate:

After three years the Commission presented its answers in a report. It was considered a good report at the time, but today it is generally remembered only for a single phrase in which it defined sustainable development as meeting "the needs of the present without compromising the ability of future generations to meet their own needs." This phrase was widely endorsed and has remained by far the "most widely accepted starting point for scholars and practitioners concerned with environment and development dilemmas". In fact, this definition has gained such a status of "truth" that frequently it is cited as fact, without referencing its origin. However, its general and somewhat diffuse nature has led to numerous attempts at more specific explanations.<sup>83</sup>

Progress in the second phase of IEL's development was continuing as a result of new multilateral environmental agreements (MEAs), an expanded role for UNEP to monitor environmental problems and help states improve governance, and responses to problems such

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<sup>81</sup> Abram Chayes and Antonia Handler Chayes discuss these characteristics in *The New Sovereignty*, *supra* note 49 at 4: "We identify three sorts of considerations that lend plausibility to the assumption of a propensity [of states] to comply [with the agreements they have signed]: efficiency, interests and norms."

<sup>82</sup> *Our Common Future*, *supra* note 6 at paragraph 97.

<sup>83</sup> Iris Borowy, *Defining Sustainable Development for Our Common Future: A History of the World Commission on Environment and Development (Brundtland Commission)* (New York, NY: Routledge, 2014) 3, footnotes omitted. "Thus, by 1983, discussing sustainable development had had a history when it became part of the mandate of the WCED, and the expression for which it would become best known was probably the least original component of its work. This is not to say that the definition it coined was insignificant, and the phrase is correctly cited as the contribution of the Brundtland Commission to the sustainability discourse." *Ibid.* at 4, footnote omitted.

as acid rain in North America and Europe, the global regime to protect the stratospheric ozone layer, as well as the deepening of conservation measures for Antarctica.<sup>84</sup> *Our Common Future* may not have fostered concrete principles that otherwise emerged from UNCED in 1992, but it ensured that states remained at least superficially committed to the ideals embodied by IEL.<sup>85</sup> WCED's legacy for the law was to set the stage for post-UNCED environmental protection treaties, especially the UNFCCC and the *Biodiversity Convention*.<sup>86</sup> The multilateral treaties of this second phase of IEL's development cohered IEL through widespread acceptance, and governance features such as dispute resolution provisions along with subordinate instruments styled as protocols.<sup>87</sup> An example of these features is the 1991 Espoo Convention, committing mostly European states to environmental impact assessment of large-scale activities.<sup>88</sup>

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<sup>84</sup> Antarctica has been a symbol of environmental preservation, an idealized wilderness conservation, apparently secure in this status after mining on the continent was rejected three decades ago and specific environmental protection measures were codified in the 1991 Madrid Protocol. The effects of climate change and loss of the continent's ice cover have renewed concerns.

<sup>85</sup> The Commission's Report found a place in civil society and non-governmental organizations which seems to have had the effect of ensuring governments participated in UNCED.

<sup>86</sup> The widespread character of environmental degradation (and scarcity, for example, in chapters about human food security) discussed in *Our Common Future* underscored the earlier concerns of NGOs such as Greenpeace and the World Wildlife Fund, serving to enhance their credibility. The influence of NGOs had already established itself among many governments, UN agencies and international organizations concerned with aspects of environmental regulation and standard-setting. This can be seen in their participation in making Agenda 21 at UNCED.

<sup>87</sup> The *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal* (22 March 1989) 1673 UNTS 126 (in force 5 May 1992) preceded UNCED but received substantial impetus for its ratification from the conference. The problem of transboundary movement of hazardous wastes was simple in its causation: Industrial, developed states were producing greater amounts of waste and regulating them more strictly. The result was the export of wastes to avoid costly domestic disposal. The *Basel Convention* presently has 183 parties. It was a basis for the later *Rotterdam* and *Stockholm Conventions* and to an extent the 2013 *Minamata Convention*. The *Bamako Convention (Convention on The Ban of the Import into Africa and the Control of Transboundary Movement and Management Of Hazardous Wastes Within Africa)* (30 January 1991) 30 ILM 773 (in force 22 April 1998) is an important adjunct to *Basel*.

UNFCCC, *supra* note 19. The UNFCCC had 197 parties as of June 2018. *Convention on Biological Diversity*, *supra* note 4. 196 states including the European Union have ratified the CBD as of June 2018; only the United States and the Holy See have not.

<sup>88</sup> The Espoo Convention, *supra* note 5 is a Global North instrument of European states and Canada, totaling 45 parties as of June 2018. The success of the Convention prompted negotiation of the



Agenda 21, resulting from UNCED, was IEL's next milestone.<sup>89</sup> The goal was to develop "international legal instruments and mechanisms".<sup>90</sup> The need for additional treaties would gain appreciable consensus because of the 1992 conference. But there was no new approach to IEL such as an envisioning of fresh sources for the law, for its systemic integration or global environmental governance. Organization of the law into a framework across a now burgeoning treaty landscape would be for the future.<sup>91</sup> Sustainable development as a normative principle for the making legal rules would fade in its influence in later years.<sup>92</sup> UNCED ended without reforms or a project to advance IEL:

The overall objective of the review and development of international environmental law should be to evaluate and promote the efficiency of that law and to promote the integration of environment and development policies through effective international agreements or instruments taking into account both universal principles and the particular and differentiated needs and concerns of all countries.<sup>93</sup>

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1997 Aarhus Convention, *supra* note 53. Only European states have joined this latter, UNECE sponsored treaty.

<sup>89</sup> *Agenda 21*, *supra* note 4. For a contemporaneous commentary, see Nicholas A Robinson, *Agenda 21 and the UNCED proceedings: International protection of the environment* (Los Angeles: Oceana, 1992). See also Greenpeace International, *Beyond UNCED* (Amsterdam: Greenpeace, 1992).

<sup>90</sup> *Agenda 21, Chapter 39*, *supra* note 4. See UN Stakeholder Forum for a Sustainable Future, "Review of implementation of Agenda 21 and the Rio Principles" (New York, NY: UN Department of Economic and Social Affairs, Division for Sustainable Development, 2012). "In retrospect, the format for Agenda 21 based on sectors may have contributed to defeating the concept of integration that is at the heart of sustainable development, which seeks to promote cross-sectoral solutions. Segmentation in sectoral issues has paved the way for turf wars and silo-isolation, both at the international level and at the national level ... Agenda 21 did not address the interconnectedness of the various goals, largely due to the fact that the agenda was cut into 40 sector chapters." *Ibid.* at 6-7.

<sup>91</sup> Consolidation is the synthesis of norms across IEL regimes. "The problem of the 'small decisions paradox' is underpinned by the fact that many environmental problems have many different and complex causes. This is evident with regard to air, water and marine pollution, climate change and loss of biodiversity. They are not the result of single activity, but innumerable activities, in nearly all economic and social sectors, with different and even conflicting objectives. A consistent and sustainable management of environmental quality requires cross-sector coordination and coherence of policy and law." Hans Christian Bugge, "Twelve fundamental challenges in environmental law", in Christina Voigt, ed, *Rule of Law for Nature: New Dimensions and Ideas in Environmental Law* (Cambridge, UK: Cambridge University Press, 2013) 1 at 17.

<sup>92</sup> *Agenda 21*, *supra* note 4, paragraph 39.1.

<sup>93</sup> *Ibid.* paragraph 39.2. Agenda 21 prescribes specific objectives for the development of IEL: (a) addressing barriers to states' participation in the making of agreements; (b) to identify priorities for future law-making; (c) to promote the engagement of states in making environmental agreements; (d) to develop environmental protection standards; (e) to implement "legally binding instruments"; (f) to

No organization was tasked to pursue this objective. It would instead be achieved indirectly by Agenda 21 goals to strengthen the roles of interested groups and equity across the divide of North-South states by such means as technology transfer, financial assistance and establishing common but differentiated responsibilities between states.<sup>94</sup> Agenda 21 was premised on the treaty as the preferred vehicle of states to capture agreed environmental protection commitments of states. UNCED was a missed opportunity to reconcile legal approaches and institutions for better coordination of IEL, although such a demand was perhaps too much to ask of the Conference.<sup>95</sup> Meanwhile, sustainable development would be realized through case-by-case agreement between states.<sup>96</sup> In the era from Stockholm to Río, this was all that could be hoped for in the progress of a now extensive body of law. Nevertheless, UNCED and Agenda 21 succeeded in confirming the importance of the law's role for environmental protection and make specific *projets de loi* acceptable to states.

IEL's next era was one of extensive bilateral, regional and multilateral treaty-making and a culmination of treaties of global application. This period arguably began as early as

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improve the effectiveness of institutions; (g) to identify and prevent conflict between environmental agreements and socio-economic agreements; and (h) to strengthen dispute resolution mechanisms.

<sup>94</sup> "The development and environmental aspects of Agenda 21 will require a substantial flow of new and additional financial resources to developing countries, in order to cover the incremental costs they have to undertake to deal with global environmental problems and to accelerate sustainable development. *Ibid.*, Preamble at para. 1.4. "Major groups" are identified as children and youth in sustainable development, Indigenous peoples, non-governmental organizations, workers and trade unions, business and industry, the scientific and technological community, and farmers.

<sup>95</sup> If the needed structural and source-generation norms for IEL would remain undeveloped, so would changes to meet the ideals of equity between Global North and South states and, even less a policy consideration since UNCED, between present and future generations. Climate change reveals these limits. See Darrel Moellendorf, *The Moral Challenge of Dangerous Climate Change: Values, Poverty, and Policy* (Cambridge, UK: Cambridge University Press, 2014).

<sup>96</sup> Sustainable development remains a leading informal ideal for the organized international community in environmental matters. Consider the statement "The Future We Want" from the 2012 Rio + 20 conference: "[We] renew our commitment to sustainable development and to ensuring the promotion of an economically, socially and environmentally sustainable future for our planet and for present and future generations." UN doc. A/66/L.56 (24 July 2012), para. 1(1). The Rio + 20 outcome document noted there had been "insufficient progress and setbacks" in sustainable development and poverty eradication since UNCED. *Ibid.* at paras. 19-20.

1990 in the wake of WCED and it ran until 2004.<sup>97</sup> The making of multilateral environmental treaties peaked in 1992 with 25 concluded that year, which then prompted the making of bilateral agreements that reached a high tide of 58 two years later.<sup>98</sup> During these years there was a modest perceptible shift among states to accept judicial resolution of environmental and conservation disputes beyond earlier ones for resource access such as fisheries.<sup>99</sup> This progress to binding dispute resolution must not be overstated because in the 1990s the ICJ considered only a single environmental case, the *Gabcikovo-Nagymoros Project* dispute. (For jurisdictional reasons, the Court rejected Spain's claim against Canada for unlawfully enforcing high seas fisheries conservation.<sup>100</sup>) The ICJ would not again consider environmental protection principles until its 2010 decision in *Pulp Mills on the River Uruguay*.<sup>101</sup> However,

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<sup>97</sup> An era marked by the coming into effect of UNCLOS in 1994, the dissolution of the Soviet Union and Yugoslavia with successor state accession to treaties. There was arguably a salutary effect on international law from the agreement for an international criminal law treaty, the 1998 *Rome Statute*, along with the emergence of regional organizations (e.g. the African Union) and economic blocks (e.g. MERCOSUR). An increasing willingness of states to accept judicial settlement of boundary and territorial disputes became apparent during the 1980s.

<sup>98</sup> The causes of this treaty-making include influences of the WCED and UNCED, civil society concerns about environmental quality, and an increase in the capacity of Global South governments to participate in agreement-making. See "Annual Count of Agreements in the IEA Database", Multilateral and Bilateral Environmental Agreements 1950 through 2012, *International Environmental Agreements Database Project*, *supra* note 17. The number of new agreements from 1990 through 2003, not including protocols and amendments, was as follows:

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Multilateral	10	15	25	21	23	9	10	12	15	10	10	15	12	13
Bilateral	32	31	40	46	58	52	45	55	54	32	27	17	10	1

<sup>99</sup> *United Kingdom v Iceland*, *supra* note 71 was typical of such cases. Consider also Canada's dispute with France about fisheries in the waters of St. Pierre and Miquelon, *Filleting within the Gulf of St. Lawrence between Canada and France*, (1986) 19 UNRIAA 225.

The creation of the International Tribunal for the Law of the Sea under UNCLOS with a first case in 1996 resulted in the shift of fisheries disputes to it.

<sup>100</sup> *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, ICJ Rep 1997, 7; *Fisheries Jurisdiction Case (Spain/Canada)*, ICJ Rep 1998, 432. In 1993 Canada enacted domestic legislation ostensibly allowing for fisheries conservation enforcement on the high seas of the Northwest Atlantic Fisheries Organization area, the following year withdrawing from compulsory jurisdiction in the ICJ in disputes about such enforcement pursuant to Article 36(2) of the ICJ Statute.

<sup>101</sup> *Pulp Mills on the River Uruguay (Argentina/Uruguay)*, ICJ Rep 2010, 14. Two cases have followed, *Whaling in the Southern Ocean*, ICJ Rep 2014, 226; and *Construction of a Road in Costa Rica along the San Juan River (Nicaragua/Costa Rica)*, ICJ Rep 2015, 665 (judgment of 16 December 2015). The rule from the latter is: "If the environmental impact assessment confirms that there is a risk of significant transboundary harm, the State planning to undertake the activity is required, in conformity

after 1972, states did expand dispute resolution in their environmental treaties to tribunals in addition to the ICJ including the Permanent Court of Arbitration and through UNCLOS to create the International Tribunal for the Law of the Sea.<sup>102</sup> The result of this expansion can be seen in the Ireland/United Kingdom MOX Plant and *Southern Bluefin Tuna Cases*.<sup>103</sup> Because of the mandatory provisions of UNCLOS for dispute resolution in most environmental matters, along with provisions in multilateral and bilateral treaties, it can be concluded that more than in any other area apart from trade, schemes for judicial resolution of environmental matters exist in international law. However, employment of them by states has been episodic.

This third period of IEL's development, which lasted until 2004, saw few suggestions for reform of IEL nor any move by the International Law Commission for its systemic review.<sup>104</sup> This was an era of treaty-making that was evident after the fact by the limited progress of IEL's customary rules. No newly conceived obligation, such as the precautionary principle, evolved to acquire form as a rule and not to a level of *jus cogens*. The defining of customary IEL

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with its due diligence obligation, to notify and consult in good faith with the potentially affected State, where that is necessary to determine the appropriate measures to prevent or mitigate that risk." *Ibid.* at para. 104.

<sup>102</sup> There was no increase in international legal cases for the environment in the 1990s that resulted from the creation of new states. Dispute resolution, whatever the process or tribunal, has remained an inclination of Global North states. Litigation is costly and creates diplomatic uncertainty.

An important advance in IEL has been the acceptance by states of compulsory resolution of disputes in environmental treaties. For example, by June 2018 there were 168 parties to UNCLOS which has extensive Part XV dispute resolution scheme applicable to environmental disputes. Fewer than half that number of states accept compulsory ICJ jurisdiction under Article 36(2) of that court's Statute.

<sup>103</sup> The *MOX Plant Case (Ireland/U.K.)* was pursued in several tribunals including the ITLOS pursuant to the 1992 *OSPAR Convention*. The *Southern Bluefin Tuna Cases (New Zealand/Japan; Australia/Japan)*, 1999 38 ILM 1624 were not decided on the merits because of a requirement in the 1993 *Convention for the Conservation of Bluefin Tuna* that the parties exhaust informal measures before recourse to a tribunal. The case of *The Netherlands/France, Pollution of the Rhine by Chlorides* (decision of 12 March 2004) under the 1976 *Convention on the Protection of the Rhine by Pollution from Chlorides* is another example and the Permanent Court of Arbitration decision canvasses the polluter pays principle, good faith in the observation of an environmental protection agreement, and indemnity. See Parts I and II of the decision online: PCA <[www.pca-cpa.org](http://www.pca-cpa.org)>.

<sup>104</sup> IEL was identified by the Commission during the middle of the decade as a priority for future consideration. See *Yearbook of the International Law Commission* 1996, Volume II(2), UN doc. A/51/10 at 135. In 1997, the ILC accepted it would study the prevention of harm from transboundary damage, in 2009 the topic of shared natural resources, and in 2013 protection of the environment in times of armed conflict. See the Annual Reports of the Commission online: ILC <<http://legal.un.org/ilc/reports>>.

requires that it be established by evidence, *i.e.* demonstrating its existence by surveying state practice and *opinio juris*. The handful of cases after 1992 have not added much to this.<sup>105</sup> Thus, the 1992-2004 period entrenched rule-making by convention.<sup>106</sup> Treaties became increasingly prescriptive, with detailed provisions for implementation and administration. An example is the 2001 *Stockholm Convention on Persistent Organic Pollutants*.<sup>107</sup> It provides for the reduction and elimination of prescribed pollutants, notably polychlorinated biphenyls (PCBs). The treaty lists such chemicals for regulatory purposes, provides for financial and technical assistance to states, and requires reporting about implementation.<sup>108</sup> Such measures needed a coordinating mechanism and that was a secretariat to “facilitate assistance to the Parties” and coordinate with secretariats of “other relevant international bodies”.<sup>109</sup> This marked another implicit advance for IEL, administrative bodies for the efficient implementation and continuity of treaties.<sup>110</sup> Secretariats were hardly an innovation of the 1992-2004 period,

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<sup>105</sup> This was the ICJ’s conclusion in *Pulp Mills on the River Uruguay*, *supra* note 101, reiterated in *Whaling in the Southern Ocean*, also *supra* note 101. The obligation to conduct environmental impact assessment of proposed activities impacting shared or transboundary resources can be traced to this 1990–2004 period. Cases since, such as the 2005 Iron Rhine railway arbitration and the ITLOS’s 2011 Area advisory opinion have advanced the rule. The greater development was adoption of domestic legislation and schemes for environmental impact assessment.

<sup>106</sup> A related development was the recognition of environmental law as a scholarly subject and area of practice for lawyers.

<sup>107</sup> *Stockholm Convention on Persistent Organic Pollutants* (22 May 2001) 2256 UNTS 119 (in force 17 May 2004). The 2001 *International Convention On The Control Of Harmful Anti-Fouling Systems On Ships* (5 October 2001) IMO doc. AFS/CONF/26 (18 October 2001) (in force 17 September 2010) is another example, requiring states to ban the use of harmful coatings on ships’ hulls. The Convention entered force after suitable, benign substitutes had been created. A useful commentary about the *Stockholm Convention* is Marco A Olsen, *Analysis of the Stockholm Convention on Persistent Organic Pollutants* (Dobbs Ferry, NY: Oceana Publications, 2003).

<sup>108</sup> Evaluation of environmental treaty performance is incomplete, without shared understandings of method and criteria. Unless there is a treaty provision for such reviews, they are often done inefficiently or not at all. Review work, of course, is sometimes done by interested NGOs.

“[T]here are several ways to measure the effectiveness of international treaties. These factors include the objectives of the treaty; here an important distinction between this factor and that of compliance is made.” W Bradnee Chambers, *Interlinkages and the Effectiveness of Multilateral Environmental Agreements* (New York, NY: UN University Press, 2008) at 241.

<sup>109</sup> *Ibid.* See Article 20 of the *Stockholm Convention*. UNEP operates the secretariat.

<sup>110</sup> Secretariats create financial and agency costs for states but offer the prospect of more thorough implementation and reconciling of competing interests of member states. In the context of Antarctica’s

having already been created in settings such as the International Whaling Commission in 1972. The growth of administration for the better realization of IEL's treaties was inevitable as the need to attend to state performance – the monitoring, evaluating and assisting with capacity building – would require organizational continuity.<sup>111</sup> Keeping states engaged with an environmental issue was necessary because of the complexities of science, negotiation and rule-making involved. The propensity of states under existing and new international environmental treaties to govern through secretariats and measures, such as conferences of parties, marked the start of the environmental governance regime. By themselves, treaties could not be expected to succeed without ongoing coordinated action among states.

By 2004 the pace of treaty-making had slowed. Many areas of concern were now addressed, however imperfectly, and so began a time of treaty consolidation and deepening engagement of the Global South in multilateral agreements.<sup>112</sup> Subsequent years would see only the *Minamata Convention* (2013) and the *Paris Agreement* (2015) as new treaties of

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environmental protection regime the CCAMLR and ATS Secretariats appear to achieve this, although with some limits in whole-regime matters such as marine protected areas.

<sup>111</sup> The proliferation of secretariats can create coordination problems. "There is a need to create a positive rule of cooperation, a 'principle of interlinkages' as it were, which promotes treaty negotiators and treaty interpreters to maintain consistency between treaties. It could oblige treaty bodies and future treaty negotiators with overlapping subject matters, or in instances where treaties have the potential to conflict, to cooperate directly once they have entered into force so that their effectiveness can be maintained and even increased." *Interlinkages and the Effectiveness of Multilateral Environmental Agreements*, *supra* note 108 at 247.

<sup>112</sup> See e.g. the *Treaty on the Conservation and Sustainable Development of the Forest Ecosystems of Central Africa* (5 February 2005) (in force 31 December 2006) online: UNFAO <<http://faolex.fao.org/docs/pdf/mul71928.pdf>>. The *Niger Basin Water Charter* was also an important regional advance. *Niger Basin Water Charter* (30 April 2008), available online <[http://www.abn.ne/index.php?option=com\\_content&view=frontpage&lang=fr](http://www.abn.ne/index.php?option=com_content&view=frontpage&lang=fr)>: 124.

South East Asian states have slowly pursued regional environmental arrangements. There are few bilateral agreements between ASEAN states. The single regional instrument is the *ASEAN Agreement on Transboundary Haze Pollution* (10 June 2002) (in force 25 October 2003), online: ASEAN <[http://haze.asean.org/?wpfb\\_dl=32](http://haze.asean.org/?wpfb_dl=32)>. See Laode M Syarif, "Evaluating the (in)effectiveness of ASEAN cooperation against transboundary air pollution" in S Jayakumar *et al*, eds, *Transboundary Pollution: Evolving Issues of International Law* (Cheltenham, UK: Edward Elgar, 2015) at 295. "[The] Agreement is ineffective in preventing and mitigating transboundary atmospheric pollution in the ASEAN region due to the following reasons: (i) most of the Agreement's provisions include very weak language; (ii) most of the implementing mechanisms in the Agreement are given to the national authorities; (iii) the Agreement does not provide any clear sanctions for the non-compliance of ASEAN member states; and (iv) the absence of a 'specific regional agency' that is responsible for the coordination and implementation of the Agreement at the national level also contributes to its slow implementation." *Ibid.* at 325.

global application while secondary instruments for existing treaties created challenges for states to accept and apply them.<sup>113</sup> The Kyoto Protocol, which came into force in 2005, is an example. States struggled to implement it before the wholesale revision of the climate change framework in the *Paris Agreement*. Of a reported 15 regional and bilateral IEL instruments between 2010 to 2014, only four were not remedial in character, being for cooperation in regional settings (namely, the Nile Basin, Europe's Prespa Lakes Area, a general one for the Commonwealth of Independent States, and between Estonia, Latvia and Lithuania).<sup>114</sup> No evidence of treaty fatigue during the post-2004 period is detectable, although states were arguably increasingly distracted by negotiating and complying with UNFCCC goals. Matters, including the basic element of cooperation, may have been impeded by international conflicts after the 9/11 tragedy in the United States; in Afghanistan from 2002 onwards; the invasion of Iraq in 2003; and the Arab Spring after 2011.<sup>115</sup>

The post-2004 period of consolidation revealed some of the new environmental protection treaties to need more than modest measures – functioning domestic governance,

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<sup>113</sup> There are recent specific global treaties for overt conservation including the 2006 *International Tropical Timber Agreement*, the 2007 *Agreement on the Conservation of Gorillas and their Habitats*, and the 2009 *International Convention for the Safe and Environmentally Sound Recycling of Ships*.

<sup>114</sup> See the 2013 *Agreement on cooperation in the field of environmental protection among member-states of the Commonwealth of Independent States*. Opened for signature in May 2013, it prescribes cooperation across environmental matters including joint programs for “environmental protection and ecological safety”. See the Agreement online: CIS <<http://www.e-cis.info>>.

The 2010 *Agreement on the Protection and Sustainable Development of the Prespa Park Area* (2 February 2010), OJ L/258 (4 October 2011), is not yet in force. It is a further agreement under the European Union 2000 Water Framework Directive for the protection of rivers and lakes.

The 15 treaties are those listed in the International Environmental Agreements Database Project, *supra* note 17. Two other treaties, the 2012 *Agreement on the establishment of the Global Green Growth Institute* and the 2013 *Benguela Current Convention* contain prescriptions for cooperation.

75 IEL instruments are detailed by the Project from 2010 until the start of 2015, mainly protocols and revisions to existing treaties, again illustrating IEL's remedial nature.

<sup>115</sup> Arab States from Mauritania to Iraq have joined the global IEL treaties but there are few regional or bilateral arrangements between them for environmental protection. An exception is the *Kuwait Convention* to protect the Persian Gulf marine environment, the *Regional Convention for Co-operation on Protection of the Marine Environment from Pollution* (24 April 1978) 1140 UNTS 133 (in force 1 July 1979). Another exception are those treaties for the Jordan, Euphrates and Tigris Rivers. Water scarcity is a serious environmental issue for the region's states. See Andrew Maddocks, Robert Samuel Young and Paul Reig, “Ranking the World's Most Water-Stressed Countries in 2040” (26 August 2015), World Resources Institute, online: WRI <<http://www.wri.org>>.

science resources and funding – to be successfully implemented by states. For example, the Basel Convention demands an extensive legislative and trade oversight regime from its member states. A second example is the Biodiversity Convention’s requirement for large-scale societal engagement within states.<sup>116</sup> A third example is the implementation of UNFCCC greenhouse gas emission rules: Even with agreed measures in force by 2005, continuous negotiation was needed to reach the 2015 *Paris Agreement*.<sup>117</sup> The period after 2004 has also seen the deepening of IEL’s administration, which, after Martti Koskenniemi, is the arrival of managerialism, a time of implementation including through secondary rules and informal measures in treaty bodies. These incremental activities extend to an identifying of priorities for IEL in specific matters by international and regional organizations such as the ATS Secretariat, the European Commission and the UNECE.<sup>118</sup> Such work comes at a cost, imposed by a

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<sup>116</sup> For the CBD, the Cartagena Protocol on Biosafety (29 January 2000) (in force 11 September 2003) and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (29 October 2010) (in force 12 October 2014). And consider the 2003 Protocol on Strategic Environmental Assessment (in force 11 July 2010) to the Espoo Convention.

<sup>117</sup> Climate change presents a complex problem for IEL. It is a pollution phenomena that demands significant change in the economic behavior of states and because causal outcomes have been difficult to attribute to it. It is an example of a (particularly) serious impact on a common pool resource. See Ibo van de Poel *et al*, “The Problem of Many Hands: Climate Change as an Example” (2012) 18 *Science Ethics* 49. “A problem of many hands occurs if there is a gap in a responsibility distribution in a collective setting that is morally problematic.” *Ibid.* at 63, original in italics. And see André Nollkaemper and Ilias Plakokefalos, eds, *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art* (Cambridge, UK: Cambridge University Press, 2014).

<sup>118</sup> Managerialism connotes a bureaucratic mode of administration with a pejorative character, a retreat into specialist realization of a regime without reconciliation in the extrinsic order. Consider Koskenniemi: “To agree to a treaty is to agree on a continued negotiation and contextual deal-striking, with functional interests in a decisive position. It is easy to understand why this would be so. Management on a global scale is difficult. The unforeseeability of future events, including the effect that any determining rules might have in practice suggests that such rules ought not to be laid out at the outset. For every rule might cover some case which we would not wish to cover - and it might fail to attach to situations where we would have wanted to apply it, had we only know of such situations beforehand. Hence global management will have to take place by open-ended standards that leave experts with sufficient latitude to adjust and optimize, to balance and calculate.

So we are left with *managerialism* in the sense that law turns onto rules of thumb or soft standards that refer to the best judgment of the experts in the box – substance, thoroughly committed to advance the purposes of the appropriate box. That is why they have been elected to serve those bodies in the first place. That is why solipsism and empire seem unavoidable: Trade bodies condemned to advance trade, human rights bodies human rights, environmental bodies, environmental interests and so on.” Martti Koskenniemi, “International Law: Constitutionalism, Managerialism and the Ethos of Legal Education” (2007) 1 *European Journal of Legal Studies* 1 at 8, emphasis in original.



considerable body of rules for states to implement through receiving legislation and governance, *i.e.* regulation activities.<sup>119</sup> In addition, the role of non-governmental organizations settled into an accepted role to influence environmental priority-setting, in the sense that governments will act for the environment when there is sufficient social concern.<sup>120</sup>

What normative frame or dimensions can be identified for IEL at present? The landscape is one of treaties as authoritative sources for the law, overwhelmingly preferred over other sources.<sup>121</sup> The colossus of multilateral, regional and bilateral instruments is itself arguably a normative influence, reinforcing the post-1972 patterns described above, extensive but disparate, of rules voluntarily negotiated by states to govern consequences but infrequently the causes of adverse environmental impacts. Within IEL treaties have led to a broadly equivalent normativity, even as some have greater authority, *e.g.* those for biodiversity and climate change. Custom's so-called meta-principles – few in number – governing the conduct of states, *e.g.* in transboundary pollution, have become IEL's *jus cogens* rules.<sup>122</sup> The balance is therefore one of considerable speed in arriving at an extensive body of IEL combined with a willingness of states to negotiate and implement treaties when justified by scientific evidence

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<sup>119</sup> Analysis of the state of the law and design of better norms continues in the International Law Commission, recently in how customary international law is defined. See International Law Commission, "Identification of customary international Law" (14 July 2015), UN doc. A/CN.4/L.869.

<sup>120</sup> An example is the refusal of the ITLOS to allow standing to Greenpeace International, the owner of the *m.v. Arctic Sunrise* detained by Russia in the Barents Sea, to participate in the case brought by The Netherlands as flag state of the vessel for release under Articles 73 and 292 of UNCLOS. *The "Arctic Sunrise" Case (The Netherlands /Russia)*, ITLOS Case No. 22, Order of 22 November 2013.

<sup>121</sup> Good treaty design includes a realistic end-result of law that states can adopt and ensure regulation of, while allowing for flexibility (revision or amendment) in the fact of changing scientific information, economic circumstances, and new states joining the treaty regime). Evaluating IEL in the context of treaty regimes is discussed in Chapter 5. Treaty design should allow for the "hybridization" of IEL, its realization through formal (contractual) obligations and by soft norms in its implementation. See Veerle Heyvaert, "Levelling Down, Levelling Up and Governing Across: Three Responses to Hybridization in International Law" (2009) 20 EJIL 647.

<sup>122</sup> See Michael Byers, "Conceptualising the Relationship between *Jus Cogens* and *Erga Omnes* Rules" (1997) 66 *Nordic Journal of International Law* 211. On the idea of "superior" norms, see Dinah Shelton, "Normative Hierarchy in International Law" (2006) 100 *American Journal of International Law* 271.

and social concern. On the other side of this balance sheet can be found several pathologies with implications for the organization and development in IEL in the Arctic, discussed next.

## V. FROM FRAGMENTATION TO COHERENCE

As observed earlier, IEL remains incomplete in the matters – environmental impacts from human activities – it must necessarily address and in its application by states.<sup>123</sup> These limits show the need to better organize the law, to achieve coherency across a considerable landscape of rules. A second task in responding to the challenges faced by IEL is to direct the law to the causal matters of environmental protection, including (as *environmental capital*, above), a greater conservation of resources and assured functioning of natural amenities.<sup>124</sup> These concerns distill to asking what makes for better IEL. Some lines of inquiry result, including how customary rules can function and what future role awaits them. A second area of study is the performance of present IEL rules (and, again, their animating governance regimes) in an effort to assess how such rules result in the collective commitment and behaviors desired of states and their citizens. IEL is undeniably detailed and far-ranging, however, it has yet to meet the objectives of sustainability and “managing the natural resources base of economic and social development”, through coordinated, directing rules, and ancillary ones for support to states of the Global South, capacity-building, and trade.<sup>125</sup>

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<sup>123</sup> The 2012 Río + 20 conference final resolution expresses it this way: “We recognize the significant contributions to sustainable development made by the multilateral environmental agreements. We acknowledge the work already undertaken to enhance synergies among the three conventions in the chemical and waste cluster ... We encourage Parties to multilateral environmental agreements to consider further measures, in these and other clusters, as appropriate, to promote policy coherence at all relevant levels, improve efficiency, reduce necessary overlap and duplication, and enhance coordination and cooperation among the multilateral environmental agreements, including the three Rio conventions, as well as with the United Nations system in the field.” “The Future We Want”, *supra* note 96 at para. 89.

<sup>124</sup> There is a continuing need to pursue consensus to emerging norms, e.g. intergenerational equity. See Edith Brown Weiss, “Our Rights and Obligations to Future Generations and the Environment” (1998) 84 AJIL 198.

<sup>125</sup> “The Future We Want”, *supra* note 96 at paras. 4 and 252-282. The conference resolution was a blueprint for action in many areas, continuing the pattern of the large-scale, programmatic approach at

The objective when making and organizing IEL is better governance, *i.e.* the “outcome” of an improved environmental feature.<sup>126</sup> The task is therefore to understand the state of the law and what impedes its development and improvement, together with features enabling its efficient functioning. We can start with impediments to coherency, which are the following phenomena that have resulted from IEL’s evolution into its present form:

- (1) IEL is meant to address impacts that result from human activities. A starting problem is therefore the definitional, *i.e.* the uncertainty of matters IEL is to address and its rules are to accomplish, as shown in the subjective-objective range of treaties in Figure I;
- (2) IEL is fragmented, something revealed internally across its issue-areas of uncoordinated rules, and externally by its occasional disparateness with international law in matters such as human rights and trade. Fragmentation has resulted from the speed of the law’s development and codification in non-systemically organized treaties at multilateral and bilateral levels. Problems of fragmentation include incomplete rules, conflicts between rules, and a lack of cohering features otherwise sometimes found in customary law for better creation and implementation of the law;

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Stockholm. “We recognize that an improved and more effective institutional framework at the international level should be consolidated with the Rio Principles, build on Agenda 21 and the Johannesburg Plan of Implementation and its objectives on the institutional framework for sustainable development, contribute to the implementation of our commitments in the outcomes of United Nations conferences and summits in the economic, social, environmental and related fields and taken into account national priorities and the developmental strategies and priorities of developing countries.” *Ibid.* at para. 76. Institutional advances at Rio + 20 included a commitment to expanding UNEP’s role and creating a high-level political forum to replace the UN Commission on Sustainable Development.

For a criticism of environmental agenda-setting by conference see Steven Bernstein, “Rio + 20: Sustainable Development in a Time of Multilateral Decline” (2013) 13 *Global Environmental Politics* 12 – 14: “Although the [2012] conference had two themes – the green economy and the institutional framework for sustainable development – the lack of vision allowed the agenda to run unchecked into virtually every area of sustainable development, a term itself that has uncertain boundaries ... the Rio + 20 outcome document masked real normative contestation that has arisen recently in attempts to implement earlier sustainable development commitments, most notably on truly global challenges such as climate change, or in major economic institutions such as the WTO.”

<sup>126</sup> See Frank Biermann *et al*, “Navigating the Anthropocene: Improving Earth System Governance” (2012) 335 *Science* 1306.

- (3) IEL has limited, nascent administrative structures to identify and achieve consensus between states to identify priorities for the law and its systemic development.<sup>127</sup> The record in settings such as Europe and for regional seas agreements suggests that standing governance through administering organizations for the implementation of IEL by member states across issue-areas can be effective;
- (4) IEL imposes a moderate to significant burden on states to implement. How IEL is to be organized across issue-areas calls for assessment along with how effectively it is implemented by states. The greatest challenge for effective IEL is arguably not more rules or coordination of rules, but a meaningful implementation by states;<sup>128</sup>
- (5) in global-scale matters such as climate change, habitat loss and fisheries, the capacity of law to regulate behavior is being outstripped by increasing consumption of resources and persistent pollution.<sup>129</sup> IEL in its current evolved form is arguably inadequate to

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<sup>127</sup> This is a matter of governance coordination to identify priorities, including reforms, for the law. UNEP fulfills some of these functions, however, an international organization to develop IEL remains lacking. This is explained by the speed of IEL's development, a reluctance of states to accept the cost of coordinating mechanisms, and the number of environmental protection matters to be addressed.

<sup>128</sup> Environmental rules – which routinely result from negotiation between states – are often fashioned in the context of a subsequent period for them to be received and implemented by states. The UNFCCC regime from its inception to Kyoto and then Paris is an example of how environmental agreements move through phases that anticipate later actual realization, namely: (i) the period to negotiate a regime (and IEL rules specifically); (ii) a post-agreement phase of ratification leading to being in force; and (iii) a reception-inception period for states to reach compliance. The phasing of the *Minamata Convention* is an example. An objective of the Convention is to regulate emissions from thermal power use of coal, with states not required until 2023 to start reducing outputs. This period allows states to gain compliance capacity by creating governance, financial, regulatory and technological measures. *Minamata Convention on Mercury*, *supra* note 59.

<sup>129</sup> Hans Christian Bugge describes how the environment presents problems for IEL: (i) nature is self-regulating and complex; (ii) many environmental problems are invisible; (iii) environmental problems are marked by uncertainties; (iv) nature cannot itself act legally; (v) many environmental goods and services are public goods in the economic sense; (vi) environmental values – and environmental harms – are difficult to price correctly in decision-making; (vii) the small decisions paradox presents a problem; (viii) environmental problems cross economic and social sectors both in their causes and effects; (ix) serious environmental problems cross administrative borders; (x) many environmental effects are long term; (xi) corruption; (xii) plurality of values and complexity in decision-making. “Twelve fundamental challenges in environmental law: an introduction to the concept of the rule of law for nature” *supra* note 91, 1 at 9.

The problem is revealed by the operation of chemical pollutant treaties as agreed rules to eliminate production and control the release of toxic substances. But some rules are overwhelmed in what they would remedy because of the continuing increase of pollution. Greenhouses gas emissions are a present example. IEL must therefore be extended to govern the causes of growth of adverse impacts, *i.e.* the roots of consumption including activities which erode environmental capital.

address collective action problems created by the underlying causes of globally distributed adverse environmental impacts;

- (6) custom has had an important role for principle-framing, *i.e.* a normative influence for IEL's development, although at risk of being constrained because of the law's extensive codification in treaty form. The utility and development of custom must be accounted for in the effort to cohere IEL and pursue any evaluation of the law's effectiveness; and
- (7) IEL in advanced governance settings where it has been regionally created and its development continues between limited numbers of cooperating states, *e.g.* in Europe and regional seas agreements, offers indicators about IEL can be made more effective.

Of such phenomena, that needing attention for IEL to succeed is surely fragmentation.<sup>130</sup> The International Law Commission observed fragmentation resulted from the expansion of international law as a whole. After the era of multilateral treaties has passed, IEL continues to emerge in regional settings and specialty matters, *e.g.* implementation of the 2015 *Paris Agreement*. Addressing fragmentation, therefore, must contend with IEL's diverse composition:

On the one hand, fragmentation does create the danger of conflicting and incompatible rules, principles, rule-systems and institutional practices. On the other hand, it reflects the rapid expansion of international legal activity into various new fields and the diversification of its objects and techniques. [Such problems] are neither altogether new nor of such nature that they could not be dealt with through techniques international lawyers have used to deal with the normative conflicts that may have arisen in the past.

The rationale for the Commission's treatment of fragmentation is that the emergence of new and special types of law, "self-contained regimes" and geographically or functionally limited treaty-systems creates problems of

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<sup>130</sup> Regional creation of IEL in response to fragmentation is discussed in Chapter 3. The leading commentary on fragmentation continues to be the 2006 report of the International Law Commission, *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law*, UN doc. A/CN.4/L.682 (13 April 2006) (finalized by Martti Koskenniemi). See Mads Adenas, "Reassertion and Transformation: From Fragmentation to Convergence in International Law" (2015) 46 *Georgetown Journal of International Law* 685 at 692: "Fear of fragmentation as a threat to the unity and coherence of international law or its future as a legal system may explain why convergence and unity are becoming more dominating features of international law discourse than the claims to autonomy and specificity of different regimes and disciplines which previously dominated."

coherence in international law. New types of specialized law do not emerge accidentally but seek to respond to new technical and functional requirements. The emergence of “environmental law” is a response to growing concern over the state of the international environment. [...] <sup>131</sup>

IEL’s fragmentation is the quality of being internally disparate. The complexity of environmental impacts which required consensus rule-making among states, and the speed with which agreements for those rules emerged, resulted in singularly remedial approaches. IEL may be incomplete in the phenomena it is to address, it may not apply with equal effectiveness in different governance regions and it has yet to be turned to underlying causes of environmental impacts, but these are not problems of fragmentation. <sup>132</sup> Instead, fragmentation is a problem of diversity and it is this which points to how coherency – a reconciliation of sometimes competing and overlapping rules for common issues of environmental protection (e.g. biodiversity and fisheries conservation; greenhouse gas emissions control and atmospheric pollution transport; the manufacture and trade in toxic substances). Coherency is efficiency, which entails a reducing of conflict of rules and their burden on states to implement and monitor the performance of. At the same time, the utility of IEL rules being consistent with international law as a whole is desirable. <sup>133</sup>

A variety of techniques to create new rules in IEL’s canon and organize the implementation of a now considerable body of rules seems possible, given apparent successes in places such as Antarctica and regional seas settings. An evident lesson is the effectiveness of a continuous basis to administer the application of IEL among states, by the cooperation of states acting through regionally directed (*i.e.* spatially limited and oriented) implementing organizations. However, it is law that is our concern, and less the mechanisms for its

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<sup>131</sup> *Fragmentation of International Law, ibid.* at paras. 14-15.

<sup>132</sup> They undoubtedly contribute to fragmentation, because they limit singular approaches to specific adverse environmental impacts in relative isolation from other rule-based approaches.

<sup>133</sup> The evaluation of IEL rules for their rule of law qualities is discussed in Chapter 5.

realization. Creating law in specific settings with rules that are complimentary across issue areas, although at risk of departure from other physical settings is an indicated technique. The problems of such a regional pursuit of coherency could be remedied, at least for oceans settings, by consistent regard for and application of the general rules found in the law of the sea (including UNCLOS).

Fragmentation offers the benefit of fostering pluralism in IEL. That is desirable for developmental diversity including reconciling varying contentions about what makes for acceptable norms that are to become rules. However, we must be careful to assess the evidence diversity in a particular matter of environmental protection will allow for more efficient or realizable rules.<sup>134</sup> Customary IEL principles may be a part of this understanding if they help to overcome or reconcile disparities in treaty-based rules across governance regimes. We need to ask what more can be demanded of customary principles including whether some are usefully extended to subject-specific rules or if custom's role is to continue as overarching guidance to avoid the most serious adverse impacts.<sup>135</sup> If left untended in the discussion by states and others interested in IEL, custom would seem to be at risk of diminishing, becoming

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<sup>134</sup> Customary principles of IEL are well defined. Where they are on a *jus cogens* and *erga omnes* continuum of obligation is contentious, e.g. the prohibition against serious transboundary pollution, cooperation, and informing other states about potential environmental risks. [Continued overleaf]

Nicolas de Sadeleer suggests environmental law within states is incoherent. "Environmental law bears the marks of post-modernity particularly strongly, owing to the uncertain character of a number of its norms. Three factors explain why environmental norms have become uncertain: the increasing influence of regulatory flexibility, evolving and controversial scientific and technical data, and the shattering of traditional legal boundaries. The interactions between these three factors have produced a legislative restlessness that is compromising the very concept of law." *Environmental Principles: From Political Slogans to Legal Rules* (Oxford, UK: Oxford University Press, 2002) 255.

<sup>135</sup> Those who argue for deeper systemization of IEL by integrative mechanisms and a global governance organization might advisedly call for the study of how custom emerged from treaty-making and related state practice after Stockholm. See Steve Charnovitz, *A World Environmental Organization* (New York, NY: United Nations University, 2002) and Nils Goetyn, "Legal Challenges in the creation of a World Environmental Organization" in Robert V Percival, Jolene Lin and William Piermattei, eds, *Global Environmental Law at a Crossroads* (Cheltenham, UK: Edward Elgar, 2014) 295.

less capable of reconciling legal rules and perhaps even normative value, except as symbolic meta-principles.<sup>136</sup>

Despite the demands on IEL and a need to address the challenges of making it effective, there appears to be no desire among states for a directing framework (or rules) to coordinate and reform the law.<sup>137</sup> It seems an impossible task to create mechanisms to align priorities and uniform development across IEL. States are reluctant to assume more environmental treaty-making work in view of the effort to make costly agreements such as the *Paris Agreement* viable.<sup>138</sup> The promise of a constitutional framework for IEL of central directing norms is not yet in sight:

The agents of constitutionalization seem to be primarily scholars, not political actors. Empirical findings do not conform to an all-encompassing global trend of constitutionalization. Empirical evidence rather points uneven processes of constitutionalization, differing in terms of various constitutional dimensions and world regions. All this suggests that global constitutionalism may be a paper tiger.<sup>139</sup>

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<sup>136</sup> “The scope of customary international law as it has been traditionally conceived has shrunk in recent decades, whittled away by the increasing number and scope of multilateral agreements. But academics and others have been reluctant to accept that customary international law is increasingly unnecessary in an age with few logistical barriers to the negotiation of treaties. Instead, they regularly propose new elements of, and roles for, customary law, most of which are based ... more on wishful thinking than on evidence of custom or *opinio juris*. As a result, the ideals on which the proposals are based are confused with the law itself, to the benefit of neither.” “The Myth and Reality of Transboundary Environmental Impact Assessment”, *supra* note 26 at 319.

<sup>137</sup> “[T]he emergence of conflicting rules and overlapping legal regimes will undoubtedly create problems of coordination at the international level. But - and this is the second main conclusion of this report - *no homogenous, hierarchical meta-system is realistically available to do away with such problems*. International law will need to operate within an area where the demands of coherence and reasonable pluralism will point in different directions. In order for it to do this successfully, *increasing attention will have to be given to the collision of norms and regimes and the rules, methods and techniques for dealing with such collisions*.” *Fragmentation of International Law*, *supra* note 129 at para. 493, emphasis in original.

<sup>138</sup> “Although goals of a self-constituting international society are attractive to the context of globalizing social and political structures, the trade and environmental quandaries [of IEL and natural resources exploitation regimes result in] strong resistance to hierarchical norms. In the interaction between regimes, arguments for exclusivity within regimes or trumping norms gave way to a need to continuously engage and contest social and political solutions and governance structures.” Margaret A Young, *Trading Fish, Saving Fish* (Cambridge, UK: Cambridge University Press, 2011) at 281, footnotes omitted.

<sup>139</sup> Anne Peters, “Conclusions” in Jan Klabbers, Anne Peters and Geir Ulfstein, eds., *The Constitutionalization of International Law* (Oxford: Oxford University Press, 2009) 342 at 343.



Short of such an ideal, we may conclude that IEL is at a point or maturing to where it is receptive to *constitutionalizing* influences. The influences are features across disparate sources of the law which reconcile conflicts and gaps by imposing obligations on states to assume environmental responsibilities. As systemic precepts to organize IEL these influences are: (i) the identifiability of legal rules including similar ones in different subject areas; (ii) commonality across topics for IEL regulation; and (iii) amenability and an administrative capacity for implementation of IEL rules (*i.e.* treaties) by states.<sup>140</sup> A first aspect of their cohering influence lies in the consistency of environmental norms from subject to subject. A second is application of the law through governance arrangements including regimes centered on a treaty with legitimating characteristics that attract states to accepting rules. A third aspect is the responsiveness of states, including adoption and accountability for obligations they commit to. As considered in Chapters 3 and 4, these influences overcome fragmentation and move the law toward coherency.

The search for a better organization, rule-making and systemic application of IEL must contend with limits. That desired coherence appears most available not across IEL as a whole but in specific settings that have the advantage of small numbers of states committed to a mutuality of implementation. The phenomenon of regional creation and application of IEL is therefore considered next.

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The leading commentator is Martti Koskeniemi, for which see *The Gentle Civilizer of Nations: The Rise and Fall of International Law 1870-1960* (Cambridge, UK: Cambridge University Press, 2001) and "Constitutionalism as a Mindset: Reflections on Kantian Themes about International Law and Globalization" (2007) 8 *Theoretical Inquiries in Law* 9. See also Daniel Bodansky, "Is there an International Environmental Constitution?" (2009) 16 *Indiana Journal of Global Legal Studies* 565; Jürgen Habermas, "Does the Constitutionalization of International Law Still Have a Chance?" in *The Divided West*, J Habermas, trans. Max Pensky (Cambridge, UK: Polity Press, 2006); Jan Klabbbers, "Constitutionalism Lite?" (2004) 1 *International Organizations Law Review* 31; and Gunther Teubner, for which see Christian Joerges, Inger-Johanne Sand and Gunther Teubner, *Transnational Governance and Constitutionalism* (Oxford, UK: Hart Publishing, 2004).

<sup>140</sup> To organize IEL it must be consistent with the rule of law in the international order. Jeremy Waldron's definition is relevant: Law must confine decision-making discretion, ensure clarity and uniformity of legal rules, allow independent dispute resolution, and assure equality before the law. "Are Sovereigns Entitled to the Rule of Law?" (2011) 22 *European Journal of International Law* 315 at 316.

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## CHAPTER 3

### REGIONALITY AND THE COHERING OF INTERNATIONAL ENVIRONMENTAL LAW

- I. REGIONALITY OF INTERNATIONAL ENVIRONMENTAL LAW IN A PHYSICAL WORLD
- II. A DEFINITION AND RATIONALE FOR REGIONALITY
- III. THE PROBLEM OF FRAGMENTATION IN INTERNATIONAL ENVIRONMENTAL LAW
- IV. REGIONALITY IN IEL: LESSONS FOR THE ARCTIC

#### I. REGIONALITY OF INTERNATIONAL ENVIRONMENTAL LAW IN A PHYSICAL WORLD

International environmental law has a distinct relationship with the physical. The rules for environmental protection in the international community are meant to regulate the actions of states and their citizens toward natural amenities, routinely in defined geographic settings. The norms of environmental law are frequently aimed at reducing the physical manifestations of targeted behaviors, preventing a decline of natural amenities, and avoiding or mitigating adverse impacts from pollution.<sup>1</sup> Of course, other branches of international law operate in the context of physical settings because the law between states is territorial in its construct and operation. However, IEL's purpose is consistently about the physical world, embodied as collective rules among states to avoid adverse impacts on natural amenities. While the goals that underlie IEL vary, ranging from the prevention of harm to human health, e.g. by preserving the stratospheric ozone layer, to assuring acceptable exploitation of resources such as

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<sup>1</sup> Normativity in IEL is arrived at from more than a regard for the physical. As discussed in Chapter 2, significant social influences and scientific evidence must be accounted in identifying the law's inception and, in recent decades, the work of international organizations in particular environmental matters, e.g. the UNFCCC Secretariat in response to climate change.

The considerable importance of emergent governing principles, *i.e.* desired rules (*lex ferenda*) is to be recalled in assessing how IEL is to cohere in specific physical settings. See notably Pierre-Marie Dupuy, "Soft Law and the International Law of the Environment" (1990) 12 *Michigan Journal of International Law* 420 and Jaye Ellis, "Shades of Gray: Soft Law and the Validity of Public International Law" (2012) 25 *Leiden Journal of International Law* 313.

requiring sustainable yields of fish stocks, the result of IEL is most often intended to be realized in the physical realm.

This chapter addresses the *regionality* of international environmental law. Regionality is defined here as the quality or characteristic of the law for it to be received and adapted in local settings among groups of states, in a middle ground between bilateral and multilateral environmental arrangements. The argument pursued in this chapter is that regionality is now an established, even principal feature of IEL for the law's design and application. Regionality is a characteristic which ensure IEL's coherency, *i.e.* toward systemic creation and organization, and overcoming fragmentation, while extending IEL for receipt and application by states with secondary rules. IEL's feature or creation by the phenomenon of legalization, relevant to how it can be assessed for the efficacy of its rules and examined in Chapter 5, is also considered.

The chapter starts by addressing what is meant by regionality. The idea of international environmental law being directed to regulate the conduct, *i.e.* the behavior of states in physical spaces is considered in the effort to define regionality. A regional creation of environmental protection law among states is *a priori* desirable for two reasons, namely, developing the law into specific rules more consistent with a physical setting and, second, the better organization of the law in such discrete places. The risk of an imprecise definition of regionality, one that extends into areas of environmental governance and international affairs, is such that a categorical approach is needed. Therefore, regionality is considered here as a particular quality of concern to IEL's realization. This is the propensity and adequacy of IEL to be received into local settings among groups of states and other actors such as Arctic Indigenous peoples, by adapting global environmental rules or making of localized rules to better fulfill global IEL obligations, or both. The idea of regionality as a governance technique,

while important, is not extensively considered.<sup>2</sup> How IEL's development and creation in the context of the region feeds back into, *i.e.* has become a determining factor of the success of IEL as a whole, is discussed. Examples of the receipt and local rule-making of IEL into regional settings are then addressed. Because regionality is arguably a means to overcome the disparate nature of current IEL, the problem of fragmentation in the law is explored. The chapter then moves to consider an example *par excellence* of regionality: Antarctica. Finally, the lessons of regionality for an Arctic where states have rejected formal arrangements to organize IEL are presented.

### ***A boundary around regionality***

From the start we must accept not every environmental protection problem can be reduced to local rule-making, including by receipt and implementation of global rules. Certain environmental problems capable of being met with legal responses – rules to address such problems – such as globally distributed atmospheric pollution, appear to have a universal quality of not being translatable to more effective rules between groups of states in particular settings. The question to be asked of the phenomenon of regionality is what it offers to IEL: (i) as a spatial, *i.e.* geographic basis to create environmental protection rules; (ii) to govern under IEL's obligations as a whole in such local settings; or (iii) to create secondary rules for local settings, or all three of these objectives.<sup>3</sup> The experience of IEL after Stockholm offers

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<sup>2</sup> Arguably without a consensus among states a commitment to collective environmental protection in local settings – as a first act of governance – IEL cannot be pursued regionally. An architecture of governance that can yield law is accordingly needed. See Frank Biermann et al, "The Fragmentation of Global Governance Architectures: A Framework for Analysis" (2009) 9 *Global Environmental Politics* 14. By "architectures" the authors mean "the overarching system of public and private institutions that are valid or active in a given issue area of world politics. This system comprises organizations, régimes, and other forms of principles, norms, regulations, and decision-making procedures. Architecture can thus be described as the meta-level of governance."

<sup>3</sup> To illustrate the spatial, the term "issue area" can be substituted. See e.g. F Seclan Serdaroglu, "Regional Governance Beyond Territorial Sovereignty: A Cooperation Model for the Use of the Tigris and Euphrates Rivers" in Howard M Hensel, ed., *Sovereignty and the Global Community: The Quest for Order in the International System* (Aldershot, UK: Ashgate, 2004) 167. By arrangements, I mean treaty

examples of each of these three objectives. First, in some places states agree to environmental protection rules in the absence of general, directing rules from IEL as a whole. Examples include the conservation of species apart from a connection with biodiversity goals, e.g. protection of the polar bear (*ursus maritimus*) in Arctic states under the 1973 *Polar Bear Convention*.<sup>4</sup> Second, the phenomenon of regional governance for environmental protection has undeniably taken hold in the years since Stockholm, which arguably started with a deliberate preservation of a continental region under the 1959 *Antarctic Treaty*. Other than the global commons of the high seas and the atmosphere, fewer places are without locally-oriented legal rules between states for environmental protection. What explains a lack of regionally oriented governance and application of IEL in the global commons is the reluctance of states to commit to regulated behaviors beyond their borders. That is because such obligations limit the scope of economic action, whether the taking of common resources or out of concerns over limiting of the extra-territorial consequences of states' internal activities.<sup>5</sup> The persistent reluctance of states to agree on rules to allocate liability and compensation for environmental damage which they cause demonstrates such a rejection of assumed obligations for external consequences of their behavior. The stalled acceptance of a liability regime under

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and informal shared regime governance arrangements which result from settled *norms*. Bodansky's categories of IEL norms are relevant: (i) intergovernmental agreements; (ii) decisions of treaty bodies; (iii) decisions of international organizations; (iv) conference resolutions and declarations; (v) claims by states; (vi) judicial and arbitral decisions; (vii) business codes of conducts; and (viii) pronouncements of scholars and experts. Daniel Bodansky, *The Art and Craft of International Environmental Law* (Cambridge, MA: Harvard University Press, 2010) at 94 ff.

<sup>4</sup> *Agreement on the Conservation of Polar Bears* (15 November 1973) 13 ILM 13 (in force 26 May 1976). The treaty requires both regulation of the hunting of polar bears and protection of range habitat. See Article II: "Each Contracting Party shall take appropriate action to protect the ecosystems of which polar bears are a part ..."

<sup>5</sup> The long road to collective binding measures among states to reverse climate change caused by greenhouse gas emissions is the current leading example. See: *United Nations Framework Convention on Climate Change* (9 May 1992) 1771 UNTS 107 (in force 21 March 1994) UNFCCC, the Kyoto Protocol of the UNFCCC (11 December 1997) 37 ILM 22 (in force 16 February 2005), and the *Paris Agreement* (12 December 2015), UNFCCC doc. FCCC/CP/2015/L.9/Rev.1 (in force 4 November 2016).

the *Antarctic Treaty's* Madrid Protocol is an example.<sup>6</sup> Even in such a valued environmental preservation setting with a relatively small number of states interested and experiencing minimal adverse activities, it has not been possible to achieve consensus in Antarctica for a scheme of reparation rules to address environmental damage.<sup>7</sup>

It is the manifestation of secondary rule-making for environmental protection in particular locales as a form of regionality which is arguably most important for IEL. When the performance of IEL is assessed, the law would not be successful without an intermediate basis for it to be conceived and applied as between like-minded states. Success is a subjective quality and which includes the result or outcome of applying environmental protection rules, at most fundamental directed to ensuring the working order of natural amenities. Two things about the nature of IEL's rules explain the need for regionality as a specific conceiving of law for particular settings, whether such environmental protection rules are derivatives (or analogs) of global rules (for the most part now found in IEL multilateral treaties) or are unique, *i.e.* adaptive to the setting. First, as we saw in Chapter 2, part of IEL until the present was conceived at a global level with form as rules of a general character occasionally lacking detail for effective implementation by states. Second, because of the governance of the physical world sought through international environmental protection rules, a stronger consensus to the utility of such rules and their realization is arguably needed. The large number of bilateral environmental protection treaties and regional environmental governance regimes which have

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<sup>6</sup> *Antarctic Treaty* (1 December 1959) 402 UNTS 71 (in force 23 June 1961). There were 53 states party to the Treaty in January 2018. 29 are voting ("consultative") members of the Treaty because they maintain substantial research activities on the continent. Of the eight Arctic Council states, six are consultative members of the *Antarctic Treaty* and Canada and Iceland are non-consultative members.

<sup>7</sup> Protocol on Environmental Protection to the Antarctic Treaty (4 October 1991) 30 ILM 1455 (in force 14 January 1998) (the Madrid Protocol). The Protocol has six operational annexes, with the last of them not yet in force: I – environmental impact assessment; II – fauna and flora; III – waste disposal; IV – marine pollution; V – protected areas; and VI liability. All 29 present consultative state members of the *Antarctic Treaty* are members of the Madrid Protocol. Of 24 non-consultative states, 10 have signed the Protocol.

strong legal character are an empirical proof that states accept an intermediate or secondary creation of IEL rules in specific locales.<sup>8</sup>

For a making of environmental protection rules in regions to be claimed as necessary for IEL and thereby intrinsic to the law's success, we must ask why IEL relies on such a second order manifestation of itself. A first answer was suggested at the start of this chapter, that of the unique physical demands and application on this branch of international law. Most other areas of international law do not require this. For example, the desired universality of human rights law across its branches (e.g. civil and political rights, and international humanitarian law) does not initially need reduction as nuanced rules in particular settings.<sup>9</sup> Moreover, a receiving of IEL into defined geographic places by derivative rule-making has a parallel in the making of secondary rules of universal application under the multilateral environmental treaties. Examples include the operation of the *International Convention for the Regulation of Whaling* (the ICRW) and, discussed in Part IV below, the Antarctic Treaty System.<sup>10</sup> They show IEL to rely sometimes on secondary or *interstitial* rules for presumed initial implementation and later in response to changes in the environment necessitating fresh or evolving rules.<sup>11</sup>

Another answer to the question of why regionality has emerged so extensively in IEL and why the law arguably must now rely on this quality for successful application is to be found in the character of IEL itself. International environmental protection law is *disparate*.

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<sup>8</sup> See the discussion about 1990s era bilateral IEL agreements in Chapter 2 at pages 132-136.

<sup>9</sup> However, international human rights law undeniably benefits from local governance, *i.e.* implementing, monitoring and remedial measures among states able to exercise particular economies of scale, interests, and peer legitimacies giving rise to the reception and compliance with such law.

<sup>10</sup> *International Convention for the Regulation of Whaling* (2 December 1946) 161 UNTS 72 (in force 10 November 1948) (the ICRW). A global moratorium on commercial whaling under the ICRW has continued since 1985. Previously, annual commercial whaling quotas were agreed upon by states in the setting of their meeting in the International Whaling Commission under the Schedule to the ICRW. For the ICRW text and related instruments, see the website of the International Whaling Commission, online: IWC <<https://iwc.int>>.

<sup>11</sup> The ICRW and the *Antarctic Treaty* have evolved by secondary rule-making for local settings. Decisions of ICRW member states, for example, have created large whale conservation areas in several oceans. The Antarctic Treaty System, discussed below in Part IV at pages 182 ff., is a body of extensive secondary and specific local rules for environmental protection on that continent.

This is partly the result of its scope extending to the entire range of human activities that result in, or threaten, adverse impacts on the natural world. There continue to be significant practical limits to this range, including IEL's persistent orientation to prevention only of serious harm in transboundary settings, and much less the internal conduct of states even as that may be equally harmful.<sup>12</sup> Nevertheless, IEL's current form heavily as treaties, and the scope of matters accepted as falling within the law's compass, along with the incomplete nature of the law means that it is, in the accepted international legal definition, *fragmented*. It follows that a *second order rules function* of regionality is asked to accomplish things. It must first cohere, *i.e.* bring IEL to more readily be received and implemented in local settings. The second demand is for it to reconcile, *i.e.* make more efficient, fragmented strands of IEL in those places. The following parts of this chapter consider each in turn.

## II. A DEFINITION AND RATIONALE FOR REGIONALITY

A regional approach to IEL engages questions of scale, agency and cooperation. When there are a limited number of states which have a more direct or proximate interest in an environmental protection matter, the expected result is that cooperation between them for environmental governance and, within that, making of legal rules to direct the behavior of each such state is more attractive and efficient. Cooperation – arguably the threshold condition for any project of new environmental law between states – is easier to establish, while collective goal-setting in response to discernable physical phenomena in discrete settings reduces negotiation costs and uncertainty. Cooperation should also be expected to

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<sup>12</sup> The principal features of equality and sovereignty between states in the international order and therefore in IEL means that, because of incomplete and weakly monitored obligations, cooperation assumes considerable importance in the identification of prospective rules and their acceptance by states. David Axelrod has observed that collectively stable rules in a game are ones that will be "territoriality stable." However, for IEL the reverse is true. Territorial stability has much to do with recognition and acceptance of IEL rules. "[W]hen the players are using such a wide variety of more or less sophisticated decision rules ... [e]ach territory that has a more successful neighbor simply converts to the rule of its most successful neighbors." David Axelrod, *The Evolution of Cooperation*, rev ed (New York, NY: Basic Books, 1984) 160-164.



foster deeper commitment to legal rules by states. What creates the conditions for “good”, *i.e.* successful, environmental law is more readily achieved, including through the identifying of causes of environmental problems, speedier consensus to common rules, and more certain governance of law’s application.

Four questions must be asked when examining regionality’s role in the development and coherence of IEL. The first is about definition: *What is regionalism in IEL?* In other words, *can regionalism be reduced to an objective definition? What is the character of regional IEL? How does regional IEL differ from global and local rules for environmental protection?* Where these matters have been grappled with, it has been from the perspectives of international relations and regime theories. That is unfortunate because IEL has a strong physical-geographic character and has arguably progressed to a present condition having what can be called a *design preference* for localized settings. As discussed in Chapter 2, much of current IEL is in the form of or derived in secondary treaties from global treaties of general application and broad-ranging customary rules.<sup>13</sup>

Such geographic settings are almost invariably politically defined. They would preferably be aligned with the spatial world of the environment, *i.e.* ecosystems, and with only bare regard to the territories of states. An ecosystem is what the World Wildlife Fund defines as a “large unit of land or water containing a geographically distinct assemblage of species, natural communities, and environmental conditions.”<sup>14</sup> But IEL has not been created this way. The interests of states are directed, where regionality has been possible such as in Europe and

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<sup>13</sup> An example of the “global into the regional secondary” can be observed in the UNCLOS framework, as an instrument of general norms given substance by regional seas instruments and subject-specific treaties such as the 1995 *Straddling Stocks Agreement* (the *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (4 August 1995) 2167 UNTS 3 (in force 11 December 2001).

<sup>14</sup> World Wildlife Fund, “Ecoregions”, online: WWF <<http://worldwildlife.org/biomes>>. The WWF classifies “Global Ecoregions” into marine terrestrial and freshwater habitats grouped along biological diversity lines, for example polar marine ecoregions in distinction to tropical coral marine ecoregions.

Antarctica, to spaces of common or shared concern.<sup>15</sup> The ground of international law as a whole out of the principles of territoriality and sovereign equality explains why the ideal of an ecosystem-directed creation and application of IEL has been difficult to achieve.<sup>16</sup>

*Environmental regions are political settings.*<sup>17</sup> Realizing application of the law for environmental protection in these places must be by political agreement, *i.e.* the consensus of states to rule-making for certain matters with a risk of rules overlapping and imposing burdens on participating states.<sup>18</sup>

A second group of questions is an inquiry about process: *What factors – legal and non-legal (such as cooperation for environmental protection governance) – allow regionalism in IEL to be applied? How can these factors be differentiated from others for the creation and application of IEL?* The making and adaptation of IEL into regional settings results from collective decisions of interested states to pursue specific approaches, such as by conferral under a multilateral treaty or a coordinating actor such as the UNECE in Europe. This invites a third type of questions about the effectiveness asked of regionality: *Can IEL adapted for specific*

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<sup>15</sup> “The regional phenomenon has been constantly referred to as an institutional framework for the formation of common rules for all States concerned, to the extent that it fueled debate on an autonomous, alternative and competitive mode of formation of international law either in general or in a determined domain.” Stéphane Doumbé-Billé, “Regionalism and Universalism in the Production of International Environmental Law” in Yann Kerbat and Sandrine Maljean-Dubois, eds, *The Transformation of International Environmental Law* (Oxford: Hart Publishing, 2011) 117 at 119. “It is thus in the framework of global and regional institutional cooperation that the production of a real corpus of rules for protection will be produced.” *Ibid.* at 121.

<sup>16</sup> Article 2(1) of the UN *Charter* (24 October 1945) 1 UNTS XVI.

<sup>17</sup> Expressed thus, environmental governance regimes that prescribe rules for common land and habitat areas have been easiest to arrive at between states, followed by ones for shared ocean areas with overlapping or adjacent exclusive economic zones such as in the Mediterranean Sea, and then distantly by ones for the high seas. More difficult to conceive for rule-making purposes are widely separated places with particular habitats such as the “cyrosphere” of ice covered polar and mountain glacial areas. For a discussion of regionalism in international law including “the pursuit of geographic exceptions to the law”) see the interim report of the International Law Commission fragmentation study group, Report of the International Law Commission 2005, UN doc. A/60/10, at paras. 449 ff., available online: Ref World <<http://www.refworld.org/pdfid/4a716bdf2.pdf>>.

<sup>18</sup> As examined in Part IV of Chapter 1, regionality in the Arctic has had to provide for and adapt within an increased Indigenous polity. Only at its most basic is regionality an efficiency of applying IEL among states. Various non-state and non-traditional actors in international law create opportunities for flexibility that regionality ideally entails.

*settings be evaluated for the success of its result, as environmental protection governance regimes have been? How can IEL in a setting be evaluated distinctly from governance arrangements including any overall regime for environmental protection in that setting? A fourth area of inquiry is to examine the counterfactual, i.e. how IEL would develop and be implemented if it was not capable of reception or enlargement in geographic settings agreed to by states: Does IEL as a whole depend on case-by-case regional application to be successful? If the success of IEL for certain matters relies on operating in a regional frame, why is there not more regional IEL? Why have some regions encountered delay or resistance to collective environmental rule-making between states?*

### ***Territoriality and regionality***

The acceptance by states that international law could be shaped to rules to ensure the behavior of states for environmental protection within their borders is relatively new in history. The 1902 *Paris Convention for the Protection of Birds Useful to Agriculture*, discussed in Chapter 2, marked the beginnings of such a shift in the law, to what can be called *infra-territoriality*.<sup>19</sup> By modern standards, the 1902 Convention was weak because it had a limited number of signatories and there had not yet emerged a shared sensibility for environmental protection among states.<sup>20</sup> However, by creating the Convention, states revealed they were prepared to contract in ways that would limit their sovereignty to achieve an ostensibly greater benefit. But the consistent acceptance of this would be decades in coming. Only after 1945 and with impetus from the Stockholm Conference did acceptance emerge that IEL could

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<sup>19</sup> See page 114.

<sup>20</sup> A regional example, although not apparently in response to the 1902 treaty, is the *Convention for the Protection of Migratory Birds in Canada and the United States* (United Kingdom and USA) (August 16, 1916), TS No. 628, 39 Stat. 1702. For a history of the 1902 treaty and its preceding 1895 conference see Juan José Ferrero-García, “el Convenio Internacional Para La Protección de Las Aves De 1902: ¿una Ocasión Perdida para La Conservación De La Vida Silvestre?” (2013) 60 *Ardeola* 385 and Michael J Bowman, “The 1902 Convention for the Protection of Birds in Historical and Juridical Perspective” (2014) 61 *Ardeola* 171.

extend to regulate the internal conduct of states.<sup>21</sup> Even today, a comparatively small number – about 10 – multilateral treaties explicitly direct the behavior of states for environmental protection of the global commons. What can be made of such an internal-external regulation balance at the present point in IEL’s development? Do the demands on IEL – its creation among and reception by states – remain concerned with the transboundary (obligations *inter partes*) at the expense of compelling states to act inside their frontiers regardless of collective acceptance of responsibility? IEL requires states to act domestically for environmental protection, but with an emphasis on shared transboundary concerns, and does so without prescription for specific actions, or applied to the geographic, social and environmental circumstances of a particular state.<sup>22</sup> Undeniably multilateral environment agreements after Stockholm have allowed states to internalize obligations in many areas, recalling the categorization of treaty types in Figure I of Chapter 2. This is not so much of a *constitutionalizing* effect on IEL; rather, it is secondary rule-making, which in turn should make it efficient for states to internalize what they have committed to.

In addition to the necessity of applying IEL in the context of physical settings or to remedy physical impacts, there are the differing characters of what might be called *legal space*, territorial places where states choose to exercise jurisdiction. IEL, by its animating principles of custom and pollution instruments (*i.e.* treaties), is first concerned with obvious transboundary impacts.<sup>23</sup> Because IEL’s progress from Stockholm until now has been

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<sup>21</sup> The arguable shortcoming or limit of customary IEL, discussed in Chapter 2, is that it does not often compel states to protect the environment internally, but concentrates on matters of common concern. The stance to ensure transboundary environmental protection – acid rain in Europe under the LRTAP Convention for example – entails domestic measures and resulting protection. The extent to which states enact domestic legislation and measures in the absence of treaty obligation (what we can call “treaty compulsion”) is not well understood.

<sup>22</sup> The problem of clearing forests by burning in South East Asia is an example of IEL’s weakness to compel affected states to act internally in response to a complex social problem. See the discussion in Chapter 2 at page 136 and note 112.

<sup>23</sup> This explains why the UN *Straddling Stocks Agreement* as a transboundary reconciling instrument was needed for shared ocean fisheries.

concerned with ensuring that the behavior of states meets collective norms, a making of law would have to encompass the domestic conduct of states. As noted in Chapter 2, this has mostly been the regulation of pollutants, conservation activities, and then followed by some administrative-accountability processes (e.g. environmental impact assessment) and followed distantly by resource use. It is therefore not surprising that IEL's development to regulate states beyond national jurisdiction – in the global commons – remains the weakest of these.<sup>24</sup>

Regionality helps to solve the problem of internal reception of IEL by states and of the occasional disregard states exhibit for the global commons by offering a spatial, *i.e.* geographically conceived response. Regionality provides a basis for states to negotiate and commit to IEL in settings that have fewer parties and potential to more accurately understand shared environmental problems.<sup>25</sup> The acceptance of obligations to comply with IEL, whether as global precepts or locally determined rules, is arguably more readily achieved when states can exercise a direct, and proximate interest to an environmental protection matter among them. Of course, not every would-be political region in which environmental governance is needed is the same. We can compare Europe with its extensive modes of cooperation to receive and implement IEL to the present circumstances of South East Asia. The latter continues to go without a realized governance framework for long-identified environmental protection problems, including to organize needed rules or foster collective obligations between states.<sup>26</sup>

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<sup>24</sup> These categories of spatial application help to assign priorities for the development of IEL, such as the present development of a resources conservation scheme for the high seas and to understand how states internalize IEL obligations.

<sup>25</sup> The efficiency here of adjacent states creating IEL arrangements and governing IEL in general among them is the result reduced agency costs, in negotiating, implementation and monitoring.

<sup>26</sup> I discuss the 2002 *ASEAN Agreement on Transboundary Haze Pollution* in Chapter 2 at pages 104 and 136. On the persistence of South East Asia's significant environmental problem, see Shannon N Koplitz *et al*, "Public health impacts of the severe haze in Equatorial Asia in September–October 2015: Demonstration of a new framework for informing fire management strategies to reduce downwind smoke exposure" (2016) 11 *Environmental Research Letters* 1.

A necessary quality of regionality can be seen in the promotion of local application of IEL rules.<sup>27</sup> This is something which allows states to more readily accept such rules and implement them through greater identification of self-interest in specific settings. An example of this attraction and adoption of IEL rules into a regional context is found in the creation of UNCLOS regional seas arrangements. Such a “locality” should be expected to result in coordination (or synthesis) across environmental rules by identifying priorities and with reduced agency cost among fewer states. In addition, certain other multilateral IEL treaties which depend for their performance on a continuing cooperation between states – beyond mere individual implementation – should be expected to fare better. These treaties include the *Biodiversity Convention*, the *Convention on Migratory Species* and, to a lesser extent, the *Convention on the International Trade in Endangered Species of Fauna and Flora*, and the *Ramsar Convention*.<sup>28</sup>

A regional approach to applying IEL should be expected to lead to improved cooperation and performance monitoring of how states implement their commitments. But evidence of the success of both these objectives is lacking. There appears to be no *a posteriori* study of the effectiveness of applying IEL regionally. One method could be to compare an existing IEL regional regime or framework to a non-regime counterfactual. This may be possible through the use of regional seas examples, because so many of these agreements exist

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<sup>27</sup> This is the *scalability of rules*. It has two aspects. Many IEL rules are general and therefore benefit from adaptation into particular settings. And states, on the other hand, arguably engage and apply IEL obligations in light of other interests in specific settings.

<sup>28</sup> *Convention on Biological Diversity* (5 June 1992) 1760 UNTS 79 (in force 29 December 1993) (CBD).

The *Convention on the Conservation of Migratory Species of Wild Animals* (6 June 1979) 1651 UNTS 333 (in force 1 November 1983) (CMS) is an example of the global made regional through spatially defined instruments for species of concern: seals in the Waddell Sea (the WSSA), small cetaceans in the northeast Atlantic (ASCOBANS), European bats (EUROBATS), African-Eurasian migratory water birds (AEWA), cetaceans in the Black and Mediterranean Seas (ACCOBAMS), albatrosses and petrels (ACAP), and gorillas.

*Convention on the International Trade in Endangered Species of Wild Fauna and Flora* (3 March 1973) 993 UNTS 243 (in force 1 July 1975) (CITES).

*Convention on Wetlands of International Importance especially as Waterfowl Habitat* (2 February 1971) 996 UNTS 245 (in force 21 December 1975) (Ramsar Convention).

and there are places without agreements which in physical and political terms could credibly serve as a no-agreement counterfactual. A comparison of Antarctica as region to the Arctic can also offer insights: Antarctica has what can be called a *pronounced regionality* to adapt IEL's rules given its geographic insularity, remoteness and the requirement of the *Antarctic Treaty* that it be preserved. Although primarily about resource allocation, the environmental protection rules of numerous regional fisheries treaties could offer insights, answering the question as whether IEL in such settings performs has a better result than ocean areas which do not have such arrangements. What appear to be the most efficiently implemented and monitored of fisheries agreements are those with few states, in contrast to whole ocean arrangements for species such as Atlantic tuna under the ICCAT.<sup>29</sup> Meanwhile, the implementation of global treaties which have not been reduced to local rule-making cannot be overlooked in a search for lessons to assess IEL's regionality. No regional approach exists for governance of stratospheric ozone protection under the *Vienna Convention-Montreal Protocol* regime, yet it is accepted as singularly successful in IEL.<sup>30</sup>

### ***The complexity of IEL***

It is IEL's complexity which fulfills the case for regionally creating and applying the law.

"[M]ost transnational environmental fact situations require a multilevel regulatory approach, because their 'public' law features tend to be inextricably mixed with equally relevant aspects

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<sup>29</sup> See the discussion of the ICCAT and the Arctic in Chapter 1 at page 65.

<sup>30</sup> "The most important precedent in international law for the management of global environmental harms, the Montreal Protocol regime provides a useful model for other long-term environmental challenges such as climate change." David Hunter, James Salzman & Durwood Zaelke, *International Environmental Law and Policy*, 3d ed (New York, NY: Foundation Press, 2007) at 567.

The *Vienna Convention-Montreal Protocol* regime is one to regulate and eliminate refrigerants (and similar chemicals), concerned with restoration of the stratospheric ozone layer, and now coincidentally regulates certain greenhouse gas chemicals after the October 2016 agreement for the progressive elimination of hydrofluorocarbons (HFCs) in the Kigali Amendment to the Convention's Montreal Protocol. *Vienna Convention for the Protection of the Ozone Layer* (22 March 1985) 1513 UNTS 293 (in force 22 September 1988) and Montreal Protocol on Substances that Deplete the Ozone Layer (16 September 1987) 1522 UNTS 3 (in force 1 January 1989).

of international and comparative private law, commercial law, administrative law, human rights, and even criminal law.”<sup>31</sup> IEL – originating from the sources listed at Article 38(1) of the *Statute of the International Court of Justice* – and applied in the frame of territorial sovereignty of states would need to contend with structural and legitimacy problems from the outset. This explains the slow pace of developing customary international law for the environment, which offers only a few directing norms (what may be called meta-principles) of a general nature that allows states to sometimes avoid complying with them. This is not to suggest IEL’s universal tenets are unimportant. They transcend the law with settled and universally applicable environmental protection norms.<sup>32</sup> Regionality ensures a tangible physical space for the law’s remit and creates new juridical space for additional discernment and advancement of norms.<sup>33</sup>

The framework for states to coordinate environmental arrangements in a geographic context found expression in the 1972 Stockholm Principles. Principle 24 provides that the cooperation of states “through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental

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<sup>31</sup> Peter H Sand, “The Evolution of Transnational Environmental Law: Four Cases in Historical Perspective” (2012) 1 *Transnational Environmental Law* 183 at 186, footnote omitted. Sand explains the recent partial conception of IEL transboundary administrative law by recalling the work of Karl Neumeyer, author of *Internationales Verwaltungsrecht* (Berlin: Schweitzer Verlag, 1910-1922). “The transnational procedural and institutional pattern so emerging may indeed be said to move closer to Karl Neumayer’s vision of a harmonized system based on mutual/reciprocal recognition of administrative decision-making for the environment.” *Ibid.* at 196, footnote omitted. This is arguably a distinguishing characteristic of IEL’s most recent development period.

<sup>32</sup> In its 2011 advisory opinion about the international seabed, The International Tribunal for the Law of the Sea (ITLOS) concluded “that the precautionary approach has been incorporated into a growing number of international treaties and other instruments, many of which reflect the formulation of Principle 15 of the Rio Declaration. In the view of the Chamber, this has initiated a trend towards making this approach part of customary international law.” *Responsibilities and obligation of states sponsoring persons and entities with respect to activities in the area*, Advisory Opinion (1 February 2011) ITLOS case no. 17, para. 135, online: ITLOS <<http://www.itlos.org>>.

<sup>33</sup> Consider the 2005 Iron Rhine railway corridor case between The Netherlands and Belgium in which the Permanent Court of Arbitration tribunal concluded that “environmental protection [is now integrated into] the development process. Environmental law and the law on development stand not as alternatives but as mutually reinforcing, integral concepts, which require that where development may cause significant harm to the environment, there is a duty to prevent, or at least mitigate such harm. This duty, in the opinion of the Tribunal, has now become a principle of general international law.” *Belgium v Netherlands, Regarding the Iron Rhine Railway* (24 May 2005) 27 RIAA 25, para. 59.



effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States.”<sup>34</sup> The territorial sovereignty and state equality construct of the international order is reiterated in this expression of the norm, now found in numerous regional IEL arrangements.<sup>35</sup> The constitutive factors fostering growth in regionally oriented responses – the large number of new states being a factor, together with the circumstances leading to the rise of IEL discussed above – include organizations mandated to create regional IEL arrangements, and treaties prescribing regionality. The UN Environment Programme (UNEP) is a leading example of such organizations, followed (because of the scale of its initiatives) by the UN Economic Commission for Europe (UNECE).<sup>36</sup> Both fulfill Stockholm Principle 25 that directs states to “ensure that international organizations play a coordinated, efficient and dynamic role for the protection and improvement of the environment.”<sup>37</sup>

The use of regionality in law-making to better govern environmental subjects sometimes results from an extension of projects between states in certain settings originally created for other purposes. The European Union and Antarctica are examples. The EU came into existence as an economic organization through the *Treaty of Rome*, later acquiring a governing role for environmental protection superior to that of its member states and with

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<sup>34</sup> Stockholm Convention Principles, in Declaration of the United Nations Conference on the Human Environment (16 June 1972), UN doc A/Conf.48/14/Rev. 1(1973); (1972) 11 ILM 1416, available at: UNEP <<http://www.unep.org>>. On the Principles, see Chapter 2 at page 120.

<sup>35</sup> For example, the *Agreement on the Nile River Basin Cooperative Framework* (14 May 2010) (not in force) notes: “The Nile River System and its waters shall be protected, used, conserved and developed in accordance with the ... principle of cooperation between States of the Nile River Basin on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection and conservation of the Nile River Basin ...” Article 3, available at the website of the *International Environmental Agreements Database Project*, online: UOregon IEA Database <<http://iea.uoregon.edu>> (the IEA Database).

<sup>36</sup> The continuing suggestion for a legislative, coordinating World Environmental Organization or International Environmental Agency is discussed by Steve Charnovitz in “A World Environmental Organization” (UN Institute of Advanced Studies, 2002), online: UN Advanced Studies Institute <<http://archive.unu.edu/inter-linkages/docs/IEG/Charnovitz.pdf>>.

<sup>37</sup> Stockholm Principles, *supra* note 34.

added constitutional authority under later treaties: Maastricht in 1992 and, in 2009, Lisbon (*The Treaty of the Functioning of the European Union*) (TFEU). Environmental policy now has its source in Article 11 of the TFEU: “Environmental protection requirements must be integrated into the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development.”<sup>38</sup> The political arrangement expressed in the *Antarctic Treaty* which ostensibly preserves that continent free from resource development as a preserve for scientific research has, similarly, only recently arrived at a comprehensive regime. For more than 30 years, the few instruments of the ATS were for resources (fauna, flora, and under CCAMLR, the fishery).<sup>39</sup> It was not until 1991 that a demonstrable framework of environmental law emerged for the continent, after the failure of an agreement proposed in 1985 to allow mining which led to the Madrid Protocol.<sup>40</sup>

Three examples of environmental treaties entailing regional arrangements that have progressed over time by decisions of member states to rely on secondary rule-making can be offered: (i) the 1982 UN *Convention on the Law of the Sea*; (ii) the 1979 *Convention on the Conservation of Migratory Species of Wild Animals*; and (iii) the 1997 UN *Convention on the Law of Non-navigational Uses of International Watercourses*.<sup>41</sup> Other treaties so-called

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<sup>38</sup> *Treaty on European Union* (7 February 1992) Official Journal of the European Communities C 325/5 (24 December 1992) (in force 1 November 1993) (TFEU). See Joanne Scott, ed, *Environmental Protection: European Law and Governance* (Oxford: Oxford University Press, 2009). Article 11 evolved from earlier EU treaties out of the 1972 Stockholm Principles. See also Chapter 1 at page 77.

<sup>39</sup> The ATS is comprised of the *Antarctic Treaty*, the 1972 *Conservation of Antarctic Seals Convention*, the 1982 *Agreed Measures for the Conservation of Antarctic Fauna and Flora*, the CCAMLR and the Madrid Protocol. The leading work on the ATS as a regime is Olav S Stokke and Davor Vidas, *Governing the Antarctic: The Effectiveness and Legitimacy of the Antarctic Treaty System* (Cambridge, UK: Cambridge University Press, 1996).

<sup>40</sup> The Madrid Protocol *supra* note 7. The Protocol prescribes a 50-year period of prohibited resource development on the continent. “The Protocol was negotiated following the decision of France and Australia not to ratify [the 1985 mining protocol] on the grounds that it failed to provide adequate protection to the Antarctic environment.” Philippe Sands and Jacqueline Peel, *Principles of International Environmental Law*, 3d ed (Cambridge, UK: Cambridge University Press, 2012) at 586. The Protocol serves a regionally IEL function by giving legitimacy and so greater subscription of states to the ATS, as well as being an instrument imposing specific rules for environmental protection conduct of states.

<sup>41</sup> *United Nations Convention on the Law of the Sea* (10 December 1982) 1833 UNTS 3 (in force 16 November 1994) (UNCLOS); CMS, *supra* note 28; and the *Convention on the Law of Non-*

threshold cooperation treaties, which have yet to develop to specific derivation of global or secondary adaptation of IEL into their political geographies. Such “bare governance” treaties include: (i) the 2010 *Cooperation in the Field of Environment Agreement* between Latvia, Estonia and Lithuania which requires the parties to “promote the intersectorial approach for tackling the environmental issues by integration of environmental considerations into different areas of economic development”,<sup>42</sup> (ii) a similar 2013 agreement among the 11 members of the Commonwealth of Independent States, for them to “cooperate in the field of environmental protection: protection and use of land, soil, minerals, forests, water, the atmosphere, the ozone layer and the climate, flora and fauna”,<sup>43</sup> and (iii) the 1985 *Association of South East Asian Nations Agreement on the Conservation of Nature and Natural Resources*.<sup>44</sup> The latter treaty has gone unfulfilled even at the level of states in the region implementing basic obligations to avoid transboundary pollution and pursue “harmonization in the utilization of shared resources”.<sup>45</sup> None of these threshold agreements contain measures for member states to

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*navigational Uses of International Watercourses* (21 May 1997) 36 ILM 700, UN doc. A/51/869 (in force 17 August 2014). The latter convention had 36 member states in January 2018, four of them Arctic ones: Denmark, Finland, Norway and Sweden.

<sup>42</sup> *Agreement between the Government of the Republic of Latvia, the Government of the Republic of Estonia and the Government of the Republic of Lithuania on cooperation in the field of environment* (4 June 2010), article 3, online: Republic of Latvia <<http://m.likumi.lv/doc.php?id=211984>>. The Agreement provides for cooperation and sharing of information, and specific subject protocol arrangements. The agreement does not coordinate with other more subject-specific IEL arrangements in the region, e.g. for protection of the Baltic Sea by the *Convention on the Protection of the Marine Environment of the Baltic Sea Area* (9 April 1992) 2099 UNTS 197 (in force 17 January 2000).

<sup>43</sup> *Agreement on cooperation in the field of environmental protection among member-states of the Commonwealth of Independent States* (31 May 2013), online: CIS <[www.e-cis.info/page.php?id=23484](http://www.e-cis.info/page.php?id=23484)>. Some provisions of the Agreement are simply recitals of customary international law.

<sup>44</sup> *Association of South East Asian Nations Agreement on the Conservation of Nature and Natural Resource* (9 July 1985) 15 EPL 64 (in force 30 May 1999), at the IEA Database *supra* note 35.

<sup>45</sup> Articles 20 and 19, respectively. See the 2002 *ASEAN Agreement on Transboundary Haze Pollution* online: ASEAN <[http://environment.asean.org/wp-content/uploads/2012/11/agr\\_haze.pdf](http://environment.asean.org/wp-content/uploads/2012/11/agr_haze.pdf)>.

Articles 1-12 of the ASEAN Agreement exhort states to “preserve genetic diversity, “maintain harvested species”, “take measures towards soil conservation”, “conserve ecological processes by reducing, controlling or preventing environmental degradation and pollution”, “set up protected areas including natural parks and reserves to conserve biological diversity, and especially endangered species” and “ensure that the conservation and management of natural resources is an integral part of development planning both at the national and regional levels”.

apply subject-specific global regimes including biodiversity, habitat conservation and climate change. This shows a fault line in IEL, *i.e.* the division between global regimes such as the law of the sea (through UNCLOS) which expressly provide for regional adaptation, and other multilateral agreements which do not contain provisions for regions to receive IEL. Moreover, regional general purpose instruments such as the three above continue a state-centric, territorial approach to ensuring environmental protection and conservation.

To return to our three evolved secondary rules treaties, the UN *Convention on the Law of the Sea*, the *Convention on the Conservation of Migratory Species of Wild Animals* and the UN *Convention on the Law of Non-navigational Uses of International Watercourses*, each prescribes extensive subject matter obligations and regional arrangements to better accomplish their purposes. Among them, the principles expressed in UNCLOS are wide-ranging although with incomplete requirements for environmental conduct of states in the global commons, *i.e.* the high seas. Regionality in the law of the sea has resulted in extensive arrangements in geographically defined ocean areas through the regional seas arrangements which govern many coastal areas, if not yet the Arctic and Antarctica, North America and eastern South America.<sup>46</sup> UNCLOS Article 197, requiring states to “cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features”, is the most wide-ranging of such enabling provisions and an intended result of the UNEP’s regional seas program.<sup>47</sup>

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<sup>46</sup> For an overview of UNEP regional seas arrangements, see Joseph FC DiMento and Alexis J Hickman, *Environmental Governance of the Great Seas: Law and Effect* (Cheltenham, UK: Edward Elgar, 2012). For specific instruments and details of UNEP’s regional seas programme, see online: UNEP <[www.unep.org/regionalseas/](http://www.unep.org/regionalseas/)>.

<sup>47</sup> I discuss the regional seas program in Chapter 4. Erik Franckx considers the uses of regionalism in the law of the sea, including to achieve capacity-building, cost-efficiency and responsiveness to local

However, UNCLOS has also resulted in the 1995 *Straddling Stocks Agreement* and a creation of regional fisheries management organizations. The nature of what is to be governed by UNCLOS, the *Convention on Migratory Species* and the *International Watercourses Convention* is such that a spatial construct or purposiveness is inherent to them. An example relevant to the Arctic is the *Polar Code for Shipping*.<sup>48</sup> Such treaties may be useful to inculcate in states a desired response, thereby ensuring successful implementation, although a comparative analysis among such regionally oriented enabling agreements and global IEL treaties has yet to be done.

Our second example, the Bonn *Convention on Migratory Species* (the CMS), is a treaty with a two-track approach of generalized measures for conservation applicable to all member states, together with a basis for particular arrangements for threatened species in discrete geographic areas. States are asked to suggest endangered species for inclusion in the Appendix I list of the CMS which then engages conservation measures by all member states. For species with an “unfavourable conservation status”, their listing at Appendix II to the Convention requires range states to conclude agreements for them.<sup>49</sup> The CMS arguably intrudes into state territoriality more than other multilateral environmental agreements because of the measures needed to conserve habitat areas and an absence of direct corresponding economic benefits. A would-be CMS regime is not widely established because states have been reluctant to join the treaty. Its mechanisms for species listing and compulsory Appendix

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problems, in “Regional Marine Environmental Protection Regimes in the Context of UNCLOS” (1998) 13 *Journal of International Marine and Coastal Law* 307.

<sup>48</sup> *International Code for ships operating in polar waters (Polar Code for Shipping)*, IMO Resolution MEPC.264(68) (15 May 2015) Annex 10 (in force 1 January 2017 and 1 January 2018). See the discussion in Chapter 1 at page 54.

The consensus for technical regulation of shipping by states acting in the International Maritime Organization helps to explain acceptance of particular obligations. The IMO creates rules after broad prior agreement and with an equality of commercial interest of all parties. This environmental regulation – recalling that the law applicable to shipping is ultimately national law as a matter of flag state registration – is incremental, e.g. in the creation of the *Polar Code* for shipping in ice-covered waters.

<sup>49</sup> Lists of the species designated in Appendices I and II are available at the CMS convention website: CMS Secretariat <<http://www.cms.int>>.

II agreement-making are arguably inefficient.<sup>50</sup> Incomplete membership of the CMS is highlighted by the distribution of its species-specific instruments, all but one (for preservation of gorillas) applying in Europe. The Convention's less formal 19 memoranda of understanding are more globally distributed, with three each for Africa, Oceania and Latin America, and one for marine turtles in South East Asia. The Convention is also a distinct instrument because it has yet to be made more systemic with the treaties for whaling and conservation, e.g. the *Convention on the International Trade in Endangered Species of Wild Fauna and Flora* and the *Convention on Biological Diversity*.<sup>51</sup>

The third example of a global rules framework received into the regional is the *Convention on the Law of Non-navigational Uses of International Watercourses*. The 1997 Convention is an instrument which prescribes general norms including from the canon of customary international law, and offers a framework for states to enter into mutual riparian regimes.<sup>52</sup> It includes provisions for management and "equitable" sharing of water as a resource, and environmental protection of habitat. Article 23 is a central provision for states to manage shared river regimes to protect coastal and estuarine environments, a useful nexus with UNCLOS and measures found in regional seas programs. While the Convention's exhortation upon states to pursue shared arrangements is not binding, Article 4 underscores it, expressing the accepted rule of consultation between states: "Every watercourse State is

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<sup>50</sup> 126 states were members of the CMS as of January 2018. However, about 40% of the earth's land area is in states which are not members of the Convention including Canada, Russia and Denmark (in Greenland). See the names of the seven agreements, for which see *supra* note 28, and 19 memoranda which are CMS subsidiary instruments, at the Convention website, *ibid*.

<sup>51</sup> CITES and the CBD, *supra* note 28. On coordinating multilateral environmental agreements with common themes or objects, see Nils Goeteyn and Frank Maes, "The clustering of multilateral environmental agreements: Can the clustering of the chemicals related conventions be applied to the climate change and biodiversity conventions?" in Frank Maes *et al*, eds, *Biodiversity and Climate Change: Linkages at International, National and Local Levels* (Cheltenham, UK: Edward Elgar, 2013) 149.

<sup>52</sup> *Supra* note 41. The Convention resulted from the Agenda 21 program at UNCED in 1992, and "applies to uses of international watercourses and of their waters for purposes other than navigation and to measures of protection, preservation and management related to the uses of those watercourses and their waters." Article 1, *ibid*.

entitled to participate in the negotiation of and to become a party to any watercourse agreement that applies to the entire international watercourse, as well as to participate in any relevant consultations.” The Convention also provides that regional economic integration organizations may join as members including on behalf of riparian states.<sup>53</sup> The Convention is not yet in force possibly because states are not ready to accept its measures for compulsory dispute resolution and because earlier riparian treaties do not depend on it for their operation.<sup>54</sup> The Convention offers a framework for regional receipt and adaptation, while reflecting widespread existing widespread arrangements, notably in Global North states.

From these examples, lessons about how IEL is pursued in regional settings can be identified. The primary purpose of regionality remains the same, which is to ensure appropriate, *i.e.* coherent and efficient rules in setting between states interested in environmental protection. Few regimes with overarching IEL rules have been created such as to result in analogous frameworks, such as by secondary-rule making to adapt IEL, for regional settings. Regionality, apart from the unique cases of a federated Europe (under both a European Union and UNECE environmental impetus) along with Antarctica, continues to be concerned with specific rules for particular places. In other words, the practice of regionality has been substantially about the pursuit of *lex specialis* for individual topics: rivers, fisheries conservation, and pollution control, to name three. Such things need to be recalled when assessing how regionality brings coherency to IEL.

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<sup>53</sup> Article 35, *ibid.*

<sup>54</sup> The Convention, supplemented in 2008 by the International Law Commission’s “Articles on the Law of Transboundary Aquifers”, is a culmination of approaches to shared uses of water and conservation. Among them are the experience of European riparian agreements, the 1966 International Law Commission “Helsinki Rules of the Uses of the Waters of International Rivers” (revised in 2004 in the “Berlin Rules of Water Resources”) and the 1992 UNECE *Convention on the Protection and Use of Transboundary Watercourses and International Lakes*. The IEA Database, *supra* note 35, lists 103 multilateral and 287 bilateral watercourse agreements. A majority of both types are European. Sands and Peel in *Principles of International Environmental Law*, *supra* note 40 at 319-340 discuss regional watercourse arrangements in Europe, the Americas, Africa and Asia. The authors consider the regime for shared freshwater resources to be weak within customary international law, needing improvements to address root causes of pollution, and lacking enforcement measures.

### ***Regionality and a coherent IEL***

A regional approach to making and implementing IEL allows for the law to cohere in four ways. The first is that of collective acceptance and implementation of environmental protection rules being amenable to alignment through common legal and governance measures routinely found in other political and economic mechanisms. Europe, where synthesis of environmental protection governance is done through European Union institutions and the UNECE, is the leading example. This type of alignment provides for positive feedback in the reception and monitoring of IEL performance among states. The lesson of this first example is that cooperation in a variety of sectors among groups of states tends to engender environmental protection cooperation of a kind for physical spaces which those regionally minded states have in common. The second form of regionality's propensity for cohering action can be seen in IEL itself, where otherwise disparate connections between various rules found in environmental treaties can be reconciled through particular rules and measures for a region.<sup>55</sup> This can help states to deal with the problem of environmental treaty congestion by reducing various rule-sets flowing from global IEL rule-sets to manageable numbers for specific matters. The third type of cohering feature is what can be called the exemplary, by which regional arrangements that are perceived as successful are emulated in other regions. Widely replicated regional seas arrangements are an example of this cohering feature of regionality.<sup>56</sup>

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<sup>55</sup> An example is the biodiversity and conservation of range habitat for cetaceans. The ICRW does not extend to non-commercial whales, while UNCLOS defers to the ICRW for commercial whaling, and the CBD and CMS offer only general guidance. For the Mediterranean and Black Seas, the 1996 *Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic Area* reconciles such a gap. The Agreement was the product of states negotiating through the *Barcelona Agreement for the Mediterranean Sea*, the CMS and the *Bern Convention for the Conservation of European Wildlife and Natural Habitats*.

<sup>56</sup> Almost half of regional seas agreements were negotiated through and are administered by UNEP. All such agreements have consistent patterns of subjects and do not provide for allocations of fisheries. For an early critique about the lack of a conservation and habitat protection regime in the law of the sea during the negotiation of UNCLOS, see IUCN, "Conservation and the new law of the sea: Critique of the Informal Composite Negotiating Text of UNCLOS III submitted by the International Union for Conservation of Nature and Natural Resources" (1978) 4 *Environmental Policy and Law* 126.



The fourth result of a regional adaptation and secondary creation of environmental rules is not immediately obvious. It can be argued that regionality in IEL reinforces the creation and implementation of IEL as a whole. There are several aspects to such a purported influence. One is that local adaption and creation of environmental rules results in higher compliance by individual states because their negotiation and commitment to such rules is more proximate, *i.e.* results from particular interest in more knowable settings. A corollary is that monitoring and compliance assistance of neighboring states should help the individual state to succeed.<sup>57</sup> Another aspect of enhanced individual compliance propensity is that regional frameworks often have an administering entity that global IEL instruments lack. Europe is replete with them, including the European Commission in a wide variety of environmental protection regulation affairs. Virtually all regional seas arrangements, UNEP-administered or otherwise, have established scientific and policy administrations. The other prospective success of regionality for IEL occurs by a reinforcing of norms. The theory is that if states implement IEL in settings of increased cooperation and better realization of self-interest, such action supports the law globally. But evaluating such a feedback by use of causally determinative criteria seems difficult. Chapter 5 endeavors in part to answer such a problem. The pursuit of regional IEL rule-making, including by local analogs to global treaties such as the CBD is something that should be sufficiently widespread to allow for its evaluation.

Regionality as a cohering feature of IEL is also concerned with what can be called IEL's *internal disparity*. This is almost certainly the law's greatest challenge at the present time, where the landscape, although incomplete in the regulation of all matters, has yet to be made orderly, that is, synthesized for a more efficient realization of the rules by states and their citizens.

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<sup>57</sup> The role of Indigenous peoples and organizations in monitoring environmental impacts in the Arctic is recalled, enabled by the Arctic Council CAFF and PAME Working Groups. See the discussion about marine environmental monitoring at pages 87 ff in Chapter 1.

### III. THE PROBLEM OF FRAGMENTATION IN INTERNATIONAL ENVIRONMENTAL LAW

In a complete form, IEL as treaty-based *lex specialis* residing in the frame of public international law would have consistent norms and principles across its many topics. They would be ones drafted as legal rules and organized to reinforce each other. The arguments in favour of this kind of unity are those routinely made for international law as a whole. They include such ideals as certainty of the law, equality of access to the law among states, together with a condition that the law is sufficient to be applied with economic and regulatory efficiency in states which commit with others to collective environmental protection obligations. IEL's paramount objective is surely the efficacy of ensuring and thereby regulating environmental protection. The application of the law therefore spans the continuum from, at one end, protection of the environment in order to avoid overt and acute human harm, to a mid-point of conservation of economic and socially valued resources and, at an opposite extreme, a preserving of the natural world, *i.e.* environmental capital in the form of an unimpeded functioning of the Earth System. More than four decades after Stockholm, however, IEL remains fractured: a constellation of different norms, disparate across the law's generating states and international organizations; an increasing adjudication by different tribunals; and gaps in thematic and subject matter integration. An unwieldy mosaic, recalling the number of environmental treaties now in operation, of varying norms and processes across multiple states and institutions cannot be given a single cause. This reflects the perceived trend of fragmentation of international law in the current era.<sup>58</sup>

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<sup>58</sup> The usual label is *fragmented*, discussed below. But others usefully illuminate the disunities in law and law related regimes, including *fracture*, *variability*, *diversity* and *conflicts*. "[The] complex pluralization of norm- and law-making processes at the international level has, in turn, fractured the substance of the norms produced. Including that of international legal rules. In that sense, the pluralization of international norm- and law- making processes has been accompanied by a diversification of international legal norms themselves." [Emphasis in original.] Jean d'Aspremont, *Formalism and the Sources of International Law: A Theory of the Ascertainment of Legal Rules* (Oxford: Oxford University Press, 2011) at 2.

Fragmentation is evident in more narrowly defined global governance architectures, that is, between parallel policies and régimes in the same issue area for example in areas such as climate governance or governance of plant genetic resources. It is here where the concept of architecture and the comparative analysis of different degrees and types of fragmentation are likely to be most fruitful.<sup>59</sup>

Nevertheless, we need to be skeptical that fragmentation is always a problem or it contributes excessively to disparities in the fabric of the international legal order. The received view from the International Law Commission's work on fragmentation is that international law as a whole persists in such a condition. The concern is expressed as being about conflicts of rules, detrimental to essential principles of the law and its effective operation. But fragmentation can be a useful characteristic when it comes to the law's efficacy, *i.e.* how states respond to and implement it along with its efficiency, which is the achievement or outcome of the law on being applied relative to economic, social and political costs of doing so. Disparate norms are not always in conflict. They can indirectly complement each other's development, for example by supporting a principle that acquires greater normativity across multiple IEL subjects.<sup>60</sup> Fragmentation should not be a label that obscures the relevant characteristics that IEL exhibits. These qualities, discussed in Chapter 2, include being *incomplete* (not all subjects provided for), *immature* (not fully taken up by states and not realizable in practice) and *disparate* (of varying character and strength from rule to rule). Many of IEL's problems would not seem to be of a conflictual-competing rules fragmentation type, stemming instead from a lack of reconciliation or synthesis of norms to ensure for clarity of the law for its development and application by states.

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<sup>59</sup> Frank Biermann et al, "The Fragmentation of Global Governance Architectures: A Framework for Analysis" (2009) 9 *Global Environmental Politics* 14 at 19.

<sup>60</sup> The *Antarctic Treaty* and the *Convention for the Conservation of Antarctic Marine Living Resources* (20 May 1980) 1329 UNTS 22301 (in force 7 April 1982) (CCAMLR) conflict: The former treaty requires preservation of the natural environment of the Antarctic continent while CCAMLR allows regulated, sustainable yield fishing in the Southern Ocean. However, the two instruments have arguably reinforced each other in the application of the precautionary principle in the region, a desirable collective-complementary result.

Two other considerations are relevant to this analysis of IEL's fragmented condition. First, fragmentation of international environmental law has yet to be studied for the condition of conflicting norms and rules in the *horizontal* sense of subjects across IEL's continuum (noting the treaty types depicted in Figure I of Chapter 2). There is also not much assessment of how IEL norms do (and do not) align in the *vertical* sense with those of international law, and specific areas of the law including human rights and trade.<sup>61</sup>

A claim of fragmentation *within* IEL is difficult to sustain without evidence. As has been observed above, the law does not yet extend to all matters of environmental protection that it necessarily must, including the problem of dissipate pollution into the global commons of the high seas and atmosphere. We might contend that IEL's greatest fragmentation is the lack of its reach – of the absence of its rules – to address underlying problems of environmental protection, namely resource-use, allocation and pricing, coupled with the generation and release of pollutants on a global scale, e.g. plastics in the ocean and greenhouse gases in the atmosphere.

Meanwhile, there are the immediate problems noted in Chapter 2 of: (i) treaty congestion, which is the current burden of a large number of instruments with binding effect, and (ii) the law being incomplete both in substance and its process rules such as those for the monitoring of state implementation and remedies between states.<sup>62</sup> The instances of conflicts over the choice of governing rule-sets and dispute resolution tribunal conflicts, such as the *MOX Plant* and *Southern Bluefin Tuna* cases – both resolved through accepted treaty rules – are too few in number (which is surprising given the number of environmental transaction between states) to usefully highlight structural fragmentation. The absence of systemic study

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<sup>61</sup> The evaluation of IEL "rule sets" for consistency with international law as a whole, in environmental protection treaties and governance regimes such as those for geographic regions, is considered in Chapter 5.

<sup>62</sup> Individual work is being done to address overlapping IEL governance regimes, e.g. in climate change and related subjects. See Harro van Asselt, *The Fragmentation of Global Climate Governance: Consequences and Management of Regime Interaction* (Cheltenham, UK: Edward Elgar, 2014).

within the discipline is understandable. The greater concern, evident in the recommendations of the International Law Commission, has been fragmentation in the fabric of international law as a whole.<sup>63</sup> Even here, there is an absence of data about how IEL contributes to fragmentation of international law or might conflict with its normative principles.<sup>64</sup>

A second consideration is the need to avoid confusion between fragmentation of legal norms concerned with the environment, and the disparate nature of environmental protection governance regimes as such. Since the 1970s, IEL has been created in part in the setting of international organizations – usually with direct or tacit state negotiation and approval – including the IMO, the ICAO, and occasionally treaty secretariats. The extent to which IEL is created and the organizations involved has created the risk of IEL being disparate from international law as a whole. However, the problems or features of disparate originating and administering sources are not those of conflicting or incompletely unified legal norms. The problem is organizational, something that results from the number of actors and their interests which must be reconciled to create and apply common environmental protection rules. The problem of disparate or fragmented generating institutions is a kind of condition zero that precedes disparity in international law and IEL:

[I]nstitutional fragmentation is an inherent structural characteristic of international relations today. There is no policy domain where all relevant provisions are placed under, or linked to, a single institutional umbrella with universal membership. Fragmentation is a matter of degree and indeed may vary considerably across issue areas, spanning a continuum from domains with relatively low levels of fragmentation to highly intricate institutional complexes. [...]

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<sup>63</sup> “While [the ILC’s fragmentation] report provides an insightful overview of the role of legal techniques to address challenges resulting from the diversification and expansion of international law, this Article has argued that its relevance for managing interactions in international environmental law so far has been limited.” Harro van Asselt, “Managing the Fragmentation of International Law: Forests at the Intersection of the Climate and Biodiversity Regimes” (2012) 44 *International Law and Politics* 1205 at 1274.

<sup>64</sup> Arguably, a threshold for fragmentation to be considered problematic is when it demonstrably impairs the rule of law. I return to the issue in Chapter 5. For a commentary about shaping international law for environmental protection purposes see Christina Voigt, ed, *Rule of Law for Nature: New Dimensions and Ideas in Environmental Law* (Cambridge, UK: Cambridge University Press, 2013).

We adopted the notion of fragmentation, since it is a longstanding and widespread concept used across disciplines by both scholars and practitioners. The concept originated in the international legal community, before being adapted by international relations scholars and extended toward transnational and public-private institutions.<sup>65</sup>

A more insidious problem of fragmentation for international law as a whole is that it “operates to sabotage the evolution of a more democratic and egalitarian international regulatory system and to undermine the normative integrity of international law”.<sup>66</sup> The several claims in such an assertion can be understood by assessing how the law is used by powerful states to pursue desired results – which can include avoiding obligations for environmental protection – and to restrict the access of smaller states to law-making by treaty.<sup>67</sup> The corollary to the will of states to arrive at specialized regimes and ensure harmony across the international order is how such rule-regimes are to be managed. This is the core of the problem of institutional fragmentation, in the generation of jurisprudence and relative influence on governance. Therefore, the

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<sup>65</sup> Fariborz Zelli and Harro van Asselt, “The Institutional Fragmentation of Global Environmental Governance: Causes, Consequences and Responses” (2013) 13 *Global Environmental Politics* 1 at 3. Martti Koskenniemi considers the role of the International Court of Justice as a “single umbrella” actor in the avoidance of fragmentation of international law in “Fragmentation of International Law? Postmodern Anxieties” (2002) 15 *Leiden Journal of International Law* 553. “The ICJ, a human rights body, a trade regime or a regional exception may each be used for good and for ignoble purposes and it should be a matter of debate and evidence, and not of abstract ‘consistency,’ as to which institution should be preferred in a particular situation.” *Ibid.* at 578.

<sup>66</sup> “Fragmentation [impairs weaker states’ participation] in three ways. First, it limits the ability of weaker states to engage in the logrolling that is necessary for them to bargain more effectively with more powerful states. Weaker actors are, in addition to being far more numerous, more institutionally, economically, and geographically diverse than powerful states, suggesting that their preferences are also more diverse. This diversity of preferences makes it more difficult for them to achieve a consensus on a particular issue. At the domestic level weaker actors often manage to overcome this problem by logrolling or trading votes across issues. However, logrolling requires a venue such as a legislature where policy decisions are made on a wide range of issues, which is rare at the international level.” Eyal Benvenisti & George W Downs “The Empire’s New Clothes: Political Economy and the Fragmentation of International Law” (2007) 60 *Stanford Law Review* 595 at 597. “A fragmented legal order provides powerful states with much needed flexibility.” *Ibid.* at 627.

<sup>67</sup> The inability of the organized international community to agree to regulate an end to the more problematic globally transported pollutants (such as persistent organic pollutants and mercury) and to regulate the taking of resources from the global commons (e.g. the high seas fishery) are examples of a controlling consensus to not engage in environmental protection because of economic and social imperatives within some states. The apparent success of the ozone depleting substance regime in the 1980s era Vienna Convention can be compared to the UNFCCC regime in this regard.

question to be asked is how to give effect to the influential role of certain organizations (or institutions) when creating and implementing IEL. Regionality supplies part of the answer, in that states acting locally would seem to do so through more egalitarian practices and in circumstances when the influence of organization which must establish legitimacy to be present in negotiating the law is not so necessary.<sup>68</sup>

This concern about institutional fragmentation was the result of the entry, *i.e.* a creation of multiple governing institutions and judicial bodies on IEL's landscape. This is most apparent in the law of the sea, which allows UNCLOS member states to choose from various tribunals for standing dispute resolution.<sup>69</sup> Adjudicative conflicts include trade/environmental, resource/environmental and development/environmental in different treaty regimes.<sup>70</sup> The concern results from a desire for *adjudicative consistency*, borne of the concern that norms will be less coherent and possibly diverge given the proliferation of regulating organizations and judicial institutions.<sup>71</sup>

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<sup>68</sup> "[F]ragmentation becomes part of a struggle for institutional hegemony. Which institution will have authoritative voice? According to which bias will a matter be resolved?" Martti Koskeniemi considers "bias" as the preference or selection of tribunals for the law seemingly most relevant to them in disputes which can be characterized by more than one rule-regime, such as environmental and trade issues. Martti Koskeniemi, "The Fate of Public International Law: Constitutional Utopia or Fragmentation?" (The Chorley Lecture, 7 June 2006, London School of Economics) 12, at: University of Helsinki <[www.helsinki.fi/eci/Publications/Koskeniemi/MKChorley%20Text-06a.pdf](http://www.helsinki.fi/eci/Publications/Koskeniemi/MKChorley%20Text-06a.pdf)>.

<sup>69</sup> The Ireland/United Kingdom MOX Plant cases, brought under UNCLOS, the OSPAR Convention and in the European Court of Justice under EU community law, is the classic example. See, *inter alia*, the *MOX Plant case*, *Request for Provisional Measures Order (Ireland v The United Kingdom)* (3 December 2001) International Tribunal for the Law of the Sea (2005) 126 ILR 273. "The matter becomes more contentious [when] several institutions seek to deal with a problem and where their approach to it would be different." "The Fate of Public International Law: Constitutional Utopia or Fragmentation?", *ibid.* And see Tomer Broude, "Fragmentation(s) of International Law: On Normative Integration as Authority Allocation" in Tomer Broude and Yuval Shany, eds, *The Shifting Allocation of Authority in International Law* (Oxford: Hart Publishing, 2008) at 101.

<sup>70</sup> Examples include, respectively, the World Trade Organization's 1998 *Beef Hormones* decision, the 2014 judgment of the ICJ in the *Australia/Japan* whaling case, and the ICJ's 1997 *Hungary/Slovakia* decision about the Gabčíkovo-Nagymoros Danube River dam project.

<sup>71</sup> An example can be seen in the ideal of the precautionary principle (or *approach*) considered in the *Iron Rhine Railway* case, *supra* note 33, and the ITLOS seabed advisory opinion, *supra* note 32. "By now, however, the precautionary approach has traveled far beyond the area of environmental protection and health issues. The precautionary approach has entered debates on the fight against terrorism, the use of force and the balancing of human rights and national security ... The turn towards prevention and precaution has serious implications for both the constitutionalization and the fragmentation of

### ***Piecing together fragmentation***

Fragmentation of IEL has the overriding quality of disparateness. This suggests two adverse qualities which must be addressed, *i.e.* the uncertainty or conflict of rules that apply to the same environmental protection matter, and inconsistency with international legal norms as a whole. Again, the phenomenon of fragmentation must be viewed in the context of IEL as a whole, including the fact of IEL not yet being entirely developed. To illustrate the point, IEL has for some years faced the greater problems of its capacity to be applied in response to significant global environmental problems, and the challenge of its implementation by individual states.<sup>72</sup> Accordingly, the following categories of fragmentation relevant to IEL can be suggested: (i) a division (or divergence) between thematic subjects of the law (*conflicts across regimes*); (ii) disparity between the institutions of IEL including generating and adjudicative agencies (*conflicts among institutions*); and (iii) distinctions across the hierarchy of rules (*conflicts of norms*). The most detrimental of the three is arguably the last.

There are legal rules and techniques of applying the law which are available to overcome problems of conflicts across IEL regimes (or rule-sets) and inter-institutional conflicts. The ILC's work on fragmentation reminds us that the law has a substantial answer to the first of these phenomena, namely, the *Vienna Convention on the Law of Treaties*. The ILC Study Group commented about the *Vienna Convention* in its 2006 report that:

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international law." European Coordination in Science & Technology (COST), "International Law Between Constitutionalisation and Fragmentation: the role of law in the post-national constellation" ISCH COST Action IS1003 (2013) 14, footnote omitted, online: EU COST <[www.cost.eu/domains\\_actions/isch/Actions/IS1003](http://www.cost.eu/domains_actions/isch/Actions/IS1003)>.

<sup>72</sup> "It is generally accepted that the [global environmental governance] régime is ineffective because anthropogenic stresses have not been reduced, environmental quality is continuously deteriorating, and states remain hesitant to subject themselves to binding environmental obligations and to comply with those to which they have subjected themselves ... The ills of global environmental law and governance are not so much a product of the lack of an existing global environmental law and governance order. Its deficiencies are rather a result of the character of the existing order which is made up of states who enjoy sovereignty in almost all circumstances and whose behavior is directed by non-binding environmental principles and, in some limited areas, by harder treaty rules which some states have not accepted and which are difficult to enforce." Louis J Kotzé, "Arguing Global Environmental Constitutionalism" (2012) 1 *Transnational Environmental Law* 199 at 202.



The justification for the Commission's work on fragmentation has been in the fact that although fragmentation is inevitable, it is desirable to have a framework through which it may be assessed and managed in a legal-professional way. That framework is provided by the [*Vienna Convention*]. One aspect that unites practically all of the new legal regimes (and certainly all of the most important ones) is that they claim binding force from and are understood by the relevant actors to be covered by the law of treaties. This means that the VCLT already provides a unifying frame for these developments. As the organ that once prepared the VCLT, the Commission is in a privileged position to analyse international law's fragmentation from that perspective.<sup>73</sup>

The Study Group recognized that "new and special types of law, so-called 'self-contained regimes' and geographically or functionally limited treaty-systems" would benefit from formal treatment through norms of treaty interpretation.<sup>74</sup> It is helpful to recollect the Study Group's methodology. First, the Group concluded that treaties and treaty-regimes were the central bases of specialty subjects in law. Second, the Group accepted that the *Vienna Convention on the Law of Treaties* (VCLT) could be applied in many instances to reconcile or "harmonize" conflicting norms within such regimes.<sup>75</sup> The Study Group set out to assess fragmentation in a functional sense in order to arrive at practical guidance, such as treaty-making within specialized regimes: "[A] single, collective document ... was to be a concrete, practice

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<sup>73</sup> The "2006 ILC Fragmentation Report", *Yearbook of the International Law Commission*, 2006, Vol. II, Part Two, at: ILC <[http://legal.un.org/ilc/texts/instruments/english/draft%20articles/1\\_9\\_2006.pdf](http://legal.un.org/ilc/texts/instruments/english/draft%20articles/1_9_2006.pdf)> at paras. 248-9.

<sup>74</sup> "Report of the Study Group", *ibid.* at para. 247.

<sup>75</sup> Teruo Komori notes that "a method that relies on article 31 (3) (c) of the Vienna Convention on the Law of Treaties is not useful ...for achieving normative integration – which relates to the priority between régimes in the international public order [.]" "Integrating the Fragmented International Public Order: A Theoretical Perspective" in Eva Rieter and Henri de Waele, eds, *Evolving Principles of International Law: Studies in Honour of Karel C. Wellens* (Leiden: Martinus Nijhoff, 2012) 105 at 135. Komori observes that "integration of conflicting norms and authorities on the basis of procedures provided in the Convention on the Law of Treaties are rarely made in practice ..." *Ibid.*

See also Mélanie Samson, "High Hopes, Scant Resources: A Word of Scepticism about the Anti-Fragmentation Function of Article 31(3)(c) of the Vienna Convention on the Law of Treaties" (2011) 24 *Leiden Journal of International Law* 701 at 713: "As the *travaux préparatoires* for Article 31(3)(c) unambiguously show, this provision has little to do with the concern for the unity of international law ... It is only because the International Law Commission found itself unable to provide any guidance on the temporal dimension of treaty interpretation that the final text contains no reference in this regard. To expect this provision to do something for which it was not designed and which it has insufficient resources to provide would therefore be highly misleading." [Footnote omitted.]

oriented set of brief statements that would serve ... as a set of practical guidelines to help thinking about and dealing with the issue of fragmentation in legal practice.”<sup>76</sup> The approaches recommended in the 2006 Report were a needed advance from the interpretive rules found in the *Vienna Convention*. They included retaining the VCLT as a singular determining instrument to reconciling international legal norms on the presumption that such norms are to be harmonized. The Study Group accepted that specialized regimes of law were necessary and that they could be made coherent through the application of priority-assigning rules.<sup>77</sup> The Group’s final recommendations about the application of preemptory norms of international law were less guidance and more to illuminate their transcendent binding nature on states: “A rule of international law may be superior to other rules on account of the importance of its content as well as the universal acceptance of its superiority.”<sup>78</sup> This is useful to distinguish between IEL rules which apply to the same subject, although it does require as detailed assessment of the evidence of superiority which risks falling into subjectivity.

When it comes to the *order* of international law, the principal desired quality of the law’s normative framework has been described by labels including *consistency*, *coherence* and *constitutionality*, making the ILC Study Group recommendations helpful.<sup>79</sup> If the path toward coherence of substantive legal norms has become clearer because the recommendations have been pursued, the response of institutions and capacity of states has

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<sup>76</sup> “Report of the Study Group”, *supra* note 74 at para. 235.

<sup>77</sup> The 2006 ILC Fragmentation Report, *supra* note 73 at paras. 1-30. Benvenisti and Downs suggest weaker states avoid fragmentation tactic of more powerful ones by planning the design of treaty regimes to “increase the repeated game aspects of the institutional context, expanding the independence and role of tribunals and the bureaucratic components of multilateral institutions, and creating linkages between agreements that can serve to create coalitions. The fact that these strategies are at least intermittently successful is supported by the growing frequency with which powerful states resort to the fourth strategy of venue shifting.” “The Empire’s New Clothes” *supra* note 66 at 599.

<sup>78</sup> *Ibid.* at para. 32. This is something of a tautology. A perceived or accepted superiority is the result of a desired or idealized content of the rule.

<sup>79</sup> See Martti Koskeniemi, “Constitutionalism as Mindset. Reflections on Kantian Themes about International Law and Globalization” (2007) 8 *Theoretical Inquiries in Law* 9.

continued to diverge from an ideal coherent frame or constitutional-like order.<sup>80</sup> A project to ensure normative order or, more accurately, predictability faces certain limits in the position of states and the increasing number of other actors to fulfill it: “At core, the fragmentation of global law is not simply about legal norm collisions or policy-conflicts, but rather has its origins in contradictions between society-wide institutionalized rationalities, which law cannot solve, but which demand a new legal approach to colliding norms.”<sup>81</sup>

The law contains features that – while accepting there are inherent limits to reconciling international law as a whole – allow for progressive ordering of its primary tenets. The first of these features is law’s provision for voluntary adherence by states, formally at the level of the treaty (by optional accession and also by persistent objection) and enforcement (by acceptance of dispute resolution), and informally by organizational governance among states and cooperation with third states.<sup>82</sup> The law is applied instrumentally to create obligations between states, shown by the rise in treaties and the resort to law-making generally, and with increased adjudication between states. This helps to explain why states incline to a geographic-regional approach to IEL. Realizing the law’s instrumentality means making the

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<sup>80</sup> A constitution is not necessarily the ideal or foundational requirement for an ideal system of IEL. A treaty instrument for such a purpose could have unintended consequences, including a basis for states to avoid certain necessary behaviors. Constitutiveness, which stops short at the imperative of a directing meta-instrument, includes assignment of responsibility for rule-making, reconciliation of overlapping and conflicting rules, judicial review, and assured rule of law qualities including accessibility to the law and a limiting of discretion of governing decision-makers.

<sup>81</sup> Andreas Fischer-Lescano and Guenther Teubner, “Regime-Collisions: The Vain Search for Legal Unity in the Fragmentation of Global Law” Michelle Everson, trans, (2004) 25 *Michigan Journal of International Law* 999 at 1004. The authors suggest that the fragmentation of international law is more “radical” than previously conceived, and incapable of anything other than a loose, broad normativity. “Such problems are caused by the fragmented and operationally closed functional systems of a global society, which, in their expansionist fervor, create the real problems of the global society and who at the same time make use of global law to secure their own highly refined sphere logics.” *Ibid.* at 1007, citation omitted. See also Neil Walker, “Beyond boundary disputes and basic grids: Mapping the global disorder of normative orders” (2009) 6 *International Journal of Constitutional Law* 373.

<sup>82</sup> The prompt release decision of the ITLOS in the *Arctic Sunrise* case, *The Netherlands v Russia*, is an example of the former, Russia declaring it would not comply with the Tribunal’s direction. See the Tribunal’s Order of 22 November 2013, online: ITLOS <[www.itlos.org](http://www.itlos.org)>. An example of withdrawal from the international legal order was the United States’ withdrawing from the jurisdiction of the International Court of Justice after Nicaragua commenced proceedings against it in 1984.

local distinct, something which derogates from the norms of the whole. This is ideally how the paradox of fragmentation in IEL is resolved: With the basic principles of environmental law, including its response to transboundary pollution, conservation and sustainable development, accomplished in part by arrangements specific to some actors in some places.

#### IV. REGIONALITY IN IEL: LESSONS FOR THE ARCTIC

The fundamental quality of regionality in IEL is that it allows for more systemic ordering and therefore implementation of the law. This is something achieved over time and indirectly, by interstitial means. The essential condition for regionality to be pursued is therefore not one found in the law, although such a quality is intrinsic to the rule of international law, which is cooperation. This is the empirical gauge of the success of regional action to derive from IEL globally and adapt as secondary rules IEL in specific settings: *What is the strength and progress of cooperation among states interested in collective environmental protection obligations in a defined setting?* It is this feature which engenders the pursuit by states of local arrangements to apply IEL, and that is intrinsic to the progressive development (or maturation) of IEL rules in such places.<sup>83</sup>

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<sup>83</sup> Jörg Balsiger and Stacey VanDeveer suggest that “regions may seem a more pragmatic scale at which to promote the diffusion of ideas, the development of institutions and social mobilization for change.” “Navigating Regional Environmental Governance” (2012) 12 *Global Environmental Politics* 1 at 14.

On cooperation, they note “[s]pecific instances of [regional environmental governance] can vary with three dimensions, with axes for agency, substance, and territoriality. The axes are conceptualized as continuous ranges between ideal-typical constellations along which multitudes of combinations can be located. The particular positioning of any particular governance arrangement may evolve over time, for instance when a state-based coordinating agency opens its membership to non-governmental organizations, or when a single-issue agreement expands its mandate to other environmental or non-environmental problems ... The first axis relates to the coordinating or rule-making agency of a regional initiative, which may range from formal intergovernmental cooperation ... to more informal arrangements such as transnational networks of state and nonstate actors ... The second axis refers to the scope of issues ... with single issue arrangements such as for chemicals management or water quality ... at one end of the continuum, and broader sustainable development mandates such as those for mountain ranges or regional seas at the other end ... The third axis relates to territoriality, or the jurisdictional nature of an agreement’s spatial ambit.” *Ibid.* at 7, footnote omitted.

Antarctica – with Europe following closely – is the best example of cooperation in the regional derivation and adaptation of IEL. Of course, there are qualifications from the experience of IEL in that continent: IEL in Antarctica under the operation of the Antarctic Treaty System and by the practice of states has unique features, as will be discussed shortly. However, the continent is a useful model to consider how IEL can be cohered locally, for three reasons. First, the continent is a distinct region in physical terms and as a matter of law, the direction of the *Antarctic Treaty* to preserve the continent's environment long accepted by states. Because of the absence of a permanent human population and its geographic isolation Antarctica has fewer variables for its environmental governance to be assessed for regionality, *i.e.* features of the law amenable to localized derivation and adaptation of IEL rules. Second, Antarctica arguably has an advanced framework for administration of environmental protection rules, and a derivation and secondary adaptation of IEL rules particular to its setting. These qualities are revealed in a now comprehensive Antarctic Treaty System of instruments, and interstitial rule-making done through the Antarctic Secretariat (and with approval of states) for environmental governance on the continent. Third, Antarctica has a singular quality in law as being a place in the global commons defined by treaty to be conserved on an entire basis, beyond individual matters such as species and habitat. The result of such factors is that Antarctica has fewer variables of how IEL has been applied in the region which should allow more certain analysis.<sup>84</sup> If a fourth reason was needed, it is that Antarctica is a polar region. How states in the Arctic and Antarctica cooperate to locally apply environmental protection rules seems worthwhile to compare.<sup>85</sup>

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<sup>84</sup> Another variable absent from the Antarctic setting is that of how regionally conceived IEL should account for or may be disparate with that of adjacent regions.

<sup>85</sup> If a fifth reason to support the analysis of Antarctica as an IEL region is needed, it is that the continent is a *counterfactual* to the Arctic. Antarctica is to be preserved for environmental conservation through a formal, instrumental IEL regime, *i.e.* the Antarctic Treaty System. That has been rejected by states concerned for the Arctic, as discussed in Chapter 1. Antarctica is also a landmass while the Arctic

Antarctica's lessons for the creation and application of IEL in physical defined settings are about governance, *i.e.* are concerned with policy, cooperation and the making of rules between interested states. What the experience of IEL in the continent has been for the reception and secondary making of environmental protection rules is another matter. However, IEL's causal underpinnings across settings can be difficult to differentiate. So we must start with threshold or elemental features of the regionality contended for IEL in Antarctica. There are five such features to consider, all relevant to the Arctic, as will be explained. The nature of Antarctica as a distinct setting possessed of a bounded ecosystem is not a feature to be explored here, although it should be noted, because the quality (which is a feature of the continent's geographic remoteness) influences the five features.<sup>86</sup>

The first feature of IEL's regionality in Antarctica is, as noted, the existence of the *Antarctic Treaty*. The Treaty immediately assured a three-fold characterization of the status of the continent that has held until the present: (i) preservation of the natural amenities of the continent, notably for the conduct of scientific research; (ii) freezing of the territorial claims of states present on the continent; and (iii) defining of the physical setting that constitutes the Antarctic environmental governance region.<sup>87</sup> The last of these provisions is crucial to securing the initial consensus of states to consider environmental rules among themselves for a setting. It is arguably the problem of the global commons in IEL, which is that states cannot

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is substantially ocean space. The Antarctic Treaty System, except for the CCAMLR and possibly some provisions of the 1991 Madrid Protocol protection do not extend to the waters of the Southern Ocean.

<sup>86</sup> As a polar ecosystem, Antarctica has a more certain natural boundary than the Arctic. The Antarctic Convergence of the Southern Ocean is where relatively warm surface water meets colder water nearer the South Pole, at latitudes typically between 50°S and 60°S. The Convergence is more accurately called the *Antarctic Front*. See J Keith Moore, Mark R Abbott and James G Richman, "Location and dynamics of the Antarctic Polar Front from satellite sea surface temperature data" (1999) 104 *Journal of Geophysical Research* 3059. See also Cecilia Peralta-Ferriz *et al* "Arctic Ocean Circulation Patterns Revealed by GRACE" (2014) 27 *Journal of Climate* 1445.

<sup>87</sup> Again, the *Antarctic Treaty* did not encompass the Southern Ocean, at least in jurisdictional terms, until the Madrid Protocol was negotiated in 1991. But the operation of the Treaty in the setting of an ATS which includes the CCAMLR (although that instrument is oriented toward fisheries as a resource) together with extensive state practice – for example in the consensus of states working through the IMO to agree to prohibit the use and transport of heavy fuel oil in ships through the Southern Ocean, is evidence to the contrary.

sufficiently identify their interests and commit to obligations (and possibly with that the loss of sovereignty or scope of resource-taking economic action) if the setting is *unbounded*. For this reason, it is useful that the Arctic Five states accept UNCLOS as a sufficient instrument to organize environmental protection in the Arctic under the Ilulissat Doctrine. UNCLOS may not be a sufficient instrument for the entire space which is the Arctic, however the region's maritime area is ascertainable in geographic and legal terms, and is therefore *bounded* in the sense of what states are willing consider as the object of environmental protection.

The experience of environmental protection regions elsewhere confirms this primary characteristic, of the apparently necessary existence of a treaty instrument to define space and sets a basis for at least some – if expressed in general terms and without reference to specific IEL treaties or rules – environmental protection obligations. The counterfactual – the absence of an animating instrument at an early point – confirms this because there are arguably no longer any regions without a defining treaty, however minimalistic. Leaving aside the global commons of the atmosphere, no state's territory is outside a setting with one or more treaties for the regional application of IEL.<sup>88</sup> We need to be careful in what qualifies as a treaty that sets the conditions of a defining of space of application and triggering provisions for the local making of IEL rules. However, when we consider the treaty examples in Part II, above, ranging from bare governance with few binding obligations, to the directive instruments of UNCLOS, the CMS and the *International Watercourses Convention*, the near-global coverage of such treaties has been achieved. There is also another observation about how progress in regional IEL rule-making is sustained. It can be seen in the example of a South East Asia which has an

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<sup>88</sup> This is not entirely correct. States of the Middle East lack any general environmental protection or subject-specific agreements, although North Africa's Arab states are different, being members of the African Union subscribing to AU Convention principles and numerous regional agreements.

IEL framework treaty for cooperation and that expresses such general principles as the duty to avoid transboundary pollution.<sup>89</sup>

However, this seemingly replete empirical landscape only offers so much. It cannot offer lessons for the success of regional IEL rule-making. Nor does it establish the opposite, which is relevant to an Arctic with a rejected framework for the application of IEL, and that is whether an IEL region can emerge without an animating instrument. A smaller scale to test the existence of a treaty instrument with greater relevance to the Arctic is that of regional seas agreements. The question is whether such an agreement must first be present in order for IEL to be pursued through secondary rules in a particular ocean setting. The answer is a heavily qualified yes. Regional seas agreements, of course, are created for coastal areas. Those places without any such agreement appear to lack the basis for states to arrive at local rules. Antarctica itself is, on its face, something of an exception to this, given that it does not have a regional seas agreement in the ordinary sense, *i.e.* an instrument characterized as such and concerned with a range of environmental protection goals. But CCAMLR in the setting of an Antarctic Treaty System that includes the Madrid Protocol extends to many of the same concerns. Moreover, regional seas agreements are more numerous in the Global North (e.g. a Europe surrounded by the OSPAR, Baltic, Black and Mediterranean Seas agreements) and in enclosed seas such as the Persian Gulf and Caribbean Sea. We can conclude that an early agreement to a treaty instrument which serves as a basis for later rule-making – again by derivation from IEL or its adaptation into the regional setting, or both – is preferable. This should not be surprising: The post-Stockholm experience of IEL is that states favour treaty approaches to organizing and expanding the law.

The second threshold or elemental feature of IEL in Antarctica which explains the advance of regionality is time. This is the period that appears to be necessary before states will

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<sup>89</sup> As noted above, the only rule-making done in the region is the unsuccessful agreement to reduce smoke haze from the clearing of tropical forests.



pursue collective secondary rule-making. From the 1961 coming into force of the *Antarctic Treaty*, the first instrument for conservation – for fur seals – was a decade in conception, while CCAMLR would be negotiated over a second decade and the Madrid Protocol a third.<sup>90</sup> It is at the latter point, 1991, that an IEL region (as defined in this chapter) came into existence for Antarctica. This suggests that a maturing of cooperation and processes is needed before there can be a systemic pursuit of developing IEL rules in an agreed setting. However, international law in organized settings does not mature only with passage of time. We can gauge the progress of IEL in the Arctic by certain milestones: the 1991 Arctic Environmental Protection Strategy (the AEPS), the 1996 creation of the Arctic Council to replace the AEPS, the 2008 declaration of UNCLOS as an organizing instrument, and the 2017 agreement of states for scientific cooperation.<sup>91</sup> Here, progress of a region to secondary IEL application is equally as much about substantial steps to realize the law as it is continuity of cooperation. In this respect, the Arctic is not much removed from Antarctica, each having considerable governance structures including administering secretariats and environmental policy working groups that operate with substantial independence. In this respect, what the Arctic has to enhance cooperation that Antarctica does not is the continuing involvement of Indigenous peoples in the primary governance setting of the Arctic Council, and otherwise by influential transnational organizations and variously sub-national governing entities.

The third threshold feature of a regional IEL in Antarctica has been the influence of civil society organizations. Such influence is necessarily directed at states, particularly those territorially present in the continent or with fishing interests in the Southern Ocean, because there is otherwise no environmental governance organization. Non-governmental organizations interested in environmental protection such as Greenpeace International were

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<sup>90</sup> *Convention for the conservation of Antarctic seals* (1 June 1972) 1080 UNTS 16529 (in force 11 March 1978).

<sup>91</sup> See Chapter 1 at page 54.

some time arriving in Antarctica. Only did the mid-1980s prospect of mining exploration on the continent galvanize a widely shared public concern about preservation of the continent. This was definitively ended by a prohibition in the Madrid Protocol with no suggestion of resource development on the continent has been pursued since. A more recent example of civil society influence has been the presence of groups interested in regulating environmental protection in commercial shipping around Antarctica, in the context of the IMO's development of the *Polar Code*.<sup>92</sup> Such examples are episodic, however. The greater role of civil society is a reinforcing of continuing sensibilities of states toward environmental protection in general terms. Civil society organizations may tip the balance for specific initiatives of regional IEL rule-making, but it is their presence in the continuing engagement of states to develop environmental protection in regions that, out of Antarctica's history, is more relevant. This can be seen in the Arctic in the participation of Indigenous peoples' organizations in the Arctic Council. The role of such organizations, as observed, can legitimate a state's declaring of policy in favour of environmental protection measures. France and New Zealand were applauded by Greenpeace International when each state reversed position in the late 1980s and insisted on the preservation of Antarctica free from mining exploration.<sup>93</sup> What can be concluded is that civil society organizations with sufficient capacity and influence can have a

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<sup>92</sup> Some Antarctic states were supported in the IMO's Marine Environmental Protection Committee (MEPC) to agree to prohibit the transport and use of heavy fuel oil in ships in the Southern Ocean. The ban, approved by the MEPC in March 2010 and in effect in 2011, is not part of the *Polar Code for Shipping* that applies to both Arctic and Antarctic waters, and is not yet in effect in the Arctic.

<sup>93</sup> "Perhaps most disturbing to environmentalists, the [proposed] Wellington Convention was viewed as the slippery slope leading to exploitation and development of mineral resources in and around Antarctica. It was feared that the agreement would provide incentives for commercial mineral activities. Its entry into force would have lifted the policy of voluntary restraint and effectively made commercial mining lawful. These developments could have increased the changes for discovering commercially exploitable deposits. Clearing the way to mine legally would promote prospecting, which could lead to mineral discoveries, that would give rise to exploration and exploitation. That pattern inevitably would have produced environmental degradation." Christopher C Joyner, "The 1991 Madrid Environmental Protocol: Rethinking World Park Status for Antarctica" (1992) 1 RECIEL 328 at 330, footnote omitted.

useful role in both specific matters of environmental regulation and in the pursuit of states toward realizing IEL in regional settings.<sup>94</sup>

The fourth elemental feature of IEL in Antarctica relevant to the Arctic are the administrative rules which allow matters of environmental protection to be identified and considered by states for regulation through the making of secondary rules. The function of regional secretariats in this respect, as focal points of continuity and rule-making, has been discussed above and in Chapter 2. Antarctica has two other features that promote or at least make more efficient the making of substantive rules. The first is the mandatory requirement for member states of the Madrid Protocol to conduct environmental impact assessment of proposed activities on the continent.<sup>95</sup> The second is the established basis for states in the region to give policy consideration to the results of scientific research.<sup>96</sup> The Arctic and the Antarctic are arguably similar when it comes to research-driven policy for the environment. The Scientific Committee for Antarctic Research has long functioned as an independent body with a ready receipt of its findings into the Antarctic Treaty System.<sup>97</sup> In the Arctic, research work since 1996 has been extensively and largely independently delivered by the Arctic Council's working groups, the CAFF and PAME foremost among them. The features of mandatory EIA and "science uptake" are distinct threshold ones: Environmental regions do not always have environmental assessment frameworks and established modes to consider

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<sup>94</sup> Coordinated advocacy among South East Asia's environmentally-minded NGOs, in order to influence the governments of the region, continues to be limited.

<sup>95</sup> Article 8 of the Protocol established the thresholds for environmental impact assessment on three levels, "less than, equal to or more than a minor or transitory impact", "preliminary, initial; and comprehensive" EIA as defined at Annex I. No list of prescribed activity scale or impacts was adopted in this scheme.

<sup>96</sup> The received work of the Scientific Committee for Antarctic Research (SCAR) bears this out. See David Walton, ed., *Antarctica: Global Science from a Frozen Continent* (Cambridge, UK: Cambridge University Press, 2013). For a useful discussion at the mid-term point of the *Antarctic Treaty*, see Gordon Fogg, *A history of Antarctic science: Studies in Polar Research* (Cambridge, UK: Cambridge University Press, 1992).

<sup>97</sup> This is the mandate of the Committee for Environmental Protection (CEP) established under the Madrid Protocol.

research results. The operation of both should be expected to reinforce rule-making by enhancing how states identify their interests in a matter and cooperate to regulate environmental protection. So the presence of each is a desirable feature and one that in objective terms allows us to consider the progress of regionality in the Arctic.<sup>98</sup>

The fifth threshold or elemental feature of IEL in Antarctica is two-fold, namely, a creation of local environmental protection rules that are treaty-oriented, with selective application of global IEL rules for particular purposes on the continent. This explains the absence of a regional seas agreement for the Southern Ocean: The overwhelming interests of states concerned with this maritime space are for a fishery that is governed under CCAMLR along with the problem of vessel-source pollution delegated for rule-making to the IMO. There are few land-based pollution run-off concerns from Antarctica or ocean dumping of wastes that have animated the making of regional seas agreements elsewhere. It is by what can be called the *selective instrumentalization* of IEL that the two polar regions approximate each other: Interested states initially agreed to treaty instruments relevant to the perceived problems of the two polar regions before moving to greater shared governance and informal and formal rule-making for particular environmental protection concerns. Absent in both regions – apart from biodiversity – has been a coordinated scheme to apply IEL as a whole, that is, the leading multinational instruments that could be adapted locally, e.g. CITES and the CMS. Of course, not all the pantheon of multilateral IEL treaties reduce readily to local rule-making, including the UNFCCC and chemical pollutant treaties. In Antarctica, as appears to be now underway in the Arctic, among global treaties it is the *Biodiversity Convention* that is the exception.<sup>99</sup> Recent years in both regions have seen the approaches to ensuring marine

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<sup>98</sup> Environmental scientific research and impact assessment can be thought of as an epistemic continuum. Where there is a basis to understand environmental problems and a process to mitigate them in advance of human activity, the argument goes, the regional creation and application of environmental protection rules should be more advanced, *i.e.* more efficient.

<sup>99</sup> See the discussion in Chapter 1 at page 38 about the pursuit of Aichi-target MPAs.

biodiversity of fisheries treaty requirements toward such a goal and the start of establishing large-scale marine protected areas (MPAs) pursuant to the Convention.<sup>100</sup> Antarctica's biodiversity conservation and habitat protection regime is the more advanced because of local, site-specific legislating for environmental protection pursued administratively through the Antarctic Treaty Secretariat.<sup>101</sup>

The maturing of IEL in regional settings can be gauged by the progress of local rule-making. A region may be said to be comparatively advanced in its rule-making capacity – *i.e.*

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In Antarctica, biodiversity protection is a concern of the CEP and is pursued by creation of Specially Protected Areas. In 2011 the CCAMLR Commission adopted Conservation Measure 91-04, "General Framework for the Establishment of CCAMLR Marine Protected Areas "with the aim of conserving marine biodiversity in the Convention area". Section 1 of the Measure stipulates that MPAs are to be adopted and implemented consistent with international law, including UNCLOS.

There are four means to establish MPAs in the Southern Ocean: (i) CCAMLR; (ii) the Madrid Protocol; (iii) by national legislation in a claimed EEZ area; and (iv) partially through international organizations such as the IMO (e.g. by designating a particularly sensitive sea area for pollution control from vessels) and the IWC (*i.e.* its 1994 Southern Ocean whaling sanctuary). See Karen N Scott, "Marine protected areas in the Southern Ocean" in Erik J Molenaar, Alex G Oude Elferink and Donald R Rothwell, eds., *The Law of the Sea and the Polar Regions: Interactions between Global and Regional Regimes* (Leiden: Martinus Nijhoff, 2013) 113 at 134.

<sup>100</sup> The result of such conservation measures should have a salutary, if indirect, effect on the performance of migratory species protection obligations under the CMS.

<sup>101</sup> See Antarctic Treaty Consultative Meeting (ATCM) XV, WP 2 (9-19 October 1989), "Comprehensive Measures for the Protection of the Antarctic Environment and Its Dependent and Associated Ecosystems". The United States and the United Kingdom expressed support, and a report from the SCAR was introduced, for a new management category of "Antarctic Protected Area", for which see Working Paper 38, ATCM XV (9-19 October 1989). "Antarctica presents an unsurpassed opportunity for wilderness preservation ... There is a value in preserving those [wilderness] qualities for their own sake. They are of outstanding significance. The vast majority of Antarctica is wilderness in the classic sense – large expanses affected principally by natural forces." *Ibid.* at 2.

The CEP creates Measures, Decisions, Resolutions, and Recommendations, notably for the designation of Specially Protected Areas. During the Committee's 2017 meeting, for example, eight Measures as Revised Management Plans were adopted for Specially Protected Areas. CCAMLR itself has a large number of Regulations and Conservation Measures. There are more than 20 bilateral cooperation treaties between states operating on the continent that contain additional requirements, and underscore the extent of cooperation. They are collected in Ben Saul and Tim Stephens, eds, *Antarctica and International Law* (Oxford: Hart Publishing, 2015).

About one-third of CEP instruments deal with creating and regulating Specially Protected Areas, Sites of Special Scientific Interest, and Historic sites and monuments. There are no instruments for the conduct of scientific research as such. There are presently three Recommendations and four Resolutions for hydrographic charting; five Decisions about an external auditor; and one Recommendation and one Resolution concerning the disposal of nuclear waste. For a list see *ibid.* at 175. See notably the CEP resolution adopted 1 June 2017 for the Establishment of the Ross Sea Region Marine Protected Area (Resolution 5 (2017) – ATCM XL – CEP XX), online: Antarctic Treaty Secretariat <[www.ats.aq/devAS/info\\_measures\\_listitem.aspx?lang=e&id=663](http://www.ats.aq/devAS/info_measures_listitem.aspx?lang=e&id=663)>.

the willingness of states to pursue such rule-making, whether in direct cooperation or by delegation to an organization such as the UNECE in Europe or a regional seas entity – when the scope of IEL as a whole can be accounted for and secondary (or “subordinate”) rule-making enters a sustained period. Administrative structures such as secretariats are an indicator of the latter feature.<sup>102</sup>

This fifth threshold feature of IEL in the Antarctic regional setting, *selective instrumentalization*, is what presents the risk of fragmentation in the law. Again, the phenomenon of conflicting (and disparate) rules has, as discussed above, a horizontal quality within IEL itself, and a kind of vertical conflict, of IEL with international law. Undeniably, the potential for fragmentation as manifested as rules conflict is possible in regional settings. In Antarctica, this can be seen in fisheries conservation measures under CCAMLR including by application of the precautionary principle as defined in that treaty in contrast to the outright preservation of coastal areas from any fishing under a CBD-inspired creation of MPAs.<sup>103</sup>

In other words, if we are concerned with uniformity of IEL from setting to setting, states should prefer derivative rule-making in regions. This is the application of global IEL rules into such a setting, in contrast to adaptive rule-making on a remedial basis for specific objectives that do not always align with existing rules of IEL. However, the challenge of achieving environmental protection through the law is less of competing – or overlapping – rules than, as discussed in Chapter 2, the global scale of environmental problems (e.g. pollutants), incomplete rules (e.g. for protection of conservation on the high seas) and the capacity of

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<sup>102</sup> An example of continuous administrative rule-making for environmental protection in global shipping is the work of the IMO. States do not make detailed rules for vessel-source pollution, such as air emissions. That regulation-making falls to the delegated setting of the IMO under the now detailed, interstitial rules of MARPOL 73/78.

<sup>103</sup> For a discussion of the precautionary principle see Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules*, trans. Susan Leubusher (Oxford: Oxford University Press, 2002) at 221. “The standard of precaution is therefore likely to vary as a function of not only of the technical requirements related to the nature of risk, but also of the political needs of the field in question. As a result, no single regulatory scheme is capable of implementing the principle.”

states to implement rules. In practical terms, if environmental protection is better accomplished by closer identification and the consensus of states to make rules in localized settings, occasional confusion in the law seems an acceptable cost.<sup>104</sup> Moreover, when it comes to the Arctic, as with Antarctica, it sees fewer human activities that require rule-derivation from IEL as a whole. Ocean space is similarly reductionist in a requirement for secondary rules of local application which demands elimination (or avoidance) of pollution, ensuring of sustainable resource use, and conservation of habitat.<sup>105</sup> So the propensity for conflict-by-fragmentation is reduced. In marine environmental protection matters, while regional secondary-rule making in the Arctic is not much advanced in comparison to regional seas agreements, the *Polar Code* for prevention of pollution from shipping and the pending central Arctic high seas fishing agreement discussed in Chapter 1 bear this out.

Regionality of IEL has its limits, and both in the extent to which it allows for development (*i.e.* maturation) of IEL as a whole, and how the law is developed within particular physical settings. The phenomenon of regionality exhibited in the five features discussed above does not offer an entire answer to overcoming problems of insufficiency, fragmentation and coherency in IEL. Three such pathologies are evident. A first, as discussed, is the problem of fragmentation, by which we mean conflicts of rules including uncertainty where they overlap. Again, the benefit of creating a more relevant, state-committed environmental law for the problems of a specific setting would appear to be worth such a cost.

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<sup>104</sup> We return to evaluating the problem of evaluating IEL in the context of conflict-fragmentation problems it presents for international law and the rule of law in Chapter 6. Secondary-rule making of IEL in regions – the further legislating of *lex specialis* – might be called *specialis lex specialis*; *sp. lex sp.*

<sup>105</sup> Regional sea agreements are broadly organized in these three matters. See e.g. the OSPAR Convention, introduced on page 75 of Chapter 1. OSPAR covers one quarter of the area of the Arctic north of the Arctic Circle. As an amalgamation in 1992 of the 1972 Oslo marine pollution treaty and the Paris land-based pollution control treaty, it was first concerned with pollution, but is now a vehicle for biodiversity and the creation of MPAs in the North-East Atlantic Ocean. Among all regional seas agreements, the OSPAR Convention has the most extensive secondary rules, in the form of “decisions” and recommendations. See “List of Decisions, Recommendations and Other Agreements Applicable within the Framework of the OSPAR Convention – Update 2017”, online at: OSPAR Commission <<https://ospar.org>>.

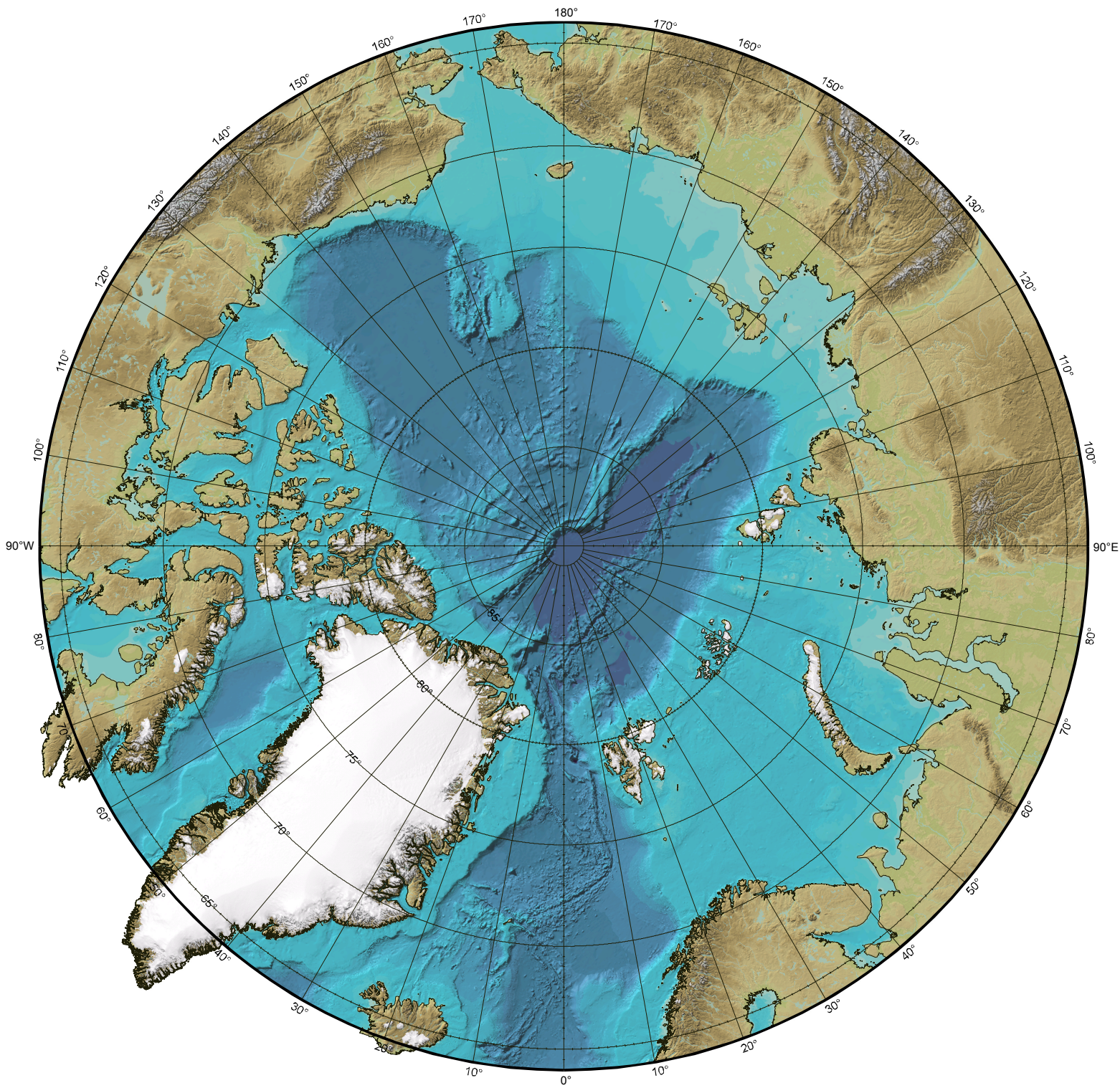
A second problem of the regional is that this form of law-making can be done in disregard of the apparent priorities inherent in multilateral rules. For example, Antarctica is without rules to advance or contribute particularly to the reduction of greenhouse gases or the release of globally transported pollutants such as mercury. Regionalism's strength is also its weakness, which is a closer attention to local environmental concerns sometimes without regard or to sidestep acting on global problems. In practical terms, this threatens to impede local rules that can contribute to global environmental protection, for example, the work of creating MPAs for habitat conservation in Antarctica's coastal waters.<sup>106</sup>

The third problem of regional rule-making in IEL is not one of substance. It is, instead, the result of our not entirely understanding IEL's development in the modern, post-Stockholm era. The question to be asked here is how the regional making of environmental protection rules contributes to IEL as a whole. What, in other words, is the feedback mechanism of this localized rule-making into the law as a whole, including its effective implementation by states? This is a matter for evaluation of how global rules-making operates in parallel with the local. That, in turn, is an assessment of what makes for effective or successful environmental protection rules of IEL, to be considered in Chapter 5. We turn next in Chapter 4 to the law of the sea as particularly offering such a role for the Arctic.

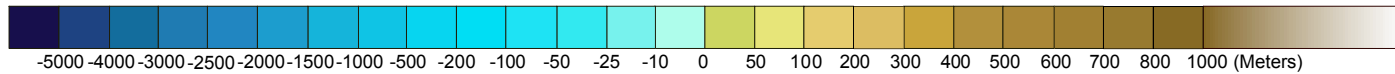
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<sup>106</sup> In 2016 CCAMLR states voted to create the Ross Sea MPA, a 1.55 million km<sup>2</sup> area with 72% of it to be preserved free from fishing. See the Meeting Report for CCAMLR XXXV (October 2016), online: CCAMLR <<https://www.ccamlr.org>>. New Zealand and the United States had first made the proposal in 2012. Germany is currently pursuing a proposal through the European Union for a 1.8 million km<sup>2</sup> MPA in the Weddell Sea to be considered at a meeting of CCAMLR states in October 2018.





Bathymetric and topographic tints



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## CHAPTER 4

# COHERENCY IN THE LAW OF THE SEA FOR ENVIRONMENTAL PROTECTION

### INTRODUCTION

- I. ENVIRONMENTAL PROTECTION NORMS IN THE LAW OF THE SEA
  - II. COHERING IEL IN THE LAW OF THE SEA
  - III. ASSESSING THE COHERENCY OF THE LAW OF THE SEA IN THE ARCTIC
- ### CONCLUSION

### INTRODUCTION

The most promising source of coherence for environmental law in the Arctic Ocean is the law of the sea. Much of the Arctic is maritime space and the states present in the region subscribe to the UN *Convention on the Law of the Sea* as the singular framework for environmental governance.<sup>1</sup> Any other treaty instrument or approach to organize international environmental law for the Arctic and its ocean has been rejected under the Illulissat Doctrine.<sup>2</sup> It follows that the law of the sea, extensively codified in UNCLOS, has a significant role in the application of IEL to the Arctic. This has been the experience of the law of the sea in other coastal settings with regional seas and fisheries management agreements. Some are to be found at the

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<sup>1</sup> *United Nations Convention on the Law of the Sea*, 1982 (10 December 1982) 21 *International Legal Materials* 1261 (in force 16 November 1994) (UNCLOS, and the Convention). As noted in the Introduction, for which see note 4, the “UNCLOS System” can be taken to include the Convention itself, the 1994 *Agreement relating to the implementation of Part XI of the Convention* (the Area agreement) (with 150 ratifications by June 2018) and the 1995 *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (with 89 ratifications as of June 2018). Achievement of the latter agreements resulted in some states acceding to the Convention because they had improved confidence in shared ocean arrangements.

<sup>2</sup> The doctrine is described in the Introduction, a rejection in 2008 by the Arctic’s five coastal of any Antarctica-style preservation of the polar north and any treaty or other framework for environmental protection. The Illulissat Doctrine has settled into acceptance without political response from other states or much civil society concern. The negotiation by nine states and the EU of a moratorium prohibiting fishing in the central Arctic Ocean, discussed in Chapter 1, done without reference or connection to other environmental issues in the region, can be appreciated in the context of the Doctrine.

periphery of the Arctic, as discussed in Chapter 1.<sup>3</sup> The reason why the law of the sea provides a basis to make environmental rules in the oceans is found in how states pursue their ocean affairs, namely, as matters of territoriality, security, pursuit of resources, and preventing and adapting to pollution. A related reason is that states and their civil societies perceive ocean space to be removed and therefore distinct from routine matters that need responses in environmental governance and law. Moreover, problems of pollution are often spatially distributed and with diffuse responsibility among states. This diminishes the importance states place on receiving and implementing environmental protection rules for the seas. Therefore, a consideration of how environmental law among Arctic states can be organized and further applied – brought into coherence – in the Arctic must include the law of the sea as a source of environmental protection prescriptions.

This chapter examines how the law of the sea can be applied to ensure the systemic development of environmental protection rules for the Arctic. It is argued that the law of the sea has certain features that ensure progress of environmental rule-making in such an ocean setting: (i) extensive normativity, including for resource conservation and pollution control; (ii) subsidiary rule-making capacity between states directly among themselves; and (iii) a propensity for the delegation of rule-making to international organizations (IOs). If IEL, defined in Chapter 2, is to be applied successfully in the Arctic Ocean, the three are needed in response to the problems discussed in Chapter 1.

In this chapter, a starting point for analysis is how the law of the sea developed to substantially encompass environmental norms for the oceans. The role of UNCLOS is considered, together with the capacity of the law of the sea to receive and apply environmental rules from IEL as a whole. The second part of the chapter advances the idea of the cohering elements of *normativity*, *subsidiarity*, and *delegated rule-making* in the law of the sea. The

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<sup>3</sup> See pages 64–67.

contention is that these features, none unique to the law of the sea or UNCLOS in particular, operate collectively to cohere IEL norms. The limits of such coherency and the need for the law of the sea to better receive global environmental norms are explored.<sup>4</sup> The chapter's final part addresses IEL's prospects in the Arctic in the context of such cohering elements being sufficient.

## I. ENVIRONMENTAL PROTECTION NORMS IN THE LAW OF THE SEA

After the conduct of diplomatic relations between states the law of the sea is humanity's original international law.<sup>5</sup> The historic importance of maritime space and the resources taken from the seas meant that ordering of competition for them under negotiated principles was desirable. From the time of Grotius during the 17<sup>th</sup> century emergence of sovereign states following the Peace of Westphalia until the Industrial Revolution, the uses of concern were fisheries and ocean navigation and occasionally the suppression of piracy. A law of the sea sufficient to allow states access to ocean resources and unrestricted sea-going trade settled into a handful of customary principles until the phenomena of mechanization, colonialism, and creation of new states in the 19<sup>th</sup> century.<sup>6</sup> Until this period there was little need for rules to address barely perceived problems such marine pollution or overfishing. The prevailing construct was of states as equal sovereigns, untrammelled in their exercise of authority on the high seas. Such an

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<sup>4</sup> The *normativity of the law of the sea* is the impetus for states (and other actors) to identify and acquire a compliance stance toward legal prescriptions – both rules and nascent rules (or legalized principles) – to conduct their affairs (and those of their nationals) in the oceans. The law of the sea has a particular normativity, but no more or less developed or compelling than other matters of international law such as human rights, the result of numerous matters regulated, and reciprocal obligations and benefits provided to states, notably through UNCLOS. The argument is that LOS exhibits considerable normativity and so reinforces a legitimacy that attracts states to more willingly negotiate and implement environmental protection rules.

<sup>5</sup> See Stephen C Neff, *Justice Among Nations: A History of International Law* Harvard University Press: Cambridge, MA, 2014) at 80ff. Maritime law was trade oriented, and only occasionally concerned with matters of state sovereignty and territorial claims.

<sup>6</sup> Apart from agreements for suppression of piracy, the few relevant treaties were bilateral instruments for shared inshore fisheries and mostly between European states. For example, in the 1850s Canada and the United States agreed to reciprocal fishing in each other's waters. See Joseph Gough, "A Historical Sketch of Fisheries Management in Canada" in LS Parsons and WH Lear, *Canadian Fisheries Management* (Ottawa: National Research Council 1993) at 5.

acceptance of jurisdiction, without collective measures or much cooperation to regulate human activities in the seas, continued until well into the 20<sup>th</sup> century when the law of the sea began to undergo large-scale codification in 1958 at Geneva.<sup>7</sup> Few environmental protection norms in the law of the seas accrued over the centuries until 1958. The norms were general, principles to regulate competition between states and mostly for fishing, and much less for shared concerns such as coastal pollution. The understanding of ocean space and the fisheries resources was that sovereign states had complete access, and therefore unlimited usufructuary rights. Coastal environmental problems were local in nature and there was no pattern in what few customary rules existed for harbour pollution or interfering with inshore fisheries. In the 18<sup>th</sup> and 19<sup>th</sup> centuries, the most pronounced setting to regulate the marine environment was Europe's rivers, where an emerging riparian law resulted from greater understanding and social concern about transboundary environmental impacts.<sup>8</sup>

After the mid-19<sup>th</sup> century, the law of the sea began gradually to encompass environmental protection and conservation matters. Claims by states to coastal seas did not extend to regulating inshore shipping and not yet the idea of preserving ecosystem functions. The mechanization of ships led to greater capacity to exploit fisheries and therefore competition to resources and territorial space.<sup>9</sup> European states responded by claiming sovereign territorial seas of various widths.<sup>10</sup> While this was the start of the grand project culminating under

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<sup>7</sup> Fisheries treaties, of course, had long been negotiated between European states including for their colonial possessions.

<sup>8</sup> The local nature of what were non-industrial environmental impacts and the lack of scientific understanding about them meant that governments accorded little importance to coastal problems.

<sup>9</sup> On shipping's expansion in the 20th century see Vaclav Smil, "The Two Prime Movers of Globalization: History and Impact of Diesel Engines and Gas Turbines" (2007) 2 *Journal of Global History* 373.

<sup>10</sup> Douglas Johnston described the shift in these terms: "By the second half of the nineteenth century, several states began to accept the need for a compromise on functional grounds and intermediate modes of coastal state authority between the classical poles of territorial sovereignty and navigational freedom. Although these administrative claims to a contiguous zone beyond the territorial sea were generally conceded to be necessary, they were not legitimized within a fully developed regime



UNCLOS a century later to enlarge states' ocean jurisdiction, it came with no measures to protect the marine environment. Industrialization's consequences for coastal seas were not so acute as to create perceptions that a polluting of local waters by industrial and urban effluent could have long-term consequences.<sup>11</sup> Meanwhile, a common standard for latitude and time zones was needed, while the 1884 Paris Convention ensured an orderly scheme for telegraph cables to be placed on the seabed.<sup>12</sup> Mechanization confronted states with a need to regulate the design and safety of ships in response to incidents involving loss of life. Legislation to govern merchant shipping in the few states with sea-going commercial fleets had no provision for environmental protection.<sup>13</sup>

The progress toward organized rules in a nascent law of the sea did not need to be efficient, because states did not yet have a sensibility of legalization between them and problems emerged only slowly. The capital cost of building ships meant that it was not states present at sea, but commercial interests. That meant states were not initially concerned with the performance of ships at sea including the problem of avoiding pollution from them.<sup>14</sup> By the start of the First World War, the law of the sea could be seen to be beginning to expand with some states starting to consider the ocean environment. An effort for multi-party environmental cooperation for a marine resource was the 1911 *North Pacific Fur Seal*

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until the second half of the twentieth century." *The Theory and History of Ocean Boundary-Making* (Montreal: McGill-Queen's University Press, 1993) at 45, citation omitted.

<sup>11</sup> The industrial era history of understanding and countering mercury pollution in inshore waters, culminating in the 2013 *Minamata Convention on Mercury* is an example.

<sup>12</sup> The Convention arguably marked the start of collective-use rule-making in the law of the sea, as it concerned a subject other than fisheries and shipping passage, and regulated states' conduct on the high seas. See *International Convention for the Protection of Submarine Cables* (14 March 1884) 24 Stat 989 (in force 1 May 1888). For a discussion of this history and place of the submarine cable regime in the law of the sea, see Douglas R Burnett, Robert C Beckman and Tara M Davenport, eds, *Submarine Cables: The Handbook of Law and Policy* (Leiden: Martinus Nijhoff, 2014).

<sup>13</sup> It was the problem of oily waste discharges in more modern shipping after 1914 that caused states to legislate in response. Shipping's initial use of coal as a fuel resulted in few objectionable impacts.

<sup>14</sup> Except for naval fleets, mostly exempt from international and domestic rule-making. A few states had capital present as warships on the oceans, and outside the application of any environmental law.

*Convention*.<sup>15</sup> The first effort to collectively regulate marine safety followed, the 1913 SOLAS Conference.<sup>16</sup> The law of the seas was now expanding to include technical advances in shipping and hydrographic exploration conducted by those states with capacity to do so.<sup>17</sup> Rules to define the territorial sea and to apportion maritime spaces further seaward were only starting to be conceived.

The problem of whaling in the aftermath of the First World War forced states to cooperate in their pursuit of ocean resources. Here, perhaps, for the first time, the law was understood to be inadequate. The massive taking of whales on the high seas by a handful of states resulted in a first treaty in 1931, prescribing minimal and indirect conservation measures.<sup>18</sup> Aside from a weak, unenforceable and scientifically unsupported treaty framework, excessive whaling had resulted from the value of whales for their oil and the decreasing cost of pursuing them in distant waters.<sup>19</sup> Treaty responses after 1931 – the Second World War a time of a decline in whaling and therefore unexpected conservation – of states involved began to account for long-term yield. But the treaties stopped short of safeguarding an ocean ecosystem

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<sup>15</sup> *Convention between the United States and Other Powers Providing for the Preservation and Protection of Fur Seals* (7 July 1911) 37 Stat 1542 (in force 14 December 1911). The treaty was superseded by the 1957 *Interim Convention on Conservation of North Pacific Fur Seals* (9 February 1957) 314 UNTS 105 (in force 14 October 1957), now considered defunct. The 1911 Convention was the first multilateral treaty to provide for an access by Indigenous people to an ocean resource, for those of the Aleutian Islands.

<sup>16</sup> The 1913 SOLAS Conference resulted in basic uniform standards for safety at sea and measures for passengers to escape sinking ships. The standards were not commonly implemented because of the First World War.

<sup>17</sup> The International Hydrographic Bureau was created in Monaco in 1921 and under a 1967 treaty became the International Hydrographic Organization. UNCLOS overtook the customary rule allowing states carrying out hydrographic surveys to have access to the coastal areas of other states subject to the requirement of prior notice and consent as a marine scientific research activity in the territorial sea and exclusive economic zone.

<sup>18</sup> *Convention for the Regulation of Whaling* (24 September 1931) 490 Stat. 3079 (in force 16 January 1935). Article 3 provided that the treaty did not apply to “aborigines” living on the coasts of the 27 contracting states, provided they employed artisanal whaling methods. Apart from prohibiting the taking of the right whale species, immature whales and requiring efficient processing facilities, the 1931 Convention contained no prescriptions for conservation.

<sup>19</sup> The leading work on the evolution of the international whaling regime continues to be Patricia W Birnie, *International Regulation of Whaling: From Conservation of Whaling to Conservation of Whales and Regulation of Whale-Watching* (New York, NY: Ocean Publications, 1985).

relevant to whales. Scientific knowledge was not sufficiently advanced for the matter to be a concern. The whaling regime which continues today under the 1946 *International Convention for the Regulation of Whaling* (ICRW) would later attract civil society attention, demonstrating how environmental governance regimes can evolve toward conservation-preservation ideals. Whaling regulation through the law remains imperfect and a source of conflict among a handful of interested states, the attempts at reform in recent decades having stalled.<sup>20</sup>

A second milestone of the 20<sup>th</sup> century in creating law conserve ocean resources was the work of the League of Nations.<sup>21</sup> The League's goals would go unfulfilled because of the weaknesses of the international system of the time, including limited institutional capacity to pursue regulatory projects and a lack of cooperation between states. However, the League's work would establish as basis for the International Law Commission to revisit how the law of the sea might be codified.<sup>22</sup> The moment when the law of the sea acquired a global environmental orientation was the capturing of existing principles and drafting of freshly needed rules in treaties that resulted from the 1958 Geneva Conference on the Law of the Sea. States had been motivated to act collectively and negotiate the treaties because of increasing uses of the seas, the end of the colonial era after 1945, and greater scientific understanding of environmental (and resource) impacts. An additional factor was the need to coordinate regulation among shipping industry states, incomplete after two SOLAS conferences. Here, the impetus was the 1948 creation of the Inter-governmental Maritime Consultative Organization

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<sup>20</sup> I discuss challenges faced by the international whaling regime in "Evolving to Conservation?: The International Court's Decision in the *Australia/Japan Whaling Case*" (2014) 45 *Ocean Development & International Law* 301.

<sup>21</sup> League of Nations – Committee of Experts for the Progressive Codification of International Law, "Exploitation of the Products of the Sea", (1926) 20 AJIL 230 at 236. See the discussion in Chapter 2 at note 13.

<sup>22</sup> ILC, *Yearbook of the International Law Commission* 1956 (Report of the International Law Commission on the Work of its Eighth Session, 23 4 July 1956, Official Records of the General Assembly, Eleventh Session, Supplement No. 9 (A/3159)) at 253. A commentary for ILC draft article 512 on fisheries conservation simply recommended adoption of measures by states "where necessary". The ILC otherwise studied the territorial sea, the contiguous zone and high seas fisheries.



(IMCO), later the IMO, which began operating in 1958.<sup>23</sup> It was a convenient moment. The Geneva Conference was at hand and a commercial shipping industry was emerging in Global South states. The IMO offered a clearinghouse for uniform shipping safety and pollution control rules. This was would become crucial after marine disasters in later years such as the 1967 *Torrey Canyon* oil spill.<sup>24</sup>

The expansion in customary law for marine environmental protection and resource use during the same period is much less tangible. It was the range of matters considered at the 1958 Geneva Conference and captured in treaties which formalized the making of marine environmental protection law. Two features of the law of the sea intrinsic to its systemic application can be found in the 1958 treaties: (i) cooperation in the negotiation of legal rules and (ii) a heavy preference among states for treaties. Treaties appealed to states by creating certainty of legal obligations while allowing them to claim expanded maritime areas. Such expansive areas included the continental shelf under the doctrine that a coastal state's landmass could carry on into the sea with the same exclusive right to resources, demanding only modest efforts for environmental protection.<sup>25</sup> States could select the treaties of obvious benefit and it

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<sup>23</sup> *Convention on the Inter-Governmental Maritime Consultative Organization* (6 March 1948) 289 UNTS 3 (in force 17 March 1958), amended and renamed as *Convention on the International Maritime Organization* (IMO Convention) (14 November 1975) 9 UNTS 61.

<sup>24</sup> After the *Torrey Canyon* incident international law regulating oil pollution at sea split into the regimes of pollution liability compensation and general prevention, the latter done under the IMO *International Convention for the Prevention of Pollution from Ships* (2 November 1973) 12 ILM 1319, as amended by the 1978 Protocol to the 1973 *Convention*, 17 ILM 546 (MARPOL 73/78 and MARPOL).

See also the *International Convention for the Prevention of Pollution of the Sea by Oil* (12 May 1954) 327 UNTS 3 (in force 26 July 1958) (OILPOL). The Convention regulated tank washing discharges and not whole ship or casualty losses of oil. It was imperfectly applied by states, and needed to be amended in 1962 and 1969. It has been superseded by later treaties, notably MARPOL. By 1954, the customary international law obligation on states to prevent transboundary pollution and to warn others of it was established, confirmed by the *Trail Smelter (Canada v. USA)* 3 RIAA 105 (16 April 1938) and *Corfu Channel (United Kingdom v. Albania)* ICJ Rep 1949, 4 (judgment of 9 April 1949). A marine prohibition against transboundary pollution in North America has an earlier origin than the *Trail Smelter* decision, namely the *Treaty in Relation to the Boundary Waters Between the United States and Canada* (USA/UK), 36 Stat. 2448 (11 January 1909): Water "on either side shall not be polluted to the injury of health or property on the other."

<sup>25</sup> The treaties resulting from the 1958 First Convention on the Law of the Sea, known as the Geneva Conventions on the Law of the Sea, were: *Convention on the Territorial Sea and Contiguous*

was therefore not surprising that the high seas conservation instrument, the *Convention on Fishing and Conservation of Living Resources of the High Seas*, was the last to enter into force, in 1966, eventually gaining only 39 ratifications and 35 signatures.<sup>26</sup> The Conference's other three principal treaties had greater acceptance, entering into force between 1962 and 1964. The *Convention on the High Seas* dealt with uses of the oceans: navigation and passage rights, piracy and submarine cables, although provisions to prevent oil pollution from ships and pipelines, and regulate radioactive waste were straightforward.<sup>27</sup>

The *Convention on Fishing and Conservation of Living Resources of the High Seas* was an advance from the single species approach until then only found in the ICRW. Coastal states with an offshore fishery would henceforth have enhanced consultative rights when scientific research was proposed for their waters. The requirement to negotiate conservation measures in areas of competing fishing was a hallmark of the treaty. The treaty's Article 2 was a decided advance, if general in nature, in agreed rule-making for marine environmental conservation:

As employed in this Convention, the expression "conservation of the living resources of the high seas" means the aggregate of the measures rendering possible the optimum sustainable yield from those resources so as to secure a maximum supply of food and other marine products. Conservation programmes should be formulated with a view to securing in the first place a supply of food for human consumption.<sup>28</sup>

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*Zone* (29 April 1958) 516 UNTS 205 (in force 10 September 1964); *Convention on the High Seas* (29 April 1958) 450 UNTS 11 (in force 3 September 1962); *Convention on Fishing and Conservation of Living Resources of the High Seas* (29 April 1958) 559 UNTS 285 (in force 20 March 1966); and *Convention on the Continental Shelf* (29 April 1958) 499 UNTS 311 (in force 10 June 1964).

<sup>26</sup> See the dates of signature and ratification online: UN <<https://un.treaties.org>>. Few states joined the Convention after 1971 although former Yugoslav ones did from 1994, and Congo in 2012.

<sup>27</sup> The *Convention on the High Seas* was the first maritime security treaty. It codified the sovereign immunity of warships, allowed inspection and pursuit of civilian ships, and defined the crime of piracy.

<sup>28</sup> The Convention provided for dispute resolution: Appointment by the parties of a "special commission" to address allocative and conservation matters under Article 9. No recourse to it was apparently made despite it governing high seas fishing from 1958 until UNCLOS came into force in 1994. This was partly the result of other agreements with a basis to negotiate away disputes, and the use of bilateral arbitration in some cases. The European Community (EU) states had operated since 1957 under conservation measures prescribed by the Common Fisheries Policy.

By 1958, problems in the conservation of whaling that had resulted from the failure of member state controlled scientific analysis in the ICRW were evident. The matter would be addressed by a specially appointed commission of whaling states in the setting of the International Whaling Commission.

The Convention was a treaty for exploitation of ocean resources, although it established in law the basis for environmental protection having a clear rationale, namely, commercial production of food for human consumption and a requirement that scientific understanding be the basis for decision-making among states. It would not be until the 1995 UN *Straddling Stocks Agreement* that states would agree to conservation measures for “boundary fisheries”.<sup>29</sup> Despite their shortcomings, the Geneva treaties were an essential precursor to UNCLOS in their range of subjects and in creating of confidence that a balance could be maintained between the maritime rights of states and mutually beneficial restrictions.<sup>30</sup> The agenda for negotiations toward UNCLOS, which would begin in 1973 was comprehensive in the environmental matters to be considered. The best design of a single treaty instrument necessarily including provisions for environmental protection was through the idea of *totality*. This would attract states to accept regulation of their environmental responsibilities in the oceans in return for a more settled legal order and greatly expanded coastal areas such as the EEZ. UNCLOS as a complete codification project reflected the confidence of the organized international community of the time: The expansion of international law was something being pursued by negotiation of

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See Yulia V Ivashchenko, Phillip J Clapham and Robert L Brownell Jr, “Soviet Illegal Whaling: The Devil and the Details” (2011) 73 *Marine Fisheries Review* 1.

<sup>29</sup> *UN Straddling Stocks Agreement*, *supra* note 1. Margaret Young is critical of how the fisheries regime has fared under UNCLOS. “In sum, the norms and institutions of the law of the sea are generally weak in achieving fisheries sustainability. Notwithstanding high hopes for the taming of the behaviour of over-exploiting states, UNCLOS’s provisions for fisheries conservation are considered to be the Convention’s chief deficiency. The Fish Stocks Agreement has failed to remedy UNCLOS’s problems due to poor implementation by states and RFMOs.” *Trading Fish, Saving Fish: The Interaction between Regimes in International Law* (Cambridge, UK: Cambridge University Press, 2011) at 46, footnotes omitted.

The phenomenon of illegal, unreported and unregulated (IUU) high seas fishing continues to be a problem of a lack of formal regulation. The emergence of the UNFAO as the leading agency concerned with IUU fishing illustrates the problem of a lack of central agency coordination of fisheries issues. The question is where a normative centre for fisheries conservation should be located; in the law of the sea or conservation instruments such as the *Convention on Biological Diversity* (5 June 1992) 1760 UNTS 79 (in force 29 December 1993) (CBD).

<sup>30</sup> There was a fifth instrument agreed at the Geneva Conference, the *Optional Protocol of Signature concerning the Compulsory Settlement of Disputes* (29 April 1958) 450 UNTS 169 (in force 30 September 1962). It established compulsory jurisdiction of the ICJ for any of the four Conventions that two contending states might be members of, except for high seas fisheries disputes. The Optional Protocol has never publicly been invoked by states.

treaties including the International Law Commission's project for the *Vienna Convention on the Law of Treaties*.<sup>31</sup> Defining the law of the sea by negotiation among some 150 states toward an UNCLOS treaty eventually to have more than 300 provisions was the result of such confidence.

### ***UNCLOS and the making of marine environmental law***

Negotiations for UNCLOS were characterized by a consensus shaped through careful agenda setting and a deliberate combining of issues for discussion in numerous committees. The crafting of environmental provisions in what was eventually Part XII of the Convention took place in the context of the era's environmental concerns.<sup>32</sup> The 1972 Stockholm Conference "Action Plan for the Human Environment" offered recommendations for the Law of the Sea Conference.<sup>33</sup> Among them was the exhortation that "[g]overnments ... participate fully in the ... Conference on the Law of the Sea ... with a view to bringing all significant sources of pollution within the marine environment, including radioactive pollution from nuclear surface ships and submarines, and in particular in enclosed and semi-enclosed seas, under appropriate controls".<sup>34</sup> Recommendation 92 emphasized the need for "measures to prevent and control marine pollution [during] the 1973 Conference on the Law of the Sea for such action as may be appropriated."<sup>35</sup> Such measures found their way into UNCLOS as the obligations upon states to

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<sup>31</sup> *Vienna Convention on the Law of Treaties* (23 May 1969) 1155 UNTS 331 (in force 27 January 1980) (VCLT). In light of the VCLT, UNCLOS could arguably have included more defined terms. In some matters ambiguity in the absence of a definition allowed for compromise during negotiations. Maritime boundary cases after UNCLOS showed the need for judicial interpretation and therefore defined terms may have been restrictive or created unintended consequences.

<sup>32</sup> The Conference's Third Committee was responsible for environmental matters, first meeting in December 1973. Other important developments in before the Conference included the 1969 creation of the Joint Group of Experts on the Scientific Aspects of Marine Pollution (GESAMP) by the IMO, UNFAO, UNSECO and WMO, and the 1972 London Dumping Convention (29 December 1972) 1046 UNTS 120 (in force 30 August 1975).

<sup>33</sup> *Report of the United Conference on the Human Environment*, Stockholm, 5-16 June 1972, UN doc. A/Conf.48/14/Rev. 1, 23 at 73.

<sup>34</sup> *Ibid.*, Recommendation 86. Recommendation 86(c) urged states "to work towards the completion of" the *London Dumping Convention*. Recommendation 86(e) enjoined governments to participate in the IMO conference which resulted in MARPOL the next year.

<sup>35</sup> *Ibid.*

protect the marine environment (Article 192), to adopt preventive measures (Article 194), and pursue regional cooperation (Article 197).<sup>36</sup> Another Stockholm recommendation, however, was discarded. This was a proposal that “States should assume joint responsibility for the preservation of the marine environment beyond the limits of national jurisdiction.”<sup>37</sup> Aside from the catalog of matters for the marine environment featured in UNCLOS negotiations, other concerns identified by 1973 were pursued by separate treaty codification including dumping of wastes at sea, and oil spill prevention and liability schemes.<sup>38</sup>

UNCLOS could not be expected to encompass all marine environmental protection matters of concern. There was by now an accepted basis for separate treaty regulation of shipping. Fisheries regimes were also understood to be more efficiently negotiated and implemented apart from UNCLOS, including for whaling under the 1946 ICRW.<sup>39</sup> In addition,

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<sup>36</sup> Annex III, para. 9 of the Report, *ibid*: “States should join together regionally to concert their policies and adopt measures in common to prevent the pollution of the areas which, for geographical or ecological reasons, form a natural entity and an integrated whole.”

<sup>37</sup> *Ibid.* at para. 5. States accept responsibility for marine environmental preservation in areas beyond national jurisdiction (“ABNJ”) on a subject-by-subject basis through regional seas agreements, regional fisheries management agreements, in the seabed Area, and by cooperation to act against IUU fishing. The instrument which reflects the ideal of joint responsibility is the *Convention on Biological Diversity* (CBD). Under CBD Article 4 (“Jurisdictional Scope”) member states must fulfill Convention requirements “in the case of processes and activities” within national jurisdiction “or beyond the limits of national jurisdiction.”

<sup>38</sup> *International Convention on Civil Liability for Oil Pollution Damage* (29 November 1969) 973 UNTS 3 (in force 19 June 1975) (with 1976, 1985, 1992 and 2003 protocols), and the *International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties* (29 November 1969), 970 UNTS 211 (in force 6 May 1975). There were two 1992 protocols, one to amend the civil liability convention, the other establishing a compensatory fund. See the website of the International Oil Pollution Compensation Funds: IOPC Funds <<http://www.iopcfunds.org>> and see UNCTAD, *Liability and Compensation for Ship-Source Oil Pollution: An Overview of the International Legal Framework for Oil Pollution Damage from Tankers* (United Nations: Geneva, 2012). See also the *International Convention on Oil Pollution Preparedness, Response and Co-operation* (30 November 1990) 1891 UNTS 78 (in force 13 May 1995).

<sup>39</sup> UNCLOS provisions which defer to other treaties or competent organizations include: Article 64 (highly migratory species); 65 (marine mammals); 207 (land-based pollution); 208 (seabed pollution within national jurisdiction); 210 (pollution by dumping); 211 (vessel-source pollution); 212 (pollution from or through the atmosphere); 247 (marine scientific research conducted by international organizations); and 237 (other conventions). Article 311 is a *chapeaux*-like provision with prospective application for synthesis with non-law of the sea treaties: “(2) This Convention shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Convention ...” Other treaties for marine environment protection must be read in light of Article 237, where UNCLOS is without prejudice to them although their application should ideally conform to the Convention.

the inability of states to achieve consensus to provide for fisheries conservation in UNCLOS – which continues to the present with the problem of unregulated high seas fisheries – would require a later adjunct treaty to UNCLOS, the 1995 *Straddling Stocks Agreement*. The same lack of consensus during the 1973-82 negotiation of UNCLOS meant leaving to the future a framework of rules for the international seabed area (the “Area”) under UNCLOS Part XI.

“[O]ne of the major problems [of accounting for related treaties] was that the restructuring of the law of the sea embodied in the 1982 Convention is not and cannot easily be matched by a parallel restructuring of the detailed and often highly technical and politically delicate conventional law relevant to the sea or to maritime related matters.”<sup>40</sup>

Although UNCLOS and its related instruments established a source of environmental protection norms in the law of the sea, biodiversity along with significant matters of land-based and atmospheric pollution which impact the marine environment remain outside the law of the sea.<sup>41</sup> Therefore, we can now successfully UNCLOS shapes state conduct – by compliance or attraction to normative behavior – toward environmental protection, and how it reconciles IEL norms and rules into the law of the sea. A starting point is to ask a counterfactual question, *i.e.* whether protection of the ocean environment would fare better *without* UNCLOS. In reply, the Convention’s arguably successful provisions are noted: (i) creation of a port state control regime for environmental (and safety) monitoring of shipping among contracting states (through Article 218); (ii) compulsory resolution of most types of dispute between member states; (iii) an imposition of environmental obligations on states in their EEZs; and (iv) widespread creation of

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<sup>40</sup> Myron H Nordquist *et al*, eds, *United Nations Convention on the Law of the Sea 1982: A Commentary, Part XVII* (Dordrecht: Martinus Nijhoff, 1991) at 238.

<sup>41</sup> General international treaties such as MARPOL and SOLAS, together with regional law of the sea treaties reveal the concerns that animated the making of UNCLOS. An analysis of 450 ocean treaties for the 500-year period until 1999 – the majority concluded after 1945 – classified 159 as concerned with ocean resources, 177 with navigation, and 69 with marine pollution. The total of 450 did not include maritime boundary agreements. John Gamble, Ryan Watson and Lauren Piera, “Ocean Regimes as Reflected in 500 Years of Multilateral Treaty-Making”, Aldo Chircop, Ted L McDorman and Susan J Rolston, eds., *The Future of Ocean Regime-Building: Essays in Tribute to Douglas M. Johnston* (Leiden: Martinus Nijhoff, 2009) 87. 171 of the 450 were created from 1980 until 1999. *Ibid.*, Figure 1 at 97.

regional seas agreements.<sup>42</sup> Effective dispute resolution was responsible for resolving of maritime boundary claims, while port state control and regional seas have been accomplished by detailed rule-making subsidiary to UNCLOS between states willing to cooperate in geographically defined regions.

Environmental protection provisions are found throughout the Convention. They encompass extensive matters including issues of concern in an Arctic that is now substantially politically enclosed, *i.e.* with all but a central area encompassed by the EEZs of five coastal states. The UNCLOS catalog of environmental protection provisions is directed to the avoidance of pollution and marine conservation, followed by a promotion of cooperation between states. The environmental provisions of UNCLOS are as follows, most located in those parts of the Convention that define the various maritime zones available for states to claim:

Article 33: Contiguous zone protection of the coastal state's territorial sea environment

Article 39: Environmental protection by ships during archipelagic passage

Article 43: Prevention of shipping pollution in international straits

Article 61: Conservation of living resources in a state's EEZ

Article 63: Conservation of stocks across two or more EEZs and straddling the high seas

Article 64: Conservation and "optimum utilization" of highly migratory species<sup>43</sup>

Article 65: Conservation of marine mammals and precedence of the ICRW over UNCLOS

Article 66: Fisheries for anadromous stocks

Article 67: Fisheries for catadromous species

Article 79: Regulation of submarine cables and pipelines on the continental shelf of a state

Article 117: Duty of states to regulate their nationals for conservation on the high seas

Article 118: Cooperation of states in the conservation of high seas living resources

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<sup>42</sup> Maritime boundary-making, notably in the delimitation of EEZs and in pending extended continental shelf claims, counts as a success, but not as a result of specific rules or processes found in UNCLOS, instead achieved by cooperation and consistent judicial rule-making.

The ITLOS *West Africa Fisheries Advisory Opinion* confirmed the duty of states to ensure conservation of shared fisheries resources in their EEZs. *Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission, Advisory Opinion* (2 April 2015), ITLOS Case No. 21.

<sup>43</sup> Highly migratory species are listed at Annex I UNCLOS. The list is a useful connection to application of the *Convention on Migratory Species* (CMS).

Article 119: Conservation of the living resources of the high seas

Article 120: Conservation of marine mammals in the high seas

Article 123: Cooperation of states bordering on enclosed and semi-enclosed seas

Article 145: Protection of the environment in the international seabed Area (Part XI)<sup>44</sup>

The Article 33-145 canon must be read in conjunction with the environmental provisions at Part XII of the Convention. The success of Part XII lies in how it supports governance and fosters the creation of specific, *i.e.* secondary order rules among states, such as in the example of *subsidiarity* in regional seas agreements. As with the provisions in Articles 33-145, Part XII's shortcomings are two-fold, namely, the emphasis on pollution over biodiversity, and an absence of measures to receive IEL as a whole into the law of the sea. Nevertheless, Part XII is a framework that encompasses most activities. Such a comprehensiveness helpfully goes to reinforce normativity, offering legitimacy and local implementation of norms in particular governance schemes:

Article 192 – Protection and preservation of the marine environment – General obligation<sup>45</sup>

Article 194 – Measures to prevent, reduce, and control pollution of the marine environment

Article 195 – Duty not to transfer damage or to transform pollutants into another pollutant

Article 196 – Use of technologies or introduction of alien or new species

Articles 197-201 – Global and regional cooperation

Articles 202-203 – Technical assistance

Articles 204-206 – Monitoring and assessment

Articles 207-212 – International rules and national legislation for marine pollution control

Articles 213-222 – Enforcement of pollution prevention (by flag and port states, of dumping)

Article 223-233 – Safeguards

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<sup>44</sup> Part XI UNCLOS is effectively a third body of environmental obligations, for the “Area”, *i.e.* the international seabed. Part XI/Article 145 measures are now being developed after creation of the International Seabed Authority, together with legislation for commercial seabed operators in a handful of states.

The provisions for marine scientific research in Part XIII, Articles 238-265, conspicuously do not contain measures for environmental protection or conservation.

Article 300, good faith and (avoidance of) abuse of rights, is a provision important for the application of the Convention's environmental requirements.

<sup>45</sup> The use of “preservation” here was deliberate, meant to connote a strong conservation character to the Part XII obligations. It does not appear anywhere else in the Convention.



Article 234 – Ice-covered areas

Article 235 – Responsibility and liability

Article 236 – Sovereign immunity

Article 237 – Obligations under other conventions for protection and preservation of the marine environment.<sup>46</sup>

Left out from Part XII was a provision for a new or existing international organization (IO) to advance marine environmental protection norms. It was a compromise in negotiating UNCLOS that no governance organization would be created for the law of the sea or to administer the Convention except the ITLOS and the International Seabed Authority. However, Part XII itself has been far-reaching with particular rules and governance regimes to emerge. One success has been port state control of shipping. UNCLOS Articles 218 and 219 created a basis for coastal states to join through regional memoranda of understanding to monitor and enforce safety and environmental compliance measures against sub-standard shipping. This, in turn, gave credibility and reinforced the safe design and operation of shipping by under its regime, *i.e.* through SOLAS and MARPOL. A second success of UNCLOS was to reinforce creation of regional seas agreements, entailing greater local regulation among states for marine pollution prevention. A third success contributing to Part XII has been dispute resolution, worthwhile to resolve conflicts between states in environmental matters and, indirectly, to create precedent rules for maritime boundary delimitation that would be otherwise difficult to define in the Convention.

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<sup>46</sup> Article 237(1): “The provisions of this Part are without prejudice to the specific obligations assumed by States under special conventions and agreements concluded previously which relate to the protection and preservation of the marine environment and to agreements which may be concluded in furtherance of the general principles set forth in this Convention.”

Article 237(2): “Specific obligations assumed by States under special conventions, with respect to the protection and preservation of the marine environment should be carried out in a manner consistent with the general principles and objectives of this Convention.”

## II. COHERING IEL IN THE LAW OF THE SEA

There has never been a suggestion that UNCLOS, or the law of the seas as a whole, could extend to regulate all matters of marine environmental protection. The problems of regulating for environmental protection and conservation are difficult to reduce to single instrument rule-making, as the global problems of consequence for the Arctic, climate change and pollutants, demonstrate. Moreover, the environment itself is complex and changing. So are scientific understanding and social-political concerns about what has priority for regulation. When it comes to the law of the sea, therefore, the inquiry must be about whether the law allows for effective creation and implementation of rules for environmental protection, including a now-extensive canon of IEL norms. The challenge is less the task of conceiving new environmental protection rules and more a systemic organization of numerous principles and rules.

Biodiversity is a contemporary challenge not much provided for in UNCLOS. It has been necessary to extend the *Convention on Biological Diversity* into the oceans realm.<sup>47</sup> Therefore, if the law of the sea, with UNCLOS as its codified centre, is to effectively receive IEL rules, a necessary approach must be to identify features in the law of the sea which support this, *i.e.* engender coherency. The pursuit of coherency, toward the goal of a better organization of IEL for maritime environmental protection purposes, is not a search for features that generate hierarchies of legislative responsibility, allocate rules as such, or apportion responsibility as

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<sup>47</sup> The environmental protection provisions in UNCLOS are, in general, to regulate specific sources of pollution and promote conservation of ocean resources, notably fisheries. Consider the Articles 33-145 and Part XII canon, above. There was no reconciling rule or requirement to preserve systemic functioning of biological processes in the ocean, *i.e.* biodiversity. Only after UNCLOS was concluded in 1982 did the need to reserve large ocean areas or otherwise protecting such areas from certain activities (overfishing, seabed petroleum extraction, marine pollution) become apparent. The current limited progress to a network of marine protected areas (MPAs) in the Arctic basin illustrates the problem of the lack of specific normative direction in the law of the sea and UNCLOS in particular. See Chapter 1 at pages 54 – 55.

The creation of MPAs in Antarctica is due to the acceptance of strong conservation normativity codified in CCAMLR, including an express direction to prevent or minimize adverse changes to the marine ecosystem. However, agreement after 2003 to establish a network of MPAs by 2012 has met resistance by fishing states. See Cassandra M Brooks, “Competing values on the Antarctic High Seas: CCAMLR and the challenge of marine-protected areas” (2013) 3 *Polar Journal* 277.

constitutional-like elements.<sup>48</sup> An example is the scheme for the Area at UNCLOS Part XI that necessitated a governing entity – the International Seabed Authority – with competence to create environmental protection rules.<sup>49</sup> A second constitutive element are UNCLOS rules for states to claim and resolve competing claims to maritime space, of significant importance during an era of expanded EEZs. But these and other elements of the Convention do not amount to a *constitutional order* in the law of the sea. The Convention has been called a constitution for the oceans which is a useful label in light of the considerable number of matters it provides for.<sup>50</sup> But it does not prescribe a *constitutionality* to direct the making or import of IEL into oceans settings. There may be characteristics in the law of the sea which exhibit constitutional ordering of matters but we must not confuse comprehensiveness with allocation of competency and jurisdiction. What can be called UNCLOS's *ordering schemes* are not at a supervening level to entirely organize environmental law and make it respond to the need for new legal rules (and the organization of rules) in matters of marine environmental protection.

Importantly for what follows in this chapter about the cohering features of the law of the sea, UNCLOS possesses what can be called the quality of *territoriality*. This characteristic has operated in the manifesting of greater spatial jurisdiction for states under UNCLOS. It is seen in the example of the 200 NM mile EEZ, which extends the reach of environmental protection rules into a previously minimally regulated ocean commons. This is what is meant in Chapter 1 by the juridical enclosure of the Arctic, in environmental protection terms an increased reach of

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<sup>48</sup> The use of the term *constitutionalism* in international law and governance has become problematic. International law – and much less the law of the sea and environmental law – has hardly achieved the framework of a directing order for law-making and the activities of subjects in that order, namely states. At most we might claim it to be a work in progress, again at an empirical level and one encompassing more than the law, toward what Jan Klabbers calls a “constitutionalizing global order”. See “Law-making and Constitutionalism” in Jan Klabbers, Anne Peters and Geir Ulfstein, eds, *The Constitutionalization of International Law* (Oxford: Oxford University Press, 2009) 81 at 125.

<sup>49</sup> See *Responsibilities and obligations of States with respect to activities in the Area*, Advisory Opinion, 1 February 2011, ITLOS Reports 2011, 10 (*Area Advisory Opinion*).

<sup>50</sup> UNCLOS does not much address military uses of the seas and related international order matters. The Convention is also arguably weak in application to conservation of the commons of the high seas.

rules to protect and conserve ocean space within national EEZs. If the high seas continue to be without effective rule-making among interested states, then enclosure by territoriality, if not desirable because the capacities of states to implement rules in EEZ and ECS areas are often limited, is the recourse. It should be observed, however, that a territorial dynamic which underscores the sovereign rights of states in ocean areas can work against cooperation for environmental protection. This is the result in the Arctic, where coastal states continue individually to develop environmental protection laws for their EEZs without common coordination.

Coherency, with synonyms of consistency, unity, synthesis and coordinated jurisgenerativity, is desirable for reasons of efficiency, avoidance of conflict, transparency of the rule of law, and to foster systemic implementation. Coherency offers a partial response to fragmentation through what can be called an *integrative-distributive* function. Cohering features should not be thought of as interpretive techniques to resolve conflicts between particular environmental protection rules. Instead, cohering features are ones that explain and can be applied to advance environmental norms and organize IEL in ocean settings.

### ***Coherency's three characteristics***

Coherency can be demonstrated by examples of how the law of the sea has been applied to environmental protection matters in the Arctic. Cohering features of the law of the sea to organize IEL in the oceans have the primary characteristics of: (i) *normativity*; (ii) *subsidiarity*; and (iii) *delegation*. These features permit existing environmental protection principles and rules in the law of the sea, including as codified in UNCLOS Articles 33-145 and Part XII, above, to be realized together with the receipt and adaptation of global environmental norms into the ocean setting. Examples of realizing law of the sea environmental norms in systemic, organized fashion include the creation of regional seas agreements and now almost global port

state control (for environmental protection in shipping) regulation. The receipt of environmental principles and norms from outside the law of the sea into ocean settings has been slower, as can be seen in the arguably limited progress of rules for migratory species, biodiversity and reducing land-based pollution into the marine setting.<sup>51</sup>

In the context of this coherency, therefore, normativity is defined as the initial and continuing attraction to states of an environmental protection principle grounded in law, *i.e.* amenable to legalization. It is the quality of a proposed or emerging rule to govern conduct that generates acceptance and the commitment of states for its implementation, includes sometimes as a negotiated, *i.e.* treaty, rule. Normativity is arguably the initial cohering quality required of the law of the sea to successfully organize rule-making for environmental protection subjects. Without the sustaining legitimacy and attraction from normativity, cooperation between states to create legal rules for the environment (including by behavioral custom) is more difficult to achieve. Normativity also reinforces civil society demands on the governments of states to accept needed environmental protection rules. An example in the context of conservation is the pressure exerted by civil society organizations to preserve Antarctica free from mining in the mid-1980s.<sup>52</sup> That normativity led to the comprehensive scheme to preserve Antarctica detailed in the 1991 Madrid Protocol.<sup>53</sup> In addition, the law of the sea whole now exhibits strong normativity through extensive subscription of states to the treaties by which it is realized, together governance arrangements such as RFMOs. The law of the sea has an aggregate attraction and amenability to development, although that characteristic does not

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<sup>51</sup> On plastics in the Arctic marine environment, see Andres Cózar *et al*, “The Arctic Ocean as a dead end for floating plastics in the North Atlantic branch of the thermohaline circulation (2017) 3 *Science Advances* e1600582, and Marcus Eriksen *et al*, “Plastic Pollution in the World’s Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 tonnes Afloat at Sea” (2014) 9 *PLOS*.

<sup>52</sup> See the discussion about the proposed Wellington Convention in Chapter 3 at page 188.

<sup>53</sup> A description of this quality could also be “aggregation of legal principle”. Normativity is not always an impetus toward rule-making, however, as IEL tends to ground a formalistic creation of the law, as discussed at pages 124-140 in Chapter 2. See also the discussion in Chapter 5 on page 256.

extend to all matters of environmental conservation, such as the incomplete and weak regime for high seas fisheries conservation.

*Subsidiarity*, to recall its analogous basis in the European Union constitutional setting, is defined as the propensity (or internal capacity) of a legal order for adaptation at a secondary level directly among states.<sup>54</sup> An example of subsidiarity in the law of the sea for environmental protection is port state control. Only with the ordering scheme at UNCLOS Articles 218-219 could there be sufficient rules between interested states consistently created across widely separate regional areas. Subsidiarity operates through two features. The first such feature turns on whether a law of the sea rule has sufficient depth to permit its secondary adaptation in a local setting, in places where there are a limited number of states. We should expect this threshold can be met in most instances, because the law of the sea is capable of adapting general precepts into specific settings. An example is the CBD's Aichi Conference decision to establish marine protected areas, something that relies on a consigning function within UNCLOS for regional conservation arrangements to be pursued.<sup>55</sup>

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<sup>54</sup> The European Parliament defines it as follows: "The general aim of the principle of subsidiarity is to guarantee a degree of independence for a lower authority in relation to a higher body or for a local authority in relation to central government. It therefore involves the sharing of powers between several levels of authority, a principle which forms the institutional basis for federal States. When applied in the context of the European Union, the principle of subsidiarity serves to regulate the exercise of the Union's non-exclusive powers. It rules out Union intervention when an issue can be dealt with effectively by Member States at central, regional or local level and means that the Union is justified in exercising its powers when Member States are unable to achieve the objectives of a proposed action satisfactorily and added value can be provided if the action is carried out at Union level." Rosa Rafaelli, "European Parliament – The Principle of Subsidiarity" (EU Parliament, December 2016), online: EU Parliament <[www.europarl.europa.eu](http://www.europarl.europa.eu)>.

<sup>55</sup> The animating provisions of UNCLOS are Articles 61 and 119, above. The 2010 Aichi biodiversity targets require commitments by states for particular matters under five strategic goals. Target 10 is an example, to reduce "multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification ... so as to maintain their integrity and functioning." This was to have been done by 2015 and it is a failure in light of the loss of coral reef habitats at mid-latitudes, including in the Caribbean and Australia's Great Barrier Reef. See Terry P Hughes *et al*, "Global warming and recurrent mass bleaching of corals" (2017) 543 *Nature* 373.

Aichi Target 11, discussed in Chapter 1 at pages 38 and 59, is relevant to the Arctic, requiring "[b]y 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, [to be] conserved through effectively and equitably managed, ecologically representative and well connected systems of

A conceptual limit to subsidiarity is that it must not be taken to derogate from the performance of a legal rule. The seabed mining regime at UNCLOS Part XI illustrates this: States must regulate the activities of their nationals who explore and mine the international seabed area. This is a matter of compliance by the state to the primary international regime governed by the International Seabed Authority. Subsidiarity must also not be taken to require first-instance rule-making for the environment at the most local level possible as an entire legislating of a response. Subsidiarity is a kind of paradox in the Arctic setting. That is because the five Ilulissat states reject conservation and single-instrument environmental protection in the Arctic. Yet they declare support for an law of the sea based environmental regime that has multiple tenets for environmental rule-making by organizations having various degrees of autonomy and the Arctic Council.<sup>56</sup>

The third characteristic of coherency in the law of the sea is *delegation*. In contrast to subsidiarity, it is the shared willingness of states in environmental protection matters to assign the advancement of norms and rule-making to non-state actors, principally international organizations. Delegation of rule-making to an international organization (IO) can be useful for negotiation, to promote universality and consistency of norm application, for efficiency, and ensure better enforcement.<sup>57</sup> Of course, states can be reluctant to yield sovereignty over an environmental matter considering whether to assign it to an IO for rule-making. The *Antarctic Treaty* is an: States meet on a party-and-party basis to negotiate rules under governing treaties and the competence of the ATS Secretariat to make minor governance-administrative rules remains limited. Subsidiarity should expectedly diminish effective state sovereignty over a

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protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.”

<sup>56</sup> Douglas M Johnston made the point in declaring “the need for effective regulation and management of ocean uses can be met only within a split-level system of authorities.” *The Theory and History of Ocean Boundary-Making*, *supra* note 10 at 41.

<sup>57</sup> Another reason for states to assign away environmental regulation activity is reputation. Just as states may join environmental protection regimes and treaties to enhance their perceived credibility, so they may delegate or transfer rule-making and related activities for the same purpose.

particular matter. This is what occurs when rules are negotiated in the setting of an international organization with multiple parties present. The span of control available to states in party-and-party rule-making is diminished. However, states have proven willing to accept in pursuit of more durable rules implemented equally among themselves. Article 218 UNCLOS for port state control works this way: Coastal states which must deal with substandard shipping including environmentally risky vessels have an authoritative basis to regulate because of universal agreement to SOLAS and MARPOL rules.<sup>58</sup>

Delegation of rule-making occurs on a continuum ranging from superficial (*i.e.* weak) to extensive (*i.e.* strong). Such a continuum can be seen in the Arctic. At the superficial end of the continuum is the International Whaling Commission (IWC). The IWC has no juridical status or rule-making capacity other than the decisions of member states in Commission meetings.<sup>59</sup> It has had limited involvement in the Arctic, ratifying aboriginal (*i.e.* Indigenous) whaling quotas and receiving information about such traditional hunting. Extensive delegation is demonstrated by the European Union program for ocean environmental protection. Direct EU regulation-making – in consultation with member states – extends to part of the Arctic.<sup>60</sup> At the strong end of the continuum is the delegation of states to the IMO for the regulation of shipping.<sup>61</sup>

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<sup>58</sup> Port state control (PSC) regulation of shipping was a result of inadequate flag state enforcement of basic standards for vessel operation and seaworthiness. PSC shifts monitoring and enforcement costs to port states and is arguably less efficient than direct flag state enforcement.

<sup>59</sup> Canada is not a member of the ICRW, while Iceland and Norway reject the global moratorium on commercial whaling.

<sup>60</sup> The spatial reach of EU regulation is discussed in Chapter 1. An example of delegated rule-making by states in this setting is the EU's 2005 requirement for commercial ships in the North Sea to use fuel with a low amounts of sulphur (1% by volume). The relevant IMO regulations only later reduced sulphur content from 4.5% to 3.5%. Only in 2016 was it reduced to 0.5% for implementation in 2020. See Directive 2005/33/EC of the European Parliament and of the Council amending Directive 1999/32/EC (6 July 2005), Official Journal L 151/59. The EU Parliament defined the EU's policy for environmental protection in a March 2017 resolution. See "An integrated EU policy for the Arctic: European Parliament resolution of 16 March 2017 on an integrated European Union policy for the Arctic", online: EU Parliament <[www.europarl.europa.eu](http://www.europarl.europa.eu)>.

<sup>61</sup> See Table I, Multilateral environmental protection treaties in the Arctic, in Chapter 1 at pages 63 – 64 for a list of such organizations.



### III. ASSESSING THE COHERENCY OF THE LAW OF THE SEA IN THE ARCTIC

The importance of assessing how IEL is applied and can be developed for effective environmental protection of the Arctic Ocean following the Ilulissat Declaration is clear. The matter is a question of how IEL can be adopted with necessary local or secondary rules for environmental protection in the absence of an overarching framework for the Arctic. The cohering nature of the law of the sea with UNCLOS at its centre is part of the answer. Another is the development of the multilateral IEL regimes that apply in the Arctic as a result of state membership of them. As we have seen in Chapter 1, there are significant gaps in the application of multilateral IEL treaties to the Arctic, including for migratory species and environmental impact assessment. However, in other areas, comprehensive IEL directed regimes apply because Arctic states have permitted them to do so. An example is the wholesale delegation of rule-making for environmental protection in the shipping sector to the IMO, discussed in this part. Other examples of extensive rule-making delegation include those fisheries and regional governance agreements that extend to polar waters. The latter include the OSPAR Convention and the *Svalbard Treaty* discussed in Chapter 1. The cohering qualities of the law of the sea found in normativity, subsidiarity and delegation should expectedly be more pronounced in the Arctic because much of the region is inside EEZs of coastal states. This means those states have an interest, if routinely for exploitation of ocean resources, to foster the environmental protection provisions found in UNCLOS, which should expectedly reinforce the three cohering qualities. Eventually, the Arctic will entirely fall within at least one UNCLOS-defined zone (the seabed of the central Arctic being the last area to be so defined) or otherwise the fisheries conservation agreement for its central area done in November 2017.<sup>62</sup> However,

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<sup>62</sup> See the discussion of the 2017 agreement for Arctic fisheries cooperation in Chapter 1 at page 66. The draft *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean* is not yet open for signature, pending national legal and policy assessments. See “Chairman’s Statement - Meeting on High Seas Fisheries in the Central Arctic Ocean, Washington, D.C. 28-30 November 2017”, at: Government of Iceland <<https://www.stjornarradid.is/lisalib>>.

an extension of IEL into the entire Arctic Ocean by jurisdictional enclosure of its commons is not a complete answer to challenges of applying IEL in the region. The necessary elements are features of the law itself: normativity, subsidiarity, and delegation.

### ***Normativity***

The quality of normativity is the law's propensity to develop into rules capable of binding states to a desired behavior. When it comes to the feature or quality of normativity, therefore, we must ask how it is manifested in the law of the sea in a way that attracts states to making environmental protection rules. The quality of such attractiveness (in other words, acceptance or subscription) is one that makes UNCLOS unique among environmental protection oriented treaties, as well as the subject-specific treaties of the post-Stockholm IEL canon. UNCLOS, in Articles 33-145 and Part XII, contains a catalog of guiding norms for environmental protection not found in any other multilateral instrument directed to environmental protection.<sup>63</sup>

However, attraction to a norm is difficult to measure: Should the interest of states in a norm be gauged *a priori*, i.e. assessed by how it offers perceived "good" features of law? Or should attraction be evaluated after the fact for the result of norms and especially rules thought to be successful? Both approaches are subjective. A more objective standard to gauge the attraction of states to an environmental norm – apart from a ready adoption of it – is the principle of cooperation. That is because cooperation demonstrates the presence of a shared understanding of an environmental problem and an amenability among states to create a rule in response. Cooperation is not normativity. It is a tangible quality of a state's attraction to a environmental protection norm. The premise for cooperation to be a marker of normativity is that environmental problems pursued through increased engagement between states should be

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<sup>63</sup> The LRTAP Convention is a runner-up because of its prescriptions to regulate a single environmental problem, air pollution, mostly across Europe. The Antarctic Treaty System is another, although environmental protection norms are located in a number of instruments and are not nearly as complete as the Part XII-Part XI-other provisions canon of UNCLOS.

expected to result in rules to reinforce conduct as a collective response. In the law of the sea cooperation is required between states by UNCLOS Article 197 in compelling terms:

*Cooperation on a global or regional basis* – States shall cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and establishing international rules, standards, and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features.

Cooperation is not an entire answer to how normativity is evidenced. States are attracted to an environmental protection rule for various reasons: economic result, societal expectation, reciprocal burden sharing, the material benefit of complying with a rule, and as trade-off to other foreign relations commitments. However, in the Arctic, cooperation is arguably the principal indicator of environmental protection normativity.<sup>64</sup> That is because it has been consistent and undiminished, even in the absence of organized, *i.e.* treaty-governed, rule-making for environmental protection across various matters. Despite the Ilulissat Doctrine the cooperation of Arctic states for environmental protection draws from law of the sea norms following a 1989 proposal by Finland to address global pollution in the region.<sup>65</sup> This cooperation was consolidated under the 1991 Arctic Environmental Protection Strategy (the AEPS), and given a permanent character on creation of the Arctic Council in 1996.<sup>66</sup> Cooperation particularly in marine environmental protection can be traced to 1993 when the

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<sup>64</sup> The 2016 Canada-US moratorium on seabed petroleum exploration is an example of bilateral enhanced cooperation.

<sup>65</sup> Pollution from ships, notably oil discharges, had been understood by 1989 as a future problem. The few ships then and now operating in the region under comparatively strict regulation have had few adverse or lasting environmental impacts.

<sup>66</sup> Cooperation has existed prior to the AEPS, and an early example is Canada and Russia's mutual approach during the negotiation of UNCLOS from 1973 to 1982 for a provision for states to regulate environmental protection in ice-covered ocean waters, now UNCLOS Article 234.

Working Group for the Protection of the Arctic Marine Environment (PAME) was created.<sup>67</sup>

PAME's 1996 report concluded that UNCLOS offered "a framework for development of regional and national measures to address specific needs for protection of the marine environment."<sup>68</sup>

With optimism and prescience in light of the later rejection of an environmental protection treaty for the Arctic the report observed that IEL could be reconciled for application to the Arctic without necessity of a framework treaty instrument:

In terms of effectiveness of instruments, there are some instruments which have not attracted membership of all Arctic countries such as UNCLOS, the Biodiversity Convention and the regional Paris and OSPAR Conventions. Because of the breadth of the framework provided by UNCLOS and the Global Programme of Action to address land-based sources of marine pollution, there are no significant gaps that cannot be filled in at regional or national level through appropriate action plans or through appropriate international legal instruments setting out more specific controls for substances of particular concern.<sup>69</sup> [...]

Currently the most appropriate line of action will be to take co-ordinated action within the framework of existing instruments. Should implementation of various proposed actions not occur or be inadequate to address emerging problems, then reconsideration of further legally binding instruments should be pursued.<sup>70</sup>

Since the Arctic Council was created, cooperation between Arctic states has been consistent with PAME serving as a focal point in four relevant matters: (i) collective scientific and social research on Arctic marine environmental phenomena; (ii) establishing of priorities for the study of particular activities of risk; (iii) the pursuit of adaptive measures in response to climate

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<sup>67</sup> See Working Group on the Protection of the Marine Environment, "Report to the Third Ministerial Conference on the Protection of the Marine Environment, 20-21 March 1996, Inuvik Canada", online: Arctic Council - PAME <[www.pame.is/images/01\\_PAME/Framework\\_Documents/PAME-1996-Report.pdf](http://www.pame.is/images/01_PAME/Framework_Documents/PAME-1996-Report.pdf)>.

<sup>68</sup> *Ibid.* at 10. The report also noted that the CBD had "some potential" for protection of marine habitat along with the Ramsar Convention.

<sup>69</sup> *Ibid.* at 11. The report similarly concluded the dumping at sea (London Dumping Convention) and ship-source pollution (MARPOL) treaties were "sufficient frameworks".

<sup>70</sup> *Ibid.* at 14. The Working Group recommended Arctic states ratify UNCLOS. Only Iceland had then done so.

change; and (iv) an agreed delegation of shipping regulation to the IMO.<sup>71</sup> The consensus of states in environmental matters has extended to a mutual commitment to implementing the *Stockholm Convention on Persistent Organic Pollutants* and later the UNFCCC.<sup>72</sup> However, cooperation for the environment has not been uniform across all matters, and particularly where sovereignty may be constrained and resource extraction impeded. An example is the absence of discussion between Arctic states to adopt a regional environmental impact assessment regime under the Espoo Convention or otherwise.<sup>73</sup>

Acceptance of the concept of Ecosystem Based Management (EBM) best demonstrates cooperation in the Arctic.<sup>74</sup> The complexity of EBM reveals the willingness of Arctic states to share scientific understanding and cooperative governance toward identifying ocean resource and environmental protection priorities. The so-called ecosystem approach originated in the 1987 WCED Report and was defined in the 1992 Agenda 21 goals.<sup>75</sup> EBM's usefulness in the coordination of development activities to minimize adverse environmental impacts was recognized in the 2004 Arctic Marine Strategic Plan.<sup>76</sup> EBM demands interaction among Arctic states beyond the traditional issues of shipping pollution and territorial claims, extending to coordinated science-driven policy-making and a perceived goal of integrated management

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<sup>71</sup> See Marcus Carson and Garry Peterson, eds, *Arctic Resilience Report* (Stockholm: Stockholm Environment Institute and Stockholm Resilience Centre, 2016) discussed in Chapter 1 at page 29.

<sup>72</sup> See Chapter 2 for a discussion of these two treaties.

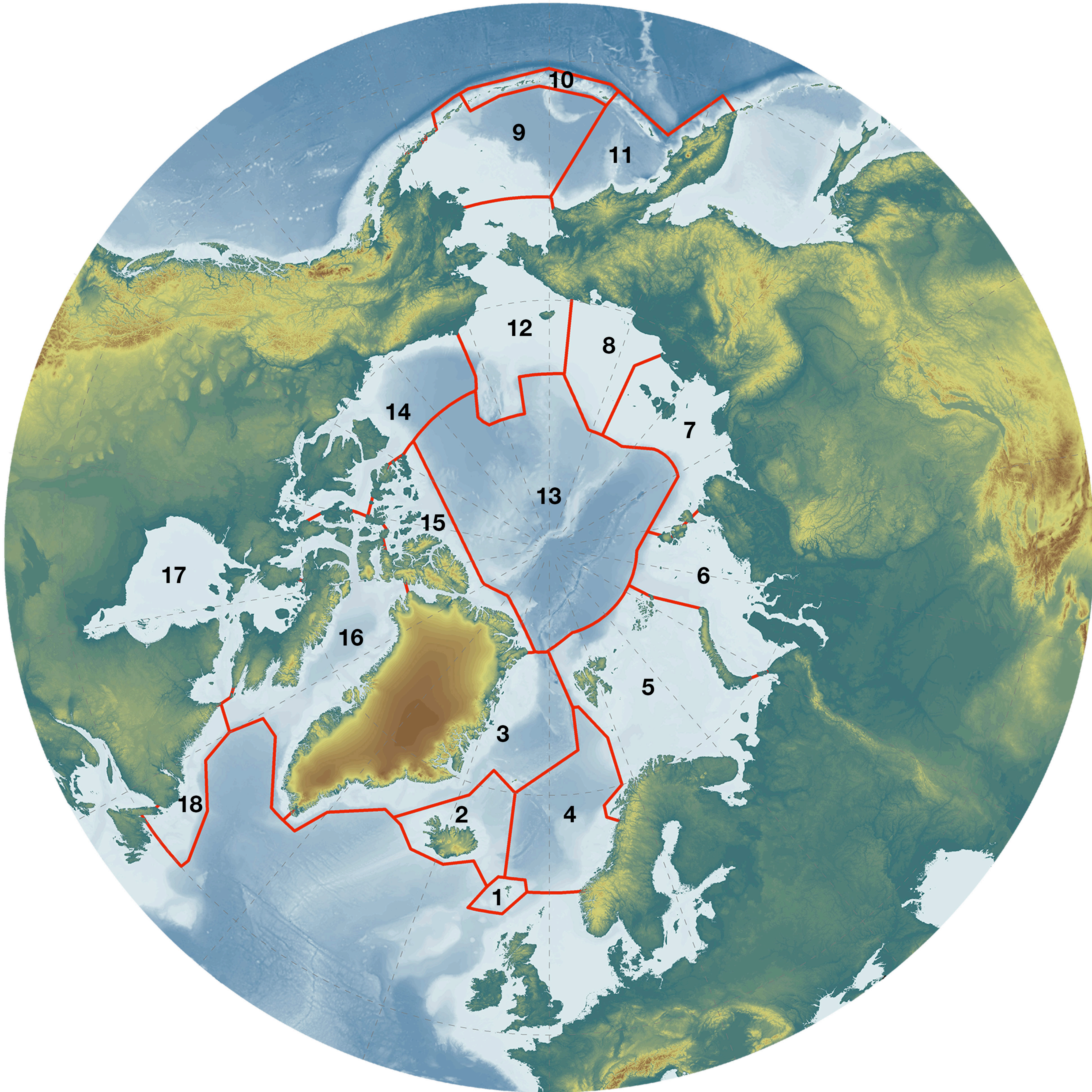
<sup>73</sup> See the discussion of the application of the Espoo Convention in the Arctic in Chapter 1 at pages 70-74 and Table I on page 63. In some respects, as ocean space substantially within the EEZs of coastal states, there exists a customary duty on states to undertake environmental impact assessment of activity with potential adverse consequences for habitat and transboundary effects. See the ITLOS 2015 *West Africa Fisheries Advisory Opinion*, *supra* note 42.

<sup>74</sup> Followed closely by their mutual efforts to negotiate the *Polar Code* more widely among shipping states in the setting of the IMO.

<sup>75</sup> Ecosystem based management (EBM) was a direct recommendation from UNCED in 1992. See Part 17 of Agenda 21. "In simple terms ecosystem-based management recognizes that plant, animal and human communities are interdependent and interact with their physical environment to form distinct ecological units called ecosystems. Ecosystems are transboundary in character, typically cutting across existing political and jurisdictional boundaries and are subject to multiple management systems." UNEP, "Ecosystem-based management: Markers for assessing progress" (The Hague: UNEP, 2006) at 4.

<sup>76</sup> Arctic Council (PAME), *Arctic Marine Strategic Plan* (November 2004) (AMSP), online: Arctic Council - PAME <<https://oaarchive.arctic-council.org>>.







plans.<sup>77</sup> The initial step toward EBM in the region was identifying large marine ecosystem (LME) areas, with 17 agreed to. The task was complicated because of incomplete knowledge of each proposed area, as well as how they would be demarcated.<sup>78</sup> By 2013 Arctic Council ministers adopted the recommendations of an expert group drawn from several Working Groups (PAME, AMAP, CAFF, and SDWG), and the Council declared it would “develop an overarching EBM goal” and “explore ways in which Arctic states can cooperate to advance conservation and management of biologically, ecologically, and culturally significant areas”.<sup>79</sup> The expert group’s continuing work led in 2015 to the Council asking for “practical guidelines” to implement EBM. In a 2016 meeting, the group proposed measures based on the following six principles to better understand the designated ecosystems:

- (i) ensuring settled definition and delineation between Arctic Ocean large marine ecosystems;
- (ii) adequate and shared knowledge of ecosystem biological and physical components and processes;
- (iii) an establishing of common definitions of ecological objectives that can define how sustainability is achieved;
- (iv) assessing the current state of the ecosystem;

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<sup>77</sup> *Ibid.* at 9.

<sup>78</sup> See the 2006 working maps of Arctic LMEs at: Arctic Council <<https://oarchive.arctic-council.org>>. There are now 18 LMEs, of which 12 are transboundary. See their names and descriptions in Catherine Coon *et al*, “The Ecosystem Approach to Management: Status of Implementation in the Arctic – Conference Summary 23-25 August 2016” (published 9 February 2017) at 8-9, online: Arctic Council - PAME <[www.pame.is](http://www.pame.is)>.

<sup>79</sup> Arctic Council Secretariat, Kiruna Declaration (15 May 2013) at the Arctic Council website, *ibid*. See also “Ecosystem-Based Management in the Arctic: Report submitted to Senior Arctic Officials by the Expert Group on Ecosystem-Based Management” (May 2013).

The Council adopted the following definition from the report: “Ecosystem-based management is the comprehensive, integrated management of human activities based on best available scientific and traditional knowledge about the ecosystem and its dynamics, in order to identify and take action on influences that are critical to the health of ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity.”

- (v) assigning values to cultural, social and economic goods and services produced by Arctic ecosystems; and
- (vi) identification of “management actions” to realize the preceding five elements.<sup>80</sup>

It seems unlikely the guidelines will soon be adopted or developed in depth, including with measures for coordinated governance.<sup>81</sup> The EBM process fosters greater cooperation by reinforcing science-based understanding of shared environmental protection problems, and transcending of territorial sovereignty by employing large marine ecosystems as politically neutral spaces for to identify environmental protection priorities. The proof of such cooperative success will be found in the performance of EBM in Arctic LMEs – to the extent there is a means of assessing that result – which mirrors the cooperation needed to arrive at EBM where they have been created in regional seas agreements. A related outcome of the collective pursuit of the EBM concept is the agreement of Arctic Council states to develop a network of marine protected areas (MPAs).<sup>82</sup> In the short term and despite repeated commitment of states to establishing a network of MPAs in the Arctic region, MPAs will continue to be created by states acting alone. There have not yet been initiatives for joint MPAs. An eventual creation of MPAs in the 12 of 17 Arctic LMEs that span two or more national ocean areas (*i.e.* territorial seas and EEZs) should be expected to reinforce cooperation.

Two developments, described in Chapter 1, demonstrate increasing cooperation of Arctic states for environmental protection and therefore the strength of normativity. The first is the May 2017 *Fairbanks Scientific Cooperation Agreement* which came from recommendations of

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<sup>80</sup> “Ecological objectives” (element 3) which resulted from the 2004 AMSP, *supra* note 76, include reduction and prevention of marine pollution, conservation of Arctic marine biodiversity and ecosystem functions, and progress to sustainable resource use. See PAME, “Concept Paper: The Ecosystem Approach to Management of Arctic Marine Ecosystems” (2014), online: Arctic Council <[www.pame.is](http://www.pame.is)>.

<sup>81</sup> See Final Provisional Agenda: Meeting of Arctic Council Senior Officials (8-9 March 2017), online: Arctic Council <<https://oaarchive.arctic-council.org>>. The attention of Arctic Council states in the second half of 2017 was directed to negotiating the draft *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean*.

<sup>82</sup> The development of a network of MPAs is discussed in Chapter 1 at pages 51 and 57-59.



the Task Force for Enhancing Scientific Cooperation in the Arctic (SCTF) toward a “legally binding agreement on scientific cooperation in the Arctic”.<sup>83</sup> This stand-alone agreement, consistent with the Arctic Council’s preference for subject specific treaty-making, is an important advance. It takes the Arctic Ocean environmental governance regime toward what can be called the advanced “science consideration” environmental and resource treaties, which for the ocean are CCAMLR and the OSPAR Convention.<sup>84</sup> Cooperation in science was already extensive in the Arctic. A treaty expression of shared principles toward such an outcome does not appear to result in any new burdens on states. While Arctic states must ensure greater research access to their EEZ areas under the *Fairbanks Agreement*, they did not agree to open the region to global participation. Nevertheless, the *Agreement* can be taken as validating UNCLOS Article 242 which requires “international cooperation in marine scientific research for peaceful purposes.”

The second recent development, the Arctic Council’s creation of a Task Force on Arctic Marine Cooperation, is a further example of an acceptance by states of collective environmental protection. The Task Force was instructed to “report to Ministers in 2017 identifying future needs for strengthened cooperation for Arctic Marine areas, as well as whether the Council should begin negotiations on a cooperation mechanism for Arctic marine areas – ideally naming the specific mechanism – and/or any other recommendations it may

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<sup>83</sup> See Final Provisional Agenda, *supra* note 81.

<sup>84</sup> Agreement on Enhancing International Arctic Cooperation (11 May 2017) (not yet in force) (the *Fairbanks Scientific Cooperation Agreement*), online: Arctic Council <<https://oarchive.arctic-council.org>>. As discussed in Chapters 2 and 4 the Agreement is territorially and Ilulissat Doctrine limited, to apply within the “Identified Geographic Areas: of Arctic states and not to other agreements for research in the region.

Article 6 of the Protocol requires states to “co-operate in the planning and conduct of activities [and] promote co-operative programmes of scientific, technical and educational value, concerning the protection of the Antarctic environment and dependent and associated ecosystems[.]” *Protocol on Environmental Protection to the Antarctic Treaty* (4 October 1991) 30 ILM 1455 (in force 14 January 1998) (the Madrid Protocol).

deem appropriate.”<sup>85</sup> It can be predicted that that mechanisms to realize the Council’s 2015-2025 Arctic Marine Strategic Plan will be suggested by the Task Force in order to fulfill the goals of: (i) improved knowledge of the marine environment; (ii) conserving and protecting ecosystem functions and marine biodiversity; (iii) promoting safe and sustainable use of the marine environment; and (iv) enhancing the economic, social and cultural well-being of inhabitants. Unlike the *Fairbanks Agreement*, a treaty to enhance such cooperation is now unlikely: “Virtually every delegation [to the TFAMC] noted that the law of the sea (UNCLOS) supplies the overarching legal framework for our marine cooperation. Several delegations expressed the view that our efforts to enhance our marine cooperation should be built within that legal framework, rather than creating new legal frameworks.”<sup>86</sup>

### ***Law of the sea subsidiarity: A central Arctic fisheries agreement***

If cooperation helps transcend the limits of territorial sovereignty, it is *subsidiarity* that moves a cohering of IEL through the law of the sea toward deeper norms for environmental protection of Arctic waters. An example, introduced in Chapter 1, is the fisheries moratorium for the central Arctic basin. Other than the atmosphere, the central area of the Arctic outside the 200 NM EEZs of coastal states is the region’s remaining common area. It is therefore available to fishing by all states, although not yet year-round.<sup>87</sup> Even within the Arctic EEZs of the region’s coastal states, the fishery needs only limited governance. Extensive ice cover together with a preference among commercial operators to fish desired stocks for less cost in southern latitudes has limited growth of the region’s fishery. This continued after the catastrophic failures of

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<sup>85</sup> There are few available records of the TFAMC’s work. See “Task Force on Arctic Marine Cooperation: Co-Chairs’ Non-Paper of January 29, 2016” online: Arctic Council - SDWG <[www.sdwg.org/wp-content/uploads/2016/02/TFAMC\\_Non-Paper\\_1-29-16.pdf](http://www.sdwg.org/wp-content/uploads/2016/02/TFAMC_Non-Paper_1-29-16.pdf)>.

<sup>86</sup> *Ibid.* The moment has arguably arrived for coordination or synthesis across specific regimes for the Arctic Ocean including the OSPAR Convention and the *Svalbard Treaty* and the developing regime for biodiversity and conservation in the high seas.

<sup>87</sup> As noted in Chapter 1, the status of the continental shelf in the central Arctic is not yet settled, with overlapping claims to the Lomonosov Ridge and adjacent features between Denmark and Russia, and possibly Canada in the near future. See page 42.

stocks on Canada's east coast including the Grand Banks.<sup>88</sup> The high seas areas in the Barents and Bering, meanwhile, were reduced in size because of the expansion of 200 NM EEZs around their margins; by Russia and the US in the case of the Bering Sea, and Norway and Russia in the Barents. UNCLOS conservation rules were ineffective at regulating interlopers fishing in both areas.<sup>89</sup> The 1994 *Convention on the Conservation of Bering Sea Pollock* (CCBSP), negotiated as UNCLOS entered force the same year, and the 1995 *UN Fish Stocks Agreement*, came too late.<sup>90</sup> It is accepted that Bering Sea pollock has not recovered from overfishing.<sup>91</sup> Meanwhile, the high seas "loophole" in the central Barents would be closed when the area was delimited in 2010 by a negotiated EEZ boundary between Norway and Russia. The same factors may not hold for the central Arctic area: longer ice-free periods and more widely ranging fishing should predictably see activity further north in the Arctic.<sup>92</sup> The continuing decline of global fish stocks that prompts distant water fishing states such as China, Japan and Korea to seek new areas will be an impetus. A second factor in a northward shift of commercial fisheries will be the

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<sup>88</sup> The Arctic fishery is a fraction of that of other regions, with an annual catch that never exceeded 25,000 kilograms from 1950 to 2010. See Daniel Pauly & Dirk Zeller, "Catch reconstructions reveal that global marine fisheries catches are higher than reported and declining" (2016) 7 *Nature Communications* 10244. Catches in the Arctic have been historically underreported to the UN Food and Agricultural Organization, a complicating factor for governance of fisheries under a currently emerging regime and the assessment of baseline stocks. See Dirk Zeller *et al*, "Arctic fisheries catches in Russia, USA, and Canada: Baselines for neglected ecosystems" (2011) 34 *Polar Biology* 955.

<sup>89</sup> See notably Olav Schram Stokke, "The Loophole of the Barents Sea Fisheries Regime" in OS Stokke, ed, *Governing High Seas Fisheries: The Interplay of Global and Regional Regimes* (Oxford: Oxford University Press, 2001) at 273.

<sup>90</sup> *Convention on the Conservation and Management of the Pollock Resources in the Central Bering Sea* (16 June 1994) 34 ILM 67 (in force 8 December 1995). China, Japan, Korea, Poland, Russia and the United States are parties to the treaty. *UN Fish Stocks Agreement*, *supra* note 1.

<sup>91</sup> See Kevin M Bailey, "An empty donut hole: The great collapse of a North American fishery" (2011) 16 *Ecology and Society* 28.

<sup>92</sup> See the discussion of declining annual sea ice-cover in the Arctic in Chapter 1. See also the United States scientific community assessment in U.S. Global Change Research Program, Donald Wuebbles *et al*, *Climate Science Special Report: A Sustained Assessment Activity of the U.S. Global Change Research Program* (Washington, DC, 28 June 2017) (final draft).

imperfectly understood migration (or displacement) of habitats as a result of warming oceans, now credibly observed in the Barents Sea.<sup>93</sup>

The law of the sea promotes making local arrangements for fisheries governance including stock allocation and conservation. The basis of this cohering influence is found in: (i) UNCLOS provisions for shared conservation in EEZs and the high seas; (ii) the UN *Straddling Stocks Agreement*; and (iii) the practice of states to create regional fisheries management organizations (RFMOs). A fourth influence, although in early development, is the high seas biodiversity regime.<sup>94</sup> RFMOs are created to govern species such as Atlantic tuna under the ICCAT and the fishery of a geographic area, e.g. the Northwest and North East Atlantic fisheries. Arguably, the law has evolved to require coastal states when negotiating RFMO agreements to pursue governance of all fisheries (*i.e.* to be habitat directed) in areas shared with others and thereby ensure ecosystem management. The approach is prescribed by UNCLOS Articles 118, 119 and 123:<sup>95</sup>

*Article 118 – Cooperation of States in the conservation and management of living resources*

States shall cooperate with each other in the conservation and management of living resources in the areas of the high seas. States whose nationals exploit identical living resources, or different living resources in the same area, shall enter into negotiations with a view to taking the measures necessary for the conservation of the living resources concerned. They shall, as appropriate,

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<sup>93</sup> See e.g. Tore Haug *et al*, “Future harvest of living resources in the Arctic Ocean north of the Nordic and Barents Seas: A review of possibilities and constraints” (2017) 188 *Fisheries Research* 38.

<sup>94</sup> In 2015 the UN General Assembly established a preparatory commission to evaluate and pursue negotiation of a high seas biodiversity treaty. See UN General Assembly Resolution 69/292 (19 June 2015) and “Chair’s non-paper on elements of a draft text of an 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” (undated), online: UN (UNDOALOS) <[www.un.org/depts/los/biodiversity/prepcom\\_files/Chair\\_non\\_paper.pdf](http://www.un.org/depts/los/biodiversity/prepcom_files/Chair_non_paper.pdf)> (posted March 2017). See also the Chair’s streamlined non-paper, introduced during the July 2017 session of the commission, *ibid*.

<sup>95</sup> No single reason explains why states enter into RFMO agreements. Game theory suggests states seek to maximize the return of a shared fishery through cooperation. States have food security at stake in a fishery, a supporting of employment in the industry, national prestige, revenue and competition with other states. See Megan Bailey, U Rashid Sumaila & Marko Lindross, “Application of game theory to fisheries over three decades” (2010) 102 *Fisheries Research* 1 and Rögnvaldur Hannesson, “Game Theory and Fisheries” (2011) 3 *Annual Review of Resource Economics* 181.

cooperate to establish subregional or regional fisheries organizations to this end.<sup>96</sup>

*Article 119 – Conservation of the living resources of the high seas*

1. In determining the allowable catch and establishing other conservation measures for the living resources in the high seas, States shall:

(a) take measures which are designed, on the best scientific evidence available to the States concerned, to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors [...]

2. Available scientific information, catch and fishing effort statistics, and other data relevant to the conservation of fish stocks shall be contributed and exchanged on a regular basis through competent international organizations, whether subregional, regional or global, where appropriate and with participation by all States concerned. [...]

*Article 123 – Cooperation of States bordering enclosed or semi-enclosed seas*

States bordering an enclosed or semi-enclosed sea should cooperate with each other in the exercise of their rights and in the performance of their duties under this Convention. To this end they shall endeavour, directly or through an appropriate regional organization:

(a) to coordinate the management, conservation, exploration and exploitation of the living resources of the sea;

(b) to coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment;

(c) to coordinate their scientific research policies and undertake where appropriate joint programmes of scientific research in the area;

(d) to invite, as appropriate, other interested States or international organizations to cooperate with them in furtherance of the provisions of this article.

When it comes to Article 123, the Arctic does not seem to qualify as a semi-enclosed sea

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<sup>96</sup> Article 118 must be read in light of Article 117, “Duty of States to adopt with respect to their nationals measures for the conservation of the living resources of the high seas: All States have the duty to take, or to cooperate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.”

because of its expanse and breadth of connection to the Pacific and North Atlantic Oceans.<sup>97</sup>

However, Article 123 is meant as a geographic definition. Arguably, ice-cover and the particular environment of the Arctic Basin, for the environmental protection purposes found in UNCLOS, amount to the intended conditions of a semi-enclosed sea, for example when enhanced cooperation to address land-based ocean pollution is necessary.<sup>98</sup> A second example is an increasingly vulnerable ice-cover which is accepted as needing preserving.<sup>99</sup> It follows that the central Arctic area is a place where cooperative fisheries measures are all but required, if perhaps minor in application because of the lack of present exploitation. In this context, the measures of the 2017 *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean*, for conservation and information sharing, agreed by 10 parties (nine states and the European Union) are no more stringent than UNCLOS Articles 118 and 119.<sup>100</sup>

Subsidiarity is at work when states create RFMOs. When it comes to the possibility of an RFMO for the Arctic, we therefore need to ask if customary law is sufficiently advanced to compel states to establish a treaty-directed fisheries organization in the Arctic. The answer is mixed: Where there is no evident conservation or sustainable use concern, there may be a only

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<sup>97</sup> Arguably, there is a high degree of cooperation by Arctic Basin states such that Article 123 has been effectively applied, *i.e.* complied with, even as there is no explicit acceptance of its application including in the setting of the Arctic Council. Article 123 is geographically inspired, while in oceanographic terms (e.g. ocean circulation) certain ocean areas may have “semi-isolated” properties even if with numerous connections to the global ocean. Lilly Weidemann reconciles the differing views of the Arctic as semi-enclosed: *International governance of the Arctic Marine Environment: With Particular Emphasis on High Seas Fisheries* (Berlin: Springer, 2014) at 84: “Irrespective of this debate, no obligation to cooperate flows from Article 123 UNCLOS. According to its wording, coastal states of an enclosed or semi-enclosed sea ‘should’ cooperate in the exercise of their rights and duties under UNCLOS. This soft wording indicates that states are merely encouraged to cooperate and may make individual proposals. Thus, the Arctic States are only obligated to cooperate pursuant to Article 197 UNCLOS and this obligation applies only ‘as appropriate’.

<sup>98</sup> An understanding, *i.e.* the acceptance among coastal states, that the Arctic is a semi-enclosed sea in biodiversity terms could advance the creation of connected marine protected areas and would be consistent with the Ilulissat Doctrine of regulating for environmental protection under UNCLOS. For an argument of semi-enclosed status for the Arctic, see Kathleen Morris and Kamrul Hossain, “Legal Instruments for Marine Sanctuary in the High Arctic” (2016) 5 *MDPI Laws* 20.

<sup>99</sup> See e.g. Julianne C Stroeve *et al*, “Changes in Arctic melt season and implications for sea ice loss” (2014) 41 *Geophysical Research Letters* 1216. And see the data and illustrations of observed sea ice cover at the website of the US National Snow and Ice Data Centre: NSIDC <[www.nsidc.org](http://www.nsidc.org)>.

<sup>100</sup> *Supra* note 62.

a bare obligation on states to conduct scientific research toward understanding conservation problems, short of agreed measures. In the Arctic the present question is whether to create a RFMO for high seas or something larger, extending across the EEZs of coastal states and perhaps Iceland's EEZ. The practice of states supports informal working measures as a minimum obligation under UNCLOS Articles 118-119. For the time being, Arctic states are left with the UNCLOS requirement for states to cooperate in the conservation of the high seas.

A greater influence toward "fisheries subsidiarity" relevant to the Arctic is the application of the UN *Straddling Stocks Agreement*.<sup>101</sup> The configuration of the Arctic's central high seas area enclosed by the EEZs of Canada, Denmark, Russia and the USA undoubtedly means fish stocks straddle them. The Agreement promotes "management arrangements" and created a normative propensity toward them through the guiding principles at Article 5:

In order to conserve and manage straddling fish stocks and highly migratory fish stocks, coastal States and States fishing on the high seas shall, in giving effect to their duty to cooperate in accordance with the Convention:

- (a) adopt measures to ensure long-term sustainability of straddling fish stocks and highly migratory fish stocks and promote the objective of their optimum utilization;
- (b) ensure that such measures are based on the best scientific evidence available and are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield, as qualified by relevant environmental and economic factors [...];
- (c) apply the precautionary approach in accordance with article 6;
- (d) assess the impacts of fishing, other human activities and environmental factors on target stocks and species belonging to the same ecosystem [...];
- (e) adopt, where necessary, conservation and management measures for species belonging to the same ecosystem or associated with or dependent upon the target stocks, with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened;
- (f) minimize pollution, waste, discards, catch by lost or abandoned gear, catch

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<sup>101</sup>

*Supra* note 1.

- of non-target species, both fish and non-fish species [...];
- (g) protect biodiversity in the marine environment;
- (h) take measures to prevent or eliminate overfishing and excess fishing capacity [...];
- (i) take into account the interests of artisanal and subsistence fishers;
- (j) collect and share, in a timely manner, complete and accurate data concerning fishing activities on, *inter alia*, vessel position, catch of target and non-target species and fishing effort [...];
- (k) promote and conduct scientific research and develop appropriate technologies in support of fishery conservation and management; and
- (l) implement and enforce conservation and management measures through effective monitoring, control and surveillance.<sup>102</sup>

These provisions of the *Straddling Stocks Agreement* direct states to create mechanisms in defined areas for extensive cooperation at a level of formality approaching a RFMO arrangement. If applied in the Arctic – recalling that all Arctic states except Iceland are members of the *Straddling Stocks Agreement* – the resulting scheme could be similar to CCAMLR. Once again, there is no current imperative to establish an Arctic RFMO, because a threshold obligation to establish a regime is not yet met for an ocean area available only for brief seasonal fisheries. Nevertheless, the landscape offers examples of states accepting they will combine locally to make rules for fisheries which include conservation and environmental impact protection measures.<sup>103</sup>

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<sup>102</sup> Article 7 of the Agreement requires “compatibility” of conservation and management measures, with an expressly stated duty on states to cooperate to such end. Article 15 establishes a connection with UNCLOS Article 123 in respect of an added duty to cooperate in enclosed and semi-enclosed seas. Articles 20-23 provide an extensive canon of enforcement obligations, including port state control (*i.e.* inspection of vessels and their catches) bordering on a fisheries area.

<sup>103</sup> As observed in note 1 *supra* just over half of UNCLOS states have acceded to the UN *Straddling Stocks Agreement*. Problems of capacity building in Global South states and IUU fishing continue. In the proceedings of the most recent review conference for the Agreement, it was noted that:

“27. Some delegations expressed concern that some of the recommendations arising from the Review Conference in 2006 and in 2010 had not been fully implemented. A number of suggestions were raised to improve implementation including: undertaking performance reviews of RFMO/As on a regular basis; prioritizing the list of recommendations; improving the decision-making processes of the Review



The path to a RFMO style arrangement for the Arctic, whether for a central area or the basin as a whole, reflects the law's progress toward subsidiarity. This progress to a combining of norms for governance measures and tentative rules among the states concerned can be traced to 2007 with an initiative in the United States Congress for a ban by 2009 on commercial fishing in US Arctic waters. A motion in the Congress had arisen a concern about conservation, changes to the fishery from climate change, and the need to ensure a sustainable fishery for local populations.<sup>104</sup> The approved motion directed the US government to negotiate an agreement "for managing migratory, transboundary, and straddling fish stocks in the Arctic Ocean and establishing a new international fisheries management organization or organizations for the region", to conform to the *Straddling Stocks Agreement*.<sup>105</sup> Arctic coastal states pursued the matter in 2010 with the United States suggesting a draft agreement two years later. A 2012 letter from scientists calling on Arctic states to prohibit fishing pending agreement to a precautionary approach-based "international fisheries management accord" was a further catalyst.<sup>106</sup> But the American initiative was premature. Russia's International Affairs Council explained flatly in 2013 that Arctic coastal states rejected the need for a RFMO:

[D]iscussions and consultations have resulted in an emerging consensus of the Arctic nations on a number of issues related to fisheries conservation in the enclave of the Arctic Ocean:

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Conference; establishing transparent criteria through increased coordination and information-sharing; harmonizing monitoring frameworks; and using mechanisms of international cooperation."

28. RFMO/As were identified as crucial in the implementation of the Agreement and several delegations highlighted the need to collaborate increasingly through them ... Report of the resumed Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (1 August 2016), UN doc. A/Conf.210/2016/5.

<sup>104</sup> The motion was introduced by Senator Ted Stevens of Alaska. *Senate Joint Resolution 17 - A joint resolution directing the United States to initiate international discussions and take necessary steps with other Nations to negotiate an agreement for managing migratory and transboundary fish stocks in the Arctic Ocean*, 110th Congress (2007-2008), online: US Congress <<https://www.congress.gov/bill/110th-congress/senate-joint-resolution/17/text>>.

<sup>105</sup> *Ibid.*, paragraphs 1 and 2.

<sup>106</sup> Pew Environmental Group, "More than 2,000 Scientists Worldwide Urge Protection of Central Arctic Ocean Fisheries" (22 April 2012), online: Pew Trusts <[www.pewtrusts.org](http://www.pewtrusts.org)>.

Firstly, the Arctic coastal states are not interested in continued opportunities for unregulated harvest of aquatic biological resources in the enclave. They are particularly concerned about the possibility of harvest by non-Arctic states.<sup>107</sup>

Secondly, at the present time, the issue is not about creating a full-fledged RFMO or agreement to ensure conservation and rational use of aquatic biological resources of the Central Arctic Ocean. All Arctic coastal states consider the creation of such an organization to be premature. [...] <sup>108</sup>

This was not the end of the matter. Following proposals for an Arctic fishing policy made by Denmark and the European Union, Arctic Council officials met in February 2014 in the expectation of developing soft conservation measures.<sup>109</sup> Because of the political response to Russia's entry into Crimea and the conflict in eastern Ukraine a few months later, an agreement through a Ministerial Declaration would be delayed until 2015. The chair's statement from the 2014 meeting applied the Ilulissat doctrine of restricted gradualism in the development of any new regime, contending existing law of the sea provisions were sufficient: "[It was] reaffirmed that there is no need at present to develop any additional regional fisheries management organization (RFMO) or arrangement for this area."<sup>110</sup> Nonetheless, the change in approach – seen in the adoption of the elements of a regime and the Arctic Council's assumption of leading role – was clear: "The meeting agreed on the desirability of developing appropriate interim

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<sup>107</sup> The area of concern at this time was the waters of the Chukchi Plateau between Russia and the United States, with the greatest summer-time ice retreat and a relatively short sailing distance from Asian states operating distant water fleets.

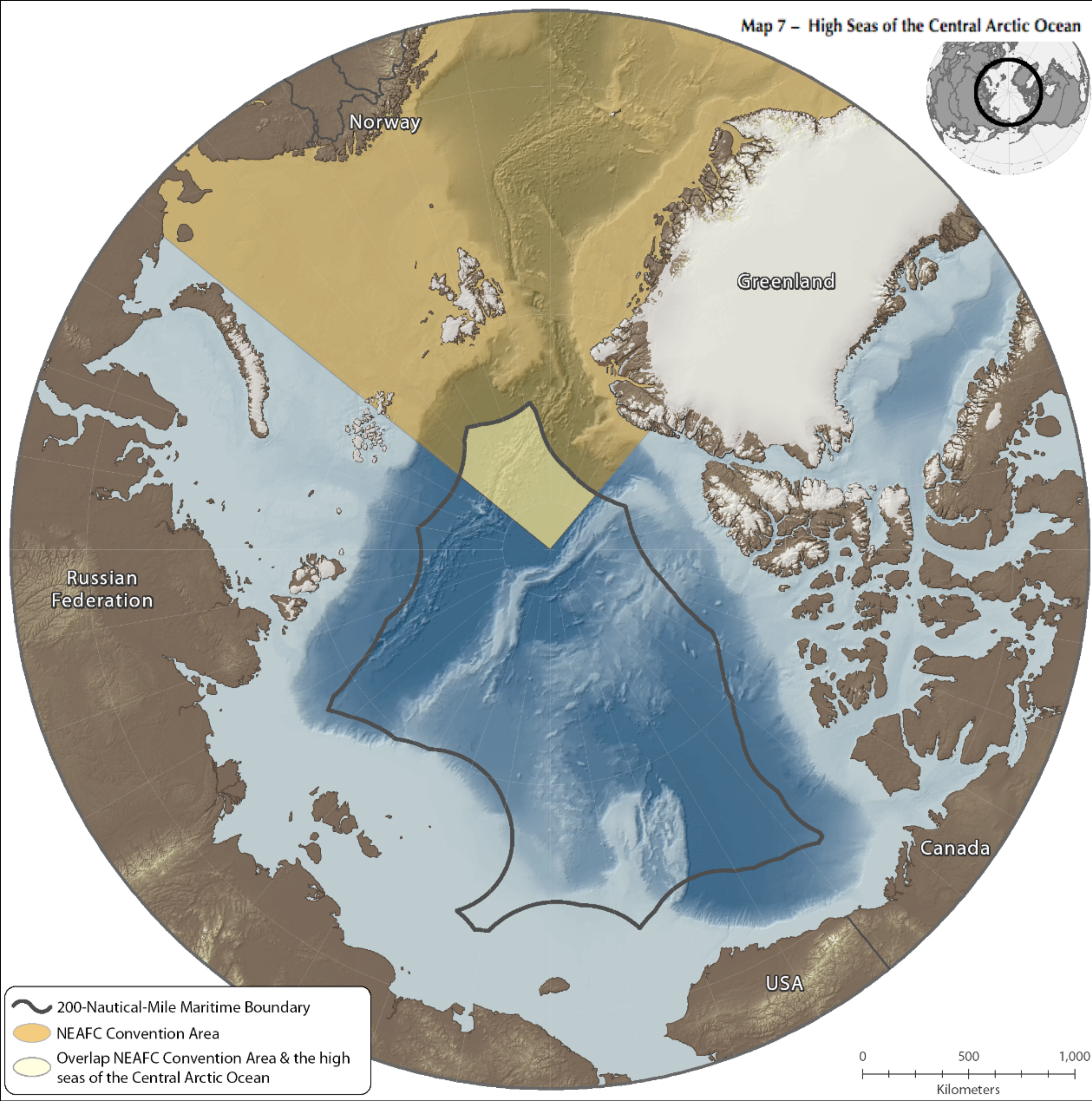
<sup>108</sup> AV Zagorsky, ed, *International Cooperation in the Arctic: 2013 Report* (Moscow: Russian International Affairs Council/Spetskniga 2013) at 22. The report listed options for a fisheries regime, including extending the North East Atlantic Fisheries Commission area into the central Arctic.

<sup>109</sup> The policy engagement of the European Union in Arctic matters included a proposal of the European Commission to create "a conservation and management regime for fisheries in the Arctic before new fishing opportunities arise." European Commission, Joint Staff Working Document - The inventory of activities in the framework of developing a European Union Arctic Policy (Brussels, 26 June 2012), EC doc. SWD (182) 2012 final, at 22.

<sup>110</sup> Arctic Council, "Meeting on Arctic Fisheries: Chairman's Statement (24-26 February 2014, Nuuk), online: US NOAA <<https://www.afsc.noaa.gov>>. The statement added that any interim measures would "not prejudice the rights, jurisdiction and duties of States under relevant provisions of international law as reflected in the 1982 United Nations Convention on the Law of the Sea, or the 1995 *UN Fish Stocks Agreement*, nor alter the rights and obligations of States that arise from relevant international agreements." For a discussion of these events, see Erik J Molenaar, "Briefing Note: The Oslo Declaration on High Seas Fishing in the Central Arctic Ocean" 2015 *Arctic Yearbook* 427.



Map 7 – High Seas of the Central Arctic Ocean



Norway

Greenland

Russian  
Federation

Canada

USA

- 200-Nautical-Mile Maritime Boundary
- NEAFC Convention Area
- Overlap NEAFC Convention Area & the high seas of the Central Arctic Ocean

0 500 1,000  
Kilometers



measures to deter unregulated fishing in the future in the high seas area of the central Arctic Ocean.”<sup>111</sup> Proposed measures necessarily had to extend beyond the Arctic five Illulissat states to include distant-water fishing nations. This resulted in the 2014 Nuuk request for interested states to “authorize their vessels to conduct commercial fishing in [the central Arctic] only pursuant to one or more regional or subregional fisheries management organizations or arrangements that are or may be established to manage such fishing”.<sup>112</sup> What followed was the 2015 Ministerial Declaration for interim measures. It repeated the 2014 Nuuk call, urging fishing be done under an existing regional arrangement or one “to be established”:

We recognize that, based on available scientific information, commercial fishing in the high seas portion of the central Arctic Ocean is unlikely to occur in the near future and, therefore, that there is no need at present to establish any additional regional fisheries management organization for this area. Nevertheless, recalling the obligations of States under international law to cooperate with each other in the conservation and management of living marine resources in high seas areas, including the obligation to apply the precautionary approach, we share the view that it is desirable to implement appropriate interim measures to deter unregulated fishing in the future in the high seas portion of the central Arctic Ocean.<sup>113</sup>

A basis for consensus among Arctic coastal states – reinforcing cooperation – has been to engage distant states in discussion of scientific cooperation for fisheries matters. A September 2016 meeting of experts in Tromsø illustrates this. In addition to the Arctic Five, China, Iceland, Japan, Korean and the European Union attended.<sup>114</sup> Following a meeting of

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<sup>111</sup> *Ibid.* “Such interim measures will recognize that at least one existing RFMO – the North-East Atlantic Fisheries Commission (NEAFC) – has the competence to adopt fisheries conservation and management measures in a portion of this high seas area, should such fisheries take place there.”

<sup>112</sup> *Ibid.* The interim measures included creation of a joint scientific research program, coordination of monitoring of fishing, a regulation of non-commercial (*i.e.* artisanal and Indigenous) fishing, and encouraging conservation measures of other, non-party states.

<sup>113</sup> Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean (Canada/Denmark/Norway/Russia/United States) (16 July 2015), online: Government of Norway <<https://www.regjeringen.no>>.

<sup>114</sup> The group could be called “the Arctic Fishing 10”. See “Chairman’s Statement on the Fourth Meeting of Scientific Stocks in the Central Arctic Ocean” (undated – September 2016), online: US NOAA <<https://www.afsc.noaa.gov>>.

government negotiators in Tórshavn that December, the same states began to draft an instrument.<sup>115</sup> A subsequent session in Reykjavik in March 2017 confirmed matters, although for an agreement somewhat less than a RFMO in the accepted sense. This included negotiations for the “elements” of a draft agreement including “a definition of the Agreement Area”.<sup>116</sup> A pronounced conservation normativity is shown in this pursuit of fisheries rules for the Arctic’s high seas. States have engaged it from a dual perspective. On the one hand, under the Ilulissat Doctrine they continue to resist creating a treaty instrument for a RFMO.<sup>117</sup> On the other hand, they continually affirmed a primary role for the law of the sea (including UNCLOS and the *Straddling Stocks Agreement*), moving them toward RFMO-like governance and rules. What is notable about the pursuit of fisheries governance measures is the move of the Arctic Council to accept participation of other states. This reinforces the normativity of the law of the

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<sup>115</sup> See “Chairman’s Statement: Meeting on High Seas fisheries in the Central Arctic Ocean” (Tórshavn) 29 November – 1 December 2016, online: Faroe Islands Government <<http://cdn.lms.fo>>: “All delegations reaffirmed their commitment to prevent unregulated commercial high seas fishing in the central Arctic Ocean as well as a commitment to promote the conservation and sustainable use of living marine resources and to safeguard healthy marine ecosystems in the central Arctic Ocean. Most delegations view this as part of a ‘stepwise’ process in advance of possibly establishing one or more additional regional fisheries management organizations or arrangements for this area.

Delegations made good progress in resolving differences of view on a number of the main issues under discussion. Delegations worked on the basis of a Chairman’s Text circulated in October 2016 that was in the format of a legally binding agreement.”

<sup>116</sup> Chairman’s Statement: Meeting on High Seas Fisheries in the Central Arctic Ocean (Reykjavik) (15-18 March 2017), online: Arctic Journal <<http://arcticjournal.com>>. The second matter is carefully phrased in the Statement: “[Another element of the draft agreement under discussion is] the conditions under which a decision might be made to commence negotiations on an agreement to establish one or more additional regional or subregional fisheries management organizations or arrangements for the high seas portion of the central Arctic Ocean ...” Canada will be the depositary state of the pending agreement, although its position anticipates an eventual RFMO: “Both [Canada and the US] reaffirm their commitment to a legally binding agreement to prevent unregulated commercial fisheries in the Arctic High Seas until an internationally recognized Regional Fishery Management Organization is in place to provide effective management. Both countries are working towards such an agreement in the coming months.” United States-Canada Joint Arctic Leaders’ Statement (20 December 2016), online: Canada – Prime Minister’s office <<http://pm.gc.ca>>.

<sup>117</sup> A summer opening of the central Arctic for fishing is only a few years in the future. The 2016-17 northern winter saw the least seasonal ice cover since monitoring began. “On March 7, 2017, Arctic sea ice likely reached its maximum extent for the year, at 14.42 million square kilometers (5.57 million square miles), the lowest in the 38-year satellite record. This [was] 1.22 million square kilometers (471,000 square miles) below the 1981 to 2010 average maximum of 15.64 million square kilometers (6.04 million square miles) ...” National Snow & Ice Data Centre, “Arctic Sea Ice Maximum at Record Low for Third Straight Year” (22 March 2017), online: NSIDC <[www.nsidc.org](http://www.nsidc.org)>.

sea in the region, although it could yet entail consequences for how Arctic coastal states maintain for themselves an exclusivity of regulation in their EEZs. As noted, the 2017 agreement for a central Arctic moratorium all but completes a *de jure* enclosure of the Arctic having environmental protection rules for UNCLOS-prescribed zones.<sup>118</sup>

### ***Law of the sea delegation in the Arctic: The IMO***

The law of the sea contains a third feature promoting coherency of IEL rules in the Arctic. It is the delegation by states of environmental rule-making to international organizations. We can first recall that states usually refrain from assigning environmental rule-making to IOs without retaining control over what is to result. Examples of such limited delegation include the large membership and secretariat-administered treaties of the Basel Convention, CBD and CITES. Assignment of rule-making to IOs falls on a continuum of strong delegation with minimal participating state involvement and acceptance of extensive binding rules, to weak delegation where states retain continuing involvement with minor rule-making and the IO's governance priorities.<sup>119</sup> Multilateral environmental agreements tend toward the weak or insubstantial delegation end of this continuum. When it comes to treaties such as the CBD and CITES, states retain negotiation of the operational matters that fulfill their overall schemes. The CBD's Aichi targets for biodiversity measures and changes in the CITES listing of endangered species are examples.<sup>120</sup> Pollution-directed treaties such as the UNFCCC and the LRTAP Convention

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<sup>118</sup> The 2017 draft *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean*, *supra* note 62, can be called a *preservation moratorium*. It is intended to maintain a status quo pending scientific assessment and does not provide rules for environmental protection in the central Arctic. A juridical enclosure of the Arctic therefore remains incomplete.

<sup>119</sup> Rule-making, including of the environmental kind, occurs where states delegate competence in political unions, the European Union being the example *non pareil*.

<sup>120</sup> See *supra* note 55. Another example is the negotiation of the protection to be given at-risk (threatened, endangered) species under CITES. At that treaty's 2016 Conference of the Parties, states and participating NGOs dealt with such matters, with little delegation to the CITES Secretariat except administration and capacity building support to member states. See the Summary Records for Plenary, Committee I and Committee II for CoP 17, online: CITES <<https://cites.org/eng/cop/17/sum/index.php>>.

exhibit a propensity for fuller delegation for reasons that include the complexities of technical rule-making and the need for an IO to monitor of states' performance.<sup>121</sup> Weak delegation of rule-making, in contrast to activities of an environmental IO that do not depend upon state participation – such as capacity-building assistance, monitoring and reporting – can be inefficient. However, weak delegation is sometimes needed to ensure states commit to negotiation and subsequent directing of resources into a domestic environmental protection regime.<sup>122</sup> A state's decision to delegate appears often appears to be premised on the understanding that the state will receive, *i.e.* adopt and implement resulting rules, and thereby become part of a governance regime. To ensure a result more amenable to acceptance, including fostering legitimacy of environmental protection rules established by an IO, states need continuing involvement, even if limited to identifying proposed rules and understanding the implications of their eventual application.

When it comes to delegated rule-making – assigned *legislation-by-organization* – the law of the sea has enjoyed relative progress among all sources of IEL. There are three reasons for this. First, UNCLOS as a central instrument to organize law for the global ocean has proven successful because of almost complete acceptance and implementation by states. UNCLOS offers whole-regime attraction to states. Second, and in contrast to the multilateral environmental treaties, UNCLOS was designed to promote existing and emerging international organizations to assume rule-making. The organizations would come to include regional seas entities, RFMOs, the IMO, and later, groups of states for port state control of shipping. A modern law of the sea centred on UNCLOS and its attendant treaties came to be accepted as

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<sup>121</sup> In contrast, the operation of the *Stockholm Convention on Persistent Organic Pollutants* sees heavy involvement by a small group of states consistently participating in decisions about chemicals to be restricted and eliminated. The most recent, after years of consideration, was in a conference of parties to the Convention to phase out hexachlorobutadiene, pentachlorophenol, and naphthalenes. See “Stockholm Convention on Persistent Organic Pollutants, Amendments to Annexes A and C” (15 December 2015), UN doc. C.N.681.2015.TREATIES-XXVII.15 (Depositary Notification).

<sup>122</sup> The attractiveness to states of a proposed IEL rule at the stage of its being negotiated is discussed in Chapter 5.

containing a wide-ranging framework of primary rules and of a framework to pursue more nuanced and local environmental protection rules. A third reason for the law of the sea's success in delegation of environmental rule-making is that IOs emerged alongside codification of the law of the sea that began in 1958. Such organizations were able to gain a perceived legitimacy among states while UNCLOS was being negotiated from 1973 until 1982.

Regulation of shipping in the Arctic has been the most strongly delegated creation and implementation of environmental protection rules under the law of the sea. Since the MARPOL treaty was negotiated in 1973, the IMO has had nearly exclusive competence to make environmental protection rules for shipping.<sup>123</sup> States have preferred to take collective rule-making into the IMO because of complexity, the costs of creating otherwise individual national legislation, and the distributed regulation of commercial shipping, something accepted as needing a universal approach. Just as the law of the sea's modern framework was at the 1958 Geneva Conference so was the aggregation of environmental protection rules under a developing SOLAS regime through the IMO which began operating the same year. When UNCLOS negotiations started in 1973, the IMO had an established role in rule-making. It allowed for efficient negotiation and offered large shipping states such as Greece, Liberia and Panama assurance of their influence when proposed rules might result in costs to their industries.

Two other factors explain why the environmental regulation of shipping found a place in the IMO. The first was the scope and complexity of shipping regulation as a whole, including increasingly detailed rules for the design and operation of ships. Environmental standards are inextricable from many of these *performance rules* with administration of them reinforced by a single governing entity. An example is the *Polar Code* which, to assure the performance of

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<sup>123</sup> Next after the IMO, the European Union significantly regulates commercial shipping for environmental protection, including in oil spill prevention and greenhouse gas emissions mitigation.



ships in ice-covered waters, is a combination of rules for ship design, operation, crew competency and environmental standards across the primary IMO treaties: MARPOL, SOLAS and the STCW Convention.<sup>124</sup> Assuring the success of environmental protection rules for ships in polar waters relies on universality for states to accept the scheme. In the SOLAS-MARPOL framework, this is achieved by rules that, once in force, cannot be denounced or derogated from. Universality of regulation is also explained by the preference of the shipping industry to be governed through the IMO. This is because there is arguably regulatory capture of the IMO by the industry for some matters, through shipping interests in states with economic interests to register and offer tax preferred jurisdictions for the industry.<sup>125</sup> The indirect influence of shipping interests is shown in the period – more than a decade – to negotiate the *Polar Code* and, to offer a second example, for agreed regulations to reduce greenhouse gas emissions from shipping.<sup>126</sup>

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<sup>124</sup> *International Convention for the Safety of Life at Sea* (1 November 1974) 1184 UNTS 3 (in force 25 May 1980) (SOLAS). *International Convention on Standards of Training, Certification and Standards of Watchkeeping for Seafarers* (7 July 1978) 1361 UNTS 2 (in force 28 April 1984). The STCW Convention is almost universally subscribed to, operating through a comprehensive secondary instrument, the STCW Code. The two instruments do not prescribe environmental duties, but are intrinsic to the safe operation of commercial ships.

Aldo Chircop describes the regime for vessel-source pollution and marine environmental protection as having four *levels*: (i) the general obligations flowing from UNCLOS and MARPOL; (ii) particular protection in IMO designated special areas; (iii) particularly sensitive sea areas identified in places where there may be insufficient management and governance; (iv) the intervention of coastal states to prevent or respond to marine pollution incidents. He observes particular regional governance regimes are effectively an added protection. “The Designation of Particularly Sensitive Sea Areas: A New Layer in the Regime for Marine Environmental Protection from International Shipping” in *The Future of Ocean Regime-Building*, *supra* note 41 at 573.

<sup>125</sup> Regulatory capture in the IMO is not well understood and appears not to have been studied. In some respects, the IMO is organizationally designed to foster the influence of the industry by a preference for states with large commercial fleets to assume leading roles. One of the Organization’s original purposes was to eliminate discriminatory practices of states in the industry. See paragraphs 1(b) and 1(c) of the IMO Convention, *supra* note 23.

<sup>126</sup> The *Polar Code* was initially agreed upon in 2002 as guidelines. Settled in treaty form in 2012, the *Code* did not come into force for new ships until 2017. The *Polar Code* is meant to ensure sub-standard shipping does not operate in polar waters. Enforcement of *Code* standards will result in costs for Arctic coastal states and flag states with ships in the polar north. Compliance will be achieved in part by industry actors including classification societies, underwriters, and cargo interests.

In October 2016 the IMO decided it would not address further planning, including possible economic/taxation measures, to regulate greenhouse gases until 2018. This is the result of an oversupply

The Arctic setting has reinforced such a delegation of rule-making to the IMO. This is a result of a relatively small number of states with a common interest to ensure suitable ships are built and operated competently in the Arctic. The same states and others have had the same goal in Antarctic waters. The willingness of Arctic states to delegate environmental rule-making can be seen in the 2004 Arctic Marine Strategic Plan. The 2009 AMSA Report expressed a collective position of states “to cooperatively support efforts at the International Maritime Organization to strengthen, harmonize and regularly update international standards for vessels operating in the Arctic.”<sup>127</sup> Arctic states confirmed their delegation of rule-making to the IMO unequivocally:

Arctic states should explore the possible harmonization of Arctic marine shipping regulatory regimes within their own jurisdiction and uniform Arctic safety and environmental protection regulatory regimes, consistent with UNCLOS, that could provide a basis for protection measures in regions of the central Arctic Ocean beyond coastal state jurisdiction for consideration by the IMO.<sup>128</sup>

The place of the IMO in the environmental governance of the Arctic reflects the law of the sea’s basis for delegation. The now-established role of the IMO to pursue complex environmental rule-making should expectedly reinforce the tendency, for two reasons. The first is the

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of capacity in sectors such as bulk carriers with poor financial returns. The cost of fuel is routinely 50% of ship operating costs and requirements to use low sulphur fuels add to it. The industry has accordingly resisted market-based measures to address greenhouse gas emissions.

There is a periphery of rules important for the environmental protection success of shipping that is not overseen or administered by the IMO: labour standards for ships’ crews, navigational routing control by coastal states, state-and-state liability for shipping pollution, and the regime for end-of-life disposal of ships. The *Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships*, 2009 (15 May 2009) (not yet in force) is partly administered and has technical standards for performance established by the IMO, but operates as an instrument between state parties because the regulation of the dismantling of ships at national sites is not a matter for the IMO.

<sup>127</sup> *Arctic Marine Strategic Plan*, *supra* note 76 at 3; *Arctic Marine Shipping Assessment Report 2009* (AMSA Report), online: Arctic Council <[www.pame.is](http://www.pame.is)>. AMSA Report recommendations are provided in three categories: (i) improving shipping safety; (ii) “protecting Arctic people and the environment”; and (iii) developing marine infrastructure.

<sup>128</sup> AMSA Report, *ibid.*, at 5-6. The pursuit of strategic plan goals include more than the *Polar Code*, including possible designation of parts of the Arctic Ocean as a particularly sensitive sea area (PSSA) by the IMO and prohibiting the use of heavy fuels in ships. In March 2017, the European Parliament called for a ban on the use and transport of high sulphur fuel in the Arctic. See “An integrated EU policy for the Arctic”, *supra* note 60 at para. 58.

perceived success of the IMO to credibly govern a matter of environmental concern for the region.<sup>129</sup> In turn, this should enhance the confidence of Arctic states to delegate rule-making to other IOs, including a future fisheries management entity. The second reason is that an expanded role for the IMO will result in greater integration of IEL norms and governance in the Arctic region. Environmental protection in shipping must increasingly account for and has the potential to synthesize across other concerns, including the conduct of fisheries, greenhouse gas mitigation measures, and protection of marine habitat areas. We can anticipate adaptation into the Arctic of measures the IMO has created in other cooperatively acting regions, e.g. designating areas in the Arctic to be particularly sensitive sea areas requiring enhanced protection from vessel pollution.<sup>130</sup> A second example is the increasing restriction on heavy fuel oil, accepted by states to be prohibited as a ship fuel and otherwise for cargo transport in Antarctic waters, in the Arctic. Such a restriction is now indirectly and partly in effect for the Arctic through the MARPOL low-sulphur ship fuel regulations.<sup>131</sup> But it does not extend to heavy fuel oil as cargo because of the economic interest of Arctic states to have what is a lower cost fuel delivered into the region and transit through it.<sup>132</sup> However, there has been a recent

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<sup>129</sup> Will the *Polar Code* ensure safer shipping in the Arctic and Southern Oceans? Such success is less a matter of specific rules and more the standards of the Code which are a part of the global rise in safer shipping occurring by other IMO regulation: SOLAS and MARPOL notably. The *Code* imposes increased design and construction costs on commercial shipowners for operation in ocean areas with greater risks (and therefore costs) than mid-latitudes. Both costs should inhibit lower capitalized (and therefore presumably less safe) commercial interests from operating ships in polar waters. This will change, however, as ice-cover recedes in the Arctic and other factors combine to attract shipping between Asia and Europe.

<sup>130</sup> Another example of needed integration will be the relationship between regulation of ships and environmental protection in any mining of the international seabed Area in the central Arctic.

<sup>131</sup> MARPOL Annex VI, *supra* note 24. Eliminating sulphur from heavy (bunker) oil has significant positive impacts on air quality in coastal region, because of the reduction of particulate matter from exhaust emissions which is harmful to human health. For analysis of the MARPOL Annex VI framework, see Jeffrey J Smith and Md Tanveer Ahmad, "Globalization's Vehicle: The Evolution and Future of Emission Regulation in the ICAO and IMO in Comparative Assessment", (2018) 8 *Climate Law* 104.

<sup>132</sup> For several years, PAME has been assessing the mitigation and alternatives of heavy fuel oil in the Arctic. See notably "HFO Project Phase III(a) Heavy Fuel Oil & Other Fuel Releases from Shipping in the Arctic and Near-Arctic" (PAME, September 2016) (PAME (II)/16/5.2/a), online at: <[https://www.pame.is/images/03\\_Projects/AMSA/Heavy\\_Fuel\\_in\\_the\\_Arctic/HFO\\_project\\_-\\_Phase\\_3\\_Final\\_report.pdf](https://www.pame.is/images/03_Projects/AMSA/Heavy_Fuel_in_the_Arctic/HFO_project_-_Phase_3_Final_report.pdf)>.

consensus of IMO states to add the matter to the work of the Organization's Marine Environmental Protection Committee in 2017.<sup>133</sup> The consensus had been promoted by several Arctic states (Canada, Iceland, Norway and the United States) joined by others in Europe and Singapore.<sup>134</sup> In parallel with the issue of heavy fuel oil has been the Arctic Council's response to the problem of black carbon. Here, the adverse environmental impact from ships' exhaust gas emissions is that of fine particulate carbon compounds which contribute to global warming. The problem is more pronounced in polar regions because black carbon reduces albedo, or reflectivity, of ice-covered surfaces to sunlight.<sup>135</sup> In 2015, the Arctic Council's SAO group recommended creation of an expert group on black carbon (and methane) and monitoring (and reporting) of emissions consistent with the LRTAP Convention.<sup>136</sup> In its first report, the expert group recommended "work to accelerate efforts under the IMO to mitigate black carbon from shipping".<sup>137</sup> The problem of heavy fuel oil in its dual environmental impacts of marine spill risks and the generating of black carbon illustrates the progress in the Arctic Council and its subsidiary bodies such as PAME to consider the origins of such problems outside the Arctic and a joining of regulatory measures beyond the region.<sup>138</sup> That the work of the Council's expert

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<sup>133</sup> In April 2018 the matter was referred to a sub-committee of the MEPC. A ban was then suggested to be developed "on an appropriate timescale." "Meeting Summary, MEPC, 72nd session, 9-13 April 2018", online at: <[www.imo.org/en/MediaCentre/MeetingSummaries/MEPC/Pages/MEPC-72nd-session.aspx](http://www.imo.org/en/MediaCentre/MeetingSummaries/MEPC/Pages/MEPC-72nd-session.aspx)>.

<sup>134</sup> See Bryan Comer, "The IMO just took a significant step toward reducing the use of heavy fuel oil in the Arctic", International Council on Clean Transportation (12 July 2017), online at: <<https://theicct.org/blogs/staff/IMO-ste-toward-reducing-Arctic-HFO-use>>. "[I]n the Arctic, HFO represents 57% of the fuel ships burn and 76% of the fuel ships carry."

<sup>135</sup> See e.g. V Ramanathan and G Carmichael, "Global and regional climate changes due to black carbon" (2008) 1 *Nature Geoscience* 221.

<sup>136</sup> Iqaluit SAO Report to Ministers, Annex 4 – "Enhanced Black Carbon and Methane Emissions Reductions – an Arctic Council Framework for Action" (undated), online at: <[https://oaarchive.arctic-council.org/bitstream/handle/11374/610/ACMMCA09\\_Iqaluit\\_2015\\_SAO\\_Report\\_Annex\\_4\\_TFBCM\\_Framework\\_Document.pdf](https://oaarchive.arctic-council.org/bitstream/handle/11374/610/ACMMCA09_Iqaluit_2015_SAO_Report_Annex_4_TFBCM_Framework_Document.pdf)>

<sup>137</sup> Arctic Council, 2017, *Expert Group on Black Carbon and Methane: Summary of Progress and Recommendations 2017*, 22.

<sup>138</sup> See Anastasia Telesetsky, "Overcoming climate inertia with unilateral action on black carbon" in Paul Martin *et al*, eds, *The Search for Environmental Justice* (Cheltenham, UK: Edward Elgar, 2015) at 239.

group for black carbon includes assessing would-be measures to monitor and report by the use of LRTAP Convention criteria is an example of the perceived need to regionally apply an IEL treaty.<sup>139</sup>

It is the *Polar Code* which best demonstrates a feedback loop, or influence, of subsidiary rule-making by Arctic states. The phenomenon can be explained as follows. With an established IMO-conferred governance regime for environmental protection in shipping (which, again, extends across several instruments, including SOLAS, MARPOL and STCW) and some prospect (if initially limited) of commercial shipping transiting through the Arctic basin, it was at least useful, if not necessary, for Arctic states to ensure regulation through the Organization. The complexities of ship design and operation in ice-covered waters in turn suggested a single instrument for regulation, which took form in the early 2000s as recommended measures toward an eventual *Polar Code* binding in 2017 (on newly constructed ships) and in 2018 (on existing ships). The *Code* is both a culminating achievement of a necessary delegation of rule-making to a global (IO) body, and now serves as a vehicle for regulating new matters and concerns. At the same time, of course, MARPOL has been the principal instrument for rule-making in environmental protection by shipping in the broad sense, or global terms. A rule to mitigate black carbon, for example, could be included the air emissions provisions of MARPOL Annex VI. However, the *Polar Code* is of more direct interest (and benefit) to Arctic states in compliance by their industries and those of other states. It therefore demonstrates the rigor in law needed to address shipping environmental protection in the polar regions and is seemingly more authoritative for new rules projects. In turn, this should foster or enhance a referring of new rules to be made into the IMO. An expansive consensus among large numbers of shipping-interested states toward polar waters-related measures in turn contributes to the

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<sup>139</sup> See the discussion of the LRTAP Convention in Arctic context in Chapter 1 at page 71 and Table I at page 63.



Map 8 – Area of IMO Polar Code application in the Arctic



position of Arctic states – and notably through the Arctic Council – to govern for environmental protection in the region.<sup>140</sup>

Delegation may yet face limits because of the Ilulissat Doctrine. The Arctic Council will be expectedly reluctant to assign rule-making and formal regulation of environmental protection much beyond the IMO. If an organization does not already have extensive membership by Arctic states, then it predictably will not be engaged with by states to create environmental protection rules for the region. The Council will continue to be at the centre of the application and reconciliation of IEL in the region, as exemplified by the *Fairbanks Scientific Cooperation Agreement*.<sup>141</sup> Because the Ilulissat Doctrine is premised on a sufficiency of the law of the sea as an organizing basis for environmental protection, there is little prospect of expanding near-Arctic arrangements that could receive delegated rule making, e.g. the OSPAR Convention. Delegation will be predictably the recourse for those matters where rule-making must include other than Arctic states participating or regulating activities in the region.

## CONCLUSION

The experience of Antarctica in the application of the law of the sea is instructive, offering an understanding of cohering features for IEL's development in the Arctic. A first observation is that Antarctica does not have a regional seas agreement to allow for subsidiary rule-making similar to agreements around Europe and, into part of the Arctic, the OSPAR Convention. The absence of a coordinating framework into a heavily conservation-oriented setting has meant that activities needing environmental protection regulation would be subjected to incremental local rule-making, notably fisheries conservation and shipping pollution. It follows that the two

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<sup>140</sup> The prospects for such feedback through a "Polar Code approach" to regulating shipping can be tested by assessing the possibility of port state control in the Arctic. How can Arctic states regulate transiting shipping from other states as a matter of Article 218 UNCLOS if there is no material connection – a port visit – by such ships? The *Polar Code* is the basis to regulate "on the record" by advance evaluation of a ship's risk in Arctic waters on the basis of the reports from other port state control regions and environmental performance certifications from organizations such as classification societies.

<sup>141</sup> *Supra* note 84.



polar regions do not need the same legal framework for an application of IEL rules as other ocean settings.<sup>142</sup> A second aspect of Antarctica's experience is that, even with an overt preservation requirement for the continent by treaty, the making of secondary or local rules takes time. A decade followed the *Antarctic Treaty* until there was an instrument for protection of seals and more than 20 years before a RFMO style treaty, the CCAMLR, was negotiated. The Madrid Protocol, moreover, which arguably adds to conservation of the Southern Ocean followed the *Antarctic Treaty* three decades later. Achieving consensus toward organizing environmental protection rules for any ocean setting is hardly a rushed process.

Nevertheless, the coherency offered by the law of the sea globally and crucially by its comprehensive codification in UNCLOS has proven extensive. This cohering tendency, whereby the law of the sea supplies norms for a more detailed and complete creation of environmental protection rules, appears to be continuing. The pace of things can be seen in the creation and deepening of regional seas arrangements over the past 40 years and the recent creation of marine protected areas, e.g. in Antarctica in 2016-17.<sup>143</sup> Two phenomena explain this propensity. The first, discussed above, is what can be called the *incidental coherency* of the law of the sea by which the spatial reach of UNCLOS environmental provisions (e.g. Articles 33-145) have been extended following the enlargement of states' EEZ and ECS areas. It is the *West Africa Fisheries Advisory Opinion* that confirms the obligation on states to regulate environmental protection in their EEZs.<sup>144</sup> The second phenomenon that has reinforced an

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<sup>142</sup> However, the polar regions, while obviously affected in a particular way by greenhouse gas induced climate change, are coastal and fisheries regions with the same problems – if at a reduced impact from human causation – as other coastal settings.

<sup>143</sup> See the discussion of the Ross Sea MPA created under CCAMLR in Chapter 3 at page 194.

<sup>144</sup> *West Africa Fisheries Advisory Opinion*, supra note 42. See paragraph 102: "One of the goals of the Convention, as stated in its preamble, is to establish 'a legal order for the seas and oceans which ... will promote' inter alia 'the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment'. Consequently, laws and regulations adopted by the coastal State in conformity with the provisions of the Convention for the purpose of conserving the living resources and protecting and preserving the marine environment within its exclusive economic zone, constitute part of the legal order for the seas and oceans established



environmental rules coherency of the law of the sea resulted from the totality of state engagement in the UNCLOS system. The argument here is that an extensively codified law of the sea centred on UNCLOS and its related instruments offers benefits attractive to states – such as those for enlargement of maritime space and greater sovereignty to ocean resources – which allow for states to reciprocally accept environmental responsibility norms.<sup>145</sup> The absence of a coordinating framework as a whole for IEL is also a factor to be considered. In the oceans setting, there are numerous (if not always complete) structures to organize environmental protection rules, however derived. The more successful, *i.e.* those replicated across ocean regions and in the form of (what is called here) secondary legislation, have a source of normativity from UNCLOS itself. An example can be found in the complete delegation of competency to the International Seabed Authority for environmental regulation of the “Area” under Article 145. There is no other regime for states to escape environmental protection of the international seabed Area, such as through national legislation that may derogate from or be inconsistent with the requirements of Part XI.<sup>146</sup>

However effective the law of the sea’s cohering mechanisms may prove for the task of organizing and extending IEL in the Arctic, they are not an entire answer. A part of the problem lies beyond the law, namely, in an Ilulissat Doctrine that rejects Antarctic-like preservation of the polar north. It is the other part of the Doctrine that is material: A law of the sea with at its centre UNCLOS is to be primarily relied on to regulate environmental protection in the Arctic Ocean. This entails three limits to the use of an UNCLOS-codified law of the sea to better organize IEL in the Arctic. First, there is the incomplete legal framework (and therefore rules) in the law of the sea for certain matters, notably biodiversity and the preservation of sea ice.

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by the Convention and therefore must be complied with by other States Parties whose ships are engaged in fishing activities within that zone.”

<sup>145</sup> A treaty for high seas biodiversity conservation, discussed in Chapter 2, will arguably be part of the “UNCLOS system”.

<sup>146</sup> *Area Advisory Opinion*, *supra* note 49.

Second, there are environmental protection issues which are common to land and marine areas, for example the conservation of migratory species and atmospheric pollution. Third, the law of the sea has not been applied in pursuit of a better administration of environmental protection through such things as collectively agreed environmental impact assessment.<sup>147</sup>

It is clear that the cohering features of the law of the sea for rule-making of environmental protection – normativity, subsidiarity and delegation – continue to play a needed role in the Arctic. Equally, they are not an entire answer to the challenge of extending IEL into the region. A deepening and the better administration of IEL rules, for example in the oft-noted example of environmental impact assessment, continues to be needed. A meaningful joining and implementation of the multilateral environmental treaties which are relevant to the Arctic, discussed in Chapters 1 and 2, is a part of this. Better rules, therefore, and perhaps more of them. However, to understand what makes coherency effective in the pursuit of these two things means that we must consider how environmental protection rules – whether borne of the law of the sea, from IEL or some hybridization of the two – are effective. The task is to comprehend what makes environmental rules successful. We turn to that next in Chapter 5.

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<sup>147</sup> The *Fairbanks Scientific Cooperation Agreement*, *supra* note 84, is an important, arguably inaugural step toward rules for the administration of environmental protection in the Arctic.

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## CHAPTER 5

# THE EFFICACY OF INTERNATIONAL ENVIRONMENTAL LAW: EVALUATING ITS RULES

### INTRODUCTION

- I. EVALUATING LAW IN ENVIRONMENTAL PROTECTION REGIMES
- II. CRITERIA TO EVALUATE ENVIRONMENTAL RULES

### CONCLUSION

### INTRODUCTION

A regime between states to govern environmental protection in the Arctic, including for the making of local and secondary legal rules, is acquiring form. Despite the absence of a specific treaty for environmental protection in the polar north, a framework for environmental governance increasingly generates rules and receives them from international environmental law (IEL). The extent of this nascent regime, discussed in Chapter 1, can be seen in the evolution of collective responses to environmental problems and how states apply IEL in the Arctic. These responses result from treaties which have greater influence in Arctic environmental governance. The treaties include the *Biodiversity Convention*, UNCLOS and the *Polar Code for Shipping*.<sup>1</sup> Although incomplete – notably by the absence of a collective application of treaties of global application to specific matters in the Arctic – this emerging regime increasingly commits states to rules for environmental protection matters.<sup>2</sup>

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<sup>1</sup> *Convention on Biological Diversity* (5 June 1992) 1760 UNTS 79 (in force 29 December 1993) (CBD); *United Nations Convention on the Law of the Sea* (10 December 1982) 1833 UNTS 3 (in force 16 November 1994) (UNCLOS); and *International Code for ships operating in polar waters*, IMO Resolution MEPC.264(68) (15 May 2015) Annex 10 (in force 1 January 2017 and 1 January 2018) (Polar Code).

<sup>2</sup> Regimes and rule-sets of international environmental protection governance are different things. Regimes consist of the modes to realize governance, including informal arrangements, administrative centres such as treaty secretariats, and established patterns of conduct between interested states. Rule-sets give legal form to the required obligations of state behavior and, for IEL, are in heavily codified form as treaty instruments. It is the performance, or efficacy, of IEL rules which concerns us here.

This chapter addresses how the legal norms and principles of an environmental protection governance regime – its *rule-set* – can be evaluated. This is a necessary objective in the continuing development of IEL toward efficient creation of needed rules and the reconciliation of rules in a complex landscape of treaties and customary law. The chapter follows the analysis in Chapter 1 revealing the Arctic to have an informal or soft law framework with a growing tendency for application of IEL.<sup>3</sup> The term *rule-set* is used to describe the principles and rules of IEL and LOS (explored in Chapter 4) that bind states to the obligations of environmental governance arrangements.<sup>4</sup> *Regime* is defined here as the organized means for states to collectively respond to accepted environmental problems on a continuum of specific matters for environmental protection to those of conservation and preservation from adverse human impacts.<sup>5</sup> Environmental protection regimes defined by rule-sets depend on the quality,

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For a discussion of contemporary regime theory, see Margaret A Young, ed, *Regime Interaction in International Law: Facing Fragmentation* (Cambridge, UK: Cambridge University Press, 2012). Regimes are “sets of norms, decision-making procedures and organisations coalescing around functional issue-areas and dominated by particular modes of behaviour, assumptions and biases.” *Idem* at 11.

<sup>3</sup> Identifying the beginning of an environmental regime is useful in assessing its performance. One date for a regime in the Arctic is 1991 when the Arctic Environmental Protection Strategy was created. Another was the overtaking (or succession) of the Strategy when the Arctic Council was created in 1996. When a regime comes into existence is more than declaratory, being a matter of mechanisms and norms for environmental governance. For an early discussion of the Arctic framework see Leonid Timtchenko, *Quo Vadis, Arcticum? The International Law Regime of the Arctic and Trends in its Development* (Kharkiv: State University Press, 1996). The start of an environmental regime for Antarctica was the *Antarctic Treaty*. *Antarctic Treaty* (1 December 1959) 402 UNTS 71 (in force 23 June 1961).

<sup>4</sup> *Rule-set* is distinct from the wider relational and governance norms of an environmental protection regime. Rule-sets of a regime are those for its internal functioning (*i.e.* administration) and ones directed to the conduct of states, *i.e.* desired or compelled state behaviors. We are concerned in this chapter with how to evaluate both types of rules, including early stages of their formation.

<sup>5</sup> A useful definition is the following: “International regimes are social institutions created to respond to the demand for governance relating to specific issues arising in a social setting that is anarchical in the sense that it lacks a centralized public authority or a government in the ordinary meaning of the term. Arrangements of this sort have long been a part of the sociopolitical landscape at the international level. But there is no doubt that the ranks of international regimes have grown rapidly in the decades that have passed since the close of World War II. The result is a proliferation of arrangements addressing a wide range of concerns from functional issues that are global in scope (e.g. the promotion of free trade and the protection of endangered species) to spatially delimited ones (e.g. the control of pollution in the North Sea or the governance of human activities in Antarctica).” Oran Young and Michael Zürn, “The International Regimes Database: Designing and Using a Sophisticated Tool for Institutional Analysis” (2006) 6 *Global Environmental Politics* 121.

development and maturity of rules for success, because of the remedial nature of needed governance. Moreover, environmental protection regimes continue to be fragmented from each other, even in settings with small numbers of participating states where there is consensus among them for measures to be taken.<sup>6</sup>

How we can evaluate the effectiveness of rules and rule-sets of environmental regimes is the goal of this chapter. The analysis turns on two premises. A first is that evaluation of the law by which environmental regimes operate is a desirable goal. An as-yet developing IEL (and no less the domestic analogs in states) merits assessment to identify the features and methods of application that result in success, *i.e.* guiding and ensuring the behavior of those who govern environmental protection matters which at a primary level are the states that receive the law. The second basis, or premise, is the possibility of building on the regime evaluation schools described below to fashion criteria to assess the law – its rules or, again, rule-sets – in international environmental regimes. Table III on pages 274-275 summarizes the proposed evaluation criteria. The goal of evaluating legal rules for environmental protection in a geographic setting is to ensure the effectiveness of those rules. Therefore, the pursuit of

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<sup>6</sup> Proposed criteria to assess the effectiveness of environmental regimes remains minimal. Some regimes have been evaluated including those for transboundary pollutants (e.g. long-range air pollution in Europe, and ozone depleting substances) and in geographic settings such as Antarctica. The leading works about evaluative criteria continue to be Edward L Miles *et al*, *Environmental Regime Effectiveness: Confronting Theory with Evidence* (Cambridge, MA: MIT Press, 2002), and that by Helmut Breitmeier, Oran Young & Michael Zürn, *Analyzing International Environmental Regimes: From Case Study to Database* (Cambridge, MA: MIT Press, 2006).

See also Helmut Breitmeier, Arild Underdal and Oran Young, "The effectiveness of international environmental regimes: Comparing and contrasting findings from quantitative research" (2011) 13 *International Studies Review* 579; Oran Young, *Institutional Dynamics: Emergent Patterns in International Environmental Governance* (Cambridge, MA: MIT Press, 2011); and Frank Biermann and Philipp Pattberg, *Global Environmental Governance Reconsidered* (Cambridge, MA: MIT Press, 2012).

Two useful works in a limited field about law in environmental regimes are: (i) Tobias Böhmelt and Ulrich Pilster, "International Environmental Regimes: Legalisation, Flexibility and Effectiveness" (2010) 45 *Australian Journal of Political Science* 245, and (ii) Chenaz B Seelarbokus, "The influence of Treaty Design on the participation of Developing and Developed Nations in International Environmental Agreements (IEAs)" (2014) 8 *African Journal of Political Science and International Relations* 288.

On environmental regime theory after Stockholm, see Carsten Helm and Detlef Sprinz, "Measuring the Effectiveness of International Regimes" (2000) 44 *Journal of Conflict Resolution* 630.

evaluation criteria must start with the following questions: *What makes legally-oriented norms and principles for environmental protection, ones that states will accept to follow, more effective? How can the success (or “output”) of an environmental protection rule be assessed, if such a thing is possible? Can certain features of an environmental regime’s rule-set allow for improved performance of the regime as a whole? How can some types of rules important for the operation of a regime but which are not directed to the conduct of states, such as process norms for administration and information sharing, be assessed for effectiveness? Are the rules of the emerging environmental protection regime for the Arctic effective? Are they rules which can influence the improvement of related rules in other regimes?*

There are two reasons to consider how criteria to evaluate the rule-sets of international environmental regimes can be created. The first is that understanding what makes for effective performance should not be limited to the apparent whole of a regime, whether the regime is for a physical setting – a geographic region – or has a specific orientation such as biodiversity, without accounting for how its rules lead to desired results and interact with IEL principles. If the goal is to advance the application of environmental protection regimes, we must understand how rules in regimes that ensured desired behaviors function effectively.<sup>7</sup> The second reason is that IEL can benefit in its continuing development from a pursuit of durable norms for acceptance by states and reconciling regimes with each other given the scale of problems to be confronted. The challenges include climate change and degradation of resources such as available ocean fisheries, along with disparities across issue-areas of pollution, biodiversity, and resource use, and the adequacy by which states implement their international commitments. Humanity has elected to govern global-scale and regional environmental protection among states through regimes, which operate through the law. Understanding what makes law

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<sup>7</sup> See the *International Environmental Agreements Database Project*, University of Oregon, online: <<http://iea.uoregon.edu>>.

effective within them, especially in places such as the Arctic where there is not a formal coordinating framework to receive and implement IEL or create local environmental protection rules, is therefore necessary.

## **I. EVALUATING LAW IN ENVIRONMENTAL PROTECTION REGIMES**

IEL in the modern age after Stockholm has acquired great importance. The remedying of environmental protection problems and assurance of conservation are matters directed as a preference through the law in contrast to the selection of less formal governance measures. The successful application of legal rules – directed to the specific behaviors of states alongside those for the administration of a regime including the acquisition of scientific knowledge – demands understanding. Two reasons explain the task: We remain in an era of incomplete IEL and the successful implementation by states of existing rules is imperfect. As long as the organized international community needs new or evolved environmental protection rules, and states are faced with challenges in applying those rules, it will be necessary to understand what makes them successful. The task becomes important in governance settings where there is no coordinating regime or framework of law for an organization application and secondary generation of rules, including the Arctic. Central questions about making IEL effective through evaluating environmental protection rules are the following: *Should there be an effort to codify some rules of customary international environmental law? Has IEL developed to become internally fragmented and therefore in need of reform? What are the limits of law-making through multilateral remedially oriented conventions?*

An additional justification for the designing of rule assessment criteria is that the evolution of law within IEL regimes can be expected to contribute to the development of environmental regime theory. International environmental governance is incomplete and the problem of

synthesizing norms across environmental regimes persists.<sup>8</sup> The focus of environmental regime theory in the IRD and ERE schools shortly discussed has been to account for the behavior of participants – primarily states – and the modalities of realizing the capacity of states. Inter-regime synthesis (or integration) has yet to be considered as needing evaluation, that is, how a regime has an effect on related ones and how it receives norms from corresponding regimes.<sup>9</sup>

The characteristics of an idealized “good” international law as a whole – validity, clarity for implementation and legitimacy of sources – apply equally to the rules of environmental protection regimes: coherency, consistency, and an avoiding of conflicts with other topics of IEL. Arguably, a first requirement of good IEL, whether as rules at large (including those of customary international law) or prescribed specifically through a governance regime, is that the law must have sufficient form, or definition: Recognizable as law and capable of being understood for what it obligates states to do.<sup>10</sup> These are necessary ground conditions for states

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<sup>8</sup> IEL is arguably in stasis on two levels, the first being its failure to adequately regulate and therefore reverse some environmental problems and the second to respond to underlying causes of environmental degradation and loss of (what is called in Chapter 2) environmental capital. IEL’s present phase of maturing points to the need for integration across regimes, to avoid fragmentation of the law and to foster efficiency. The absence of regimes to address the causes of underlying environmental problems, notably energy use and habitat-biodiversity preservation, demands attention in this evolution.

<sup>9</sup> Quantitative studies of regime behavior are emerging. An example is Tobias Böhmelt and Carola Betzold, “The impact of environmental interest groups in international negotiations: Do ENGOs induce stronger environmental commitments?” (2013) 13 *International Environmental Agreements: Politics, Law and Economics* 127. The authors assessed the presence of environmental NGOs to change the commitment levels of states in the negotiation of 23 environmental regimes. Influence was measured by: (i) depth of cooperation; (ii) ENGO access into the negotiating forum; (iii) number of ENGOs; (iv) ENGO size; (v) the nature of the public good under negotiation; (vi) the presence of a hegemon in the negotiations and (vii) the duration of negotiations.

“[W]e found support for the hypothesis that the higher the degree of ENGO access in international environmental negotiations, the higher the commitment level of states, that is, their depth of cooperation, afterward ... Second, the more ENGOs actively engaged in international environmental negotiations, the higher the commitment level of states in the end. More ENGOs that actively participate convey more and potentially better information. This, in turn, translates into stronger environmental agreements that states commit to. Finally, we found some evidence for an interaction effect between ENGO access and the number of ENGOs actively participating. As it seems, the impact of ENGOs’ degree of access on states’ commitment levels stays positive for small groups of those non-governmental actors, but decreases and even becomes negative with larger groups.” *Ibid.* at 142, footnote omitted.

<sup>10</sup> Nicolas de Sadeleer observes makes the point that IEL must have directing principles if uncertainty is to be overcome, namely, the principles of *polluter pays*, *prevention* and the *precautionary approach*. “By promoting reforms, calling for change, and freeing courts from the constraint of an overly



to commit to and later implement agreed environmental protection obligations.

Implementation, meanwhile, depends on more than clarity of the law, with social and economic (and routinely political) demands for governance capacity of states.<sup>11</sup> Therefore, IEL rules will be expectedly successful when they exhibit the following empirical qualities: (i) understanding by states of the responsiveness of rules to solving collective action environmental problems and (ii) capacity or potential to ensure regime performance including for administration and orderly development of the governance regime. Antarctica offers an example of each: Its regime is different because of an accepted original imperative to preserve its environment. What has evolved to become a comprehensive protection regime for both the continent and its Southern Ocean has comparatively few resource conservation and pollution prevention concerns. Characteristics that reveal the functioning of rules in regimes – rules which foster cooperation, good faith and effective application of norms and rules by states, and rules that ensure the desired remedial result – are present in the Antarctic Treaty System environmental protection rule-set. They can be thought of as behavioral norms of an idealized regime’s rules. For all that the continent’s environmental protection rule-set is of limited use in deal with the local impacts of globally resulting problems, it has been adaptive within the currently understood functions of the ATS.<sup>12</sup>

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literal interpretation of texts [the three principles] set environmental law in motion. In this way they symbolize the subtle transition from modern to post modern law.” *Environmental Principles: From Political Slogans to Legal Rules* (Oxford: Oxford University Press, 2012) at 303.

<sup>11</sup> Greenhouse gas emissions are an example of an environmental problem caused by increased energy use. Consumption of fossil fuels across societies has accelerated more than rates of increasing real wealth. See Liam Wagner *et al*, “Trading Off Global Fuel Supply, CO2 Emissions and Sustainable Development” *PLOS One* (March 9, 2016) 6/17: “[A]lthough production efficiency per unit of GDP level has increased, each person uses more energy at the same time as global population rises. Thus, the potential for rapidly increasing energy demand in the future is high as global population is conservatively estimated to increase towards the widely predicted 9 billion by 2050 and possibly beyond.” (Citation omitted, emphasis in original.)

<sup>12</sup> There are two possible approaches to assess if the ATS is successful for environmental protection. One is empirical: Has the ATS ensured the sufficient prevention and remedying of adverse environmental impacts? As will be explained below, disaggregating the performance of legal rules in a regime, in

How the *effectiveness* of an environmental protection rule can be defined is vital. From the two empirical precepts above, characteristics of effectiveness are suggested to include the following: normativity, knowability (or cognition) for implementation, specificity of regulation, and remedy, *i.e.* result. Defining these as evaluative criteria and avoiding their becoming overly contextual is attained by recalling the goals of environmental regimes. It may be sufficient at the initial moment when states consider joining a would-be regime that proposed rules are more normative and less prescriptive. The same may be useful for rules when a regime must address a change of circumstance: Wide-ranging normativity can permit correction or adaptation.<sup>13</sup> In locating what constitutes effectiveness we must account for the extent to which regime performance as a whole can be causally attributed, *i.e.* traced to the effectiveness of its rules. This is evaluation's principal question: How do existing rules ensure a regime's goals are realized and how capably do rules effect necessary behaviors in response to environmental problems? Not all environmental regimes contain discrete rules to direct the behavior of states. For example, the rules of *meta-normative* environmental regimes – global in application together with ones having a general directing quality as are found in UNCLOS – are quasi-constitutional and must be gauged differently than regimes with rules for specific actions.<sup>14</sup> Finally, fashioning criteria to assess the law's effectiveness of law in an environmental regime would ideally account for how rule-sets provide for the epistemic output of the regime.<sup>15</sup>

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distinction to governance as a whole, and external and economic (not to mention physical-biological variability) is difficult. The second approach is to determine the effectiveness of individual rules.

<sup>13</sup> *E.g.* the collective failure of states to achieve greenhouse gas limits under the Kyoto Protocol after its 2005 coming into force. Arguably, the mix of obligatory rules and performance guidelines in the 2015 *Paris Agreement* signal strong normativity in a still-unfolding conceptual phase, avoiding rigid rules that can impede state acceptance and implementation. *Paris Agreement* (12 December 2015) UN doc. FCCC/CP/2015/L.9/Rev.1 (in force 4 November 2016).

<sup>14</sup> The emphasis on such *ordering regimes* is correctly on their propensity to foster normativity. The argument is that states do not follow the general prescriptions of UNCLOS, instead arranging their behavior around specific agreements that take UNCLOS as their starting point.

<sup>15</sup> "How, then, can we do better? The easy way out is to make the model more inclusive by adding other independent (and perhaps also intervening) variables ... Yet the temptation to reach out in multiple

### ***Assessing regime evaluation models: The ERE and IRD studies legacy***

The studies of environmental regime effectiveness are a necessary starting place in the work of designing criteria to assess IEL rule-sets. The two leading schools of such studies were credible and ensured a departure from the incomplete scholarly treatment of regime (and environmental protection regime) evaluation. Both the ERE and IRD schools found that an international environmental regime must have a problem-solving goal. Therefore, the first objective of assessment is to examine how a regime achieves a successful result, *i.e.* the regime's so-called output. The ERE school was first with its 2002 *Environmental Regime Effectiveness* study by Edward Miles and colleagues. They tested the following assessment criteria in several international regimes: (i) environmental problem type – benign or malign; (ii) problem-solving capacity of the regime; and (iii) political context in which the regime is operating, *i.e.* favourable or unfavourable.<sup>16</sup>

The IRD approach was detailed in the 2006 *International Regimes Database* (IRD) project by Helmut Bretmeier, Oran Young and Arild Zürn. This school offered more descriptive criteria for regime evaluation. IRD criteria were applied from the start of various environmental governance regimes until a common cut-off date of 1998. IRD methodology grouped regimes to be evaluated in categories of: (i) formation; (ii) attributes; (iii) consequences; and (iv) dynamics.<sup>17</sup> Within the consequences category, regimes were codified by a jurist and a political scientist as having six attributes. Such attributes are relevant to the existence and

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directions should be tempered with a reminder that adding a new variable or bringing in a new mechanism is useful *only to the extent that we know how it works*. The vague idea that something is important does not take us very far; we have precise and useful knowledge only to the extent that we can specify the *direction, strength, and form* of impact under different *conditions* and understand *how* this impact is generated ... The main challenge for the field at large at this point is not to increase inclusiveness; it is to increase *precision*." *Environmental Regime Effectiveness*, *supra* note 6 at 459, citations omitted, emphasis in original.

<sup>16</sup> *Supra* note 6 at 1-59. The utility of such an approach to single purpose regimes, for example, specific atmospheric pollutants, and the exploitation and conservation of single species is undeniable.

<sup>17</sup> The International Regimes Database, online: <<https://www.fernuni-hagen.de/polis/lg2/projekte/InternationalRegimesDatabase.shtml>>.

performance of a regime's rule-set, because they offer quantifiable guidance to fashion criteria: (i) outputs at the international level; (ii) member-level outputs; (iii) actor-level outcomes; (iv) impacts of the regime in the targeted issue-area; (v) broader consequences of the regime; and (vi) narrative.<sup>18</sup> Such attributes are not much concerned with the temporal progress of a regime, *i.e.* its development over time, but are instead empirical measurements of result. The IRD school asks the following questions about effectiveness: *Taken together, did the behavioral changes lead to the fulfillment of the stated and/or unstated goals of the regime? What causal impact did the regime have in producing these changes?*<sup>19</sup> Leaving aside for the moment the problem of causal attribution of rule-set effectiveness relative to the performance of an entire regime, these are questions which may possibly be asked about the rule-sets of regimes.

The ERE and IRD schools have evident merit for the evaluation of environmental regime effectiveness. Both have measures to assess the success of collective arrangements to an environmental impact problem or desired result. But neither the ERE or IRD school accounts for the adequacy and function of law within regimes (or such things as a regime's development in relation to others regimes). ERE and IRD assessment methodology is non-legal, being output or effects based. This understandable, given the large number of variables to assess even in a special-purpose regime that identifies both causal origins of an environmental problem and the

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<sup>18</sup> See the description of the six at 121 ff in Helmut Breitmeier, Marc Levy, Oran Young, Michael Zürn, "International Regimes Database (IRD) Data Protocol" (December 1996), online: <[https://www.fernuni-hagen.de/polis/download/lg2/projekte/protocoll\\_regime\\_database.pdf](https://www.fernuni-hagen.de/polis/download/lg2/projekte/protocoll_regime_database.pdf)>.

<sup>19</sup> This is criterion 303F from the category "Actor-Level Outcomes". Other questions are relevant:

303A *Does the behavior of important actors generally conform with the provisions of the regime? Did the regime exert a causal influence on these developments?*

303B *What types of events and actions were significant elements of the processes through which the regime affected outcomes? Which of these processes played significant roles in the regime's causal impact?*

303C *Did the regime have behavioral effects that were not explicitly called for in its constitutive provisions? If so, please describe these effects and the mechanisms that caused them.*

303D *Has the operation of the regime directly or indirectly affected the behavior of various social groups of important actors (e.g., car drivers, power plant operators, builders of pollution abatement facilities, private firms, ethnic groups, arms producers)?*

regime's actual output. The law as legal rules would necessarily be perceived as a single factor, perhaps too obscured to be disaggregated from a whole. "The two studies make it clear that pathways to effectiveness are complex, often involving a number of factors that interact with one another." However, both the IRD and ERE schools identified features of environmental regimes intrinsic to their successful operation: "As [Miles *et al*] observe, 'the odds for success measured as significant and major improvement in actor behavior are nineteen to one when a high capacity system deals with a non-malign problem that is fairly well understood, compared to one to eight when a low capacity system encounters a malign problem clouded in high uncertainty'."<sup>20</sup>

If we accept that effectiveness of rules within environmental regimes can be assessed on an empirical basis – by result, *i.e.* output – we must then identify the regime's purpose in designing the evaluation criteria to be applied. Single pollutant regimes such as the *Vienna Convention-Montreal Protocol* scheme for ozone depleting substances compel states to a different output than regimes with multiple requirements, *e.g.* fisheries management and regional seas arrangements. Moreover, the question of effectiveness or a regime's achievement has various aspects. From an ERE standpoint, achievement includes outputs of behavioral change, problem solving and improved knowledge. The IRD approach emphasizes outputs to include compliance, problem change and improved knowledge.<sup>21</sup> In both IRD and ERE schools, there is limited suggestion of internal inquiry into regimes, *i.e.* that specific features such as rule-sets are worthwhile to examine.<sup>22</sup> A regime might be observed as progressing to a

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<sup>20</sup> "The effectiveness of international environmental regimes: Comparing and contrasting findings from quantitative research", *supra* note 6 at 584. A better approach to malignancy seems needed. The severity of an environmental problem – its impacts – can be classified as chronic or acute. A continuum scale of problem severity, on objective criteria, would be helpful. How should we compare the impact of GHG emissions with that of atmospheric pollutants? Directness of impact on human health is one answer, available technology and governance measures to reduce it, another.

<sup>21</sup> See the comparative chart of the two methodologies in Table 2, *ibid*.

<sup>22</sup> The IRD approach allows for some disaggregation of causal factors, from the coding of Actor-

point of improvement beyond a previous condition in the behavior of parties and a physical result for the environment. Alternatively, its performance could be toward an idealized result. Arild Underdal of the ERE school expresses these polarities of determination as follows: “One [point of reference] is the hypothetical state of affairs that would have come about had the regime not existed.”<sup>23</sup> This can be called the non-regime counterfactual. It questions the performance of an environmental regime by positing the state of some aspect of environmental protection – the desired goal – had the regime not been created. The ERE school labels a “non-regime” as non-collaborative output: “The other option is to evaluate a regime against some concept of a good or ideal solution. This is the appropriate solution if we want to determine to what extent a certain collective problem is in fact solved under present arrangements.”<sup>24</sup> In such a point of reference, it is helpful to distinguish between a “good solution” as assurance of

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Level Outcomes categories described above. “Adequate and even impressive rates of compliance with international environmental rules occur when appropriate incentive mechanisms are coupled with juridification, participation on the part of transnational NGOs in the rule-making process, and a responsive approach to the development of compliance mechanisms over time...”, *Analyzing International Environmental Regimes: From Case Study to Database*, *supra* note 6 at 112.

<sup>23</sup> Arild Underdal, “One Question, Two Answers” in *Environmental Regime Effectiveness*, *supra* note 6 at 7. “This perspective leads us to conceive of effectiveness in terms of the *relative improvement* caused by the regime. This is clearly the notion we have in mind when considering whether and to what extent a regime matters.” *Ibid.*, footnote omitted, emphasis in original.

For a discussion of the no-regime counterfactual and a quantitative approach to evaluation, see Jürg Vollenweider, “Effectiveness of International Agreements” (2013) 13 *International Environmental Agreements* 343. “Environmental effectiveness variables can be categorized into output, outcome, and impact variables (Underdal 2008). Output refers to the formal implementation of institutional targets, or compliance. Outcome denotes the change in human behavior associated with the international environmental agreements, for example a 10 % reduction in a country’s annual SO<sub>2</sub> emissions. Impact concerns the actual change in the biophysical environment, for example an improvement in air quality measured in terms of particulate matter as a percentage of air volume. The study’s empirical methodology allows for the analysis of virtually every environmental effectiveness variable and is thus effortlessly applicable to evaluate different international environmental institutions.” *Ibid.* at 352.

<sup>24</sup> *Ibid.* at 8. “Since actors tend to have different standards of satisfaction, we will here refer to the *collective optimum* ... we define a collectively optimal solution as one that accomplishes, for the group of members, all that can be accomplished, given the state of knowledge at the time.” *Ibid.*, footnotes omitted, emphasis in original.

“Therefore, we will derive the collective optimum by way of another counterfactual – namely, the hypothetical state of affairs that would have come about with a perfect regime. Although constructing this second counterfactual may appear demanding at first sight, we later present a method for deriving it by game-theoretical reasoning from knowledge of the no-regime counterfactual.” “Measuring the effectiveness of international environmental regimes” *supra* note 6 at 635.

(or at least a goal of) sustainability in an environmental amenity, in contrast to an idealized result of reversal of the problem (extending possibly to preservation of the amenity thereafter).<sup>25</sup> In selecting the benchmarks, the performance and evolution of an environmental protection regime over time must be accounted for. Here, we can presume performance should be considered from inception, however that moment is identified. The start of a regime may be obvious in light of a treaty provision or decisions of states for initiating events. A beginning point thus allows for evaluation of a regime's evolution to maturity – however such an elusive end-point may be identified – and even to exhaustion of its original goal as an idealized fulfillment of purpose.<sup>26</sup>

Evaluation criteria of the ERE and IRD schools were combined in the so-called Oslo-Potsdam Solution, by which performance is measured in between a kind of upper boundary or standard of a “collective optimum” and a base condition of the regime not existing, called the no-regime counterfactual. “The Oslo-Potsdam Solution to measuring regime effectiveness has proven useful in a range of applications in research on environmental policy [and] is the only solution to measuring the effect of international treaty regimes”.<sup>27</sup>

The Oslo-Potsdam Solution is an approach that tries to introduce some standardization by using a formula to measure two key concepts. The first is that the effectiveness of a regime must be contrasted with what would have occurred if that regime did not exist. This is the no-regime counterfactual that

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<sup>25</sup> Should the *physical* performance (output) of an environmental regime be approached on a continuum? The extremes, on the one hand of an inadvertently injurious or performance reversing regime, and on the other of a regime fulfilling the collective response ideal while tending to enhance other regimes has a place in evaluation design. From the standpoint of how regimes engage state actors, however, the “frontier is reached when no further benefits to one party can be obtained without leaving one or more prospective partners worse off.” *Ibid.* at 9.

<sup>26</sup> “I suggest, first, that rather than measuring the level of effectiveness reached at a particular point in time (as is currently the case), it might be preferable to assess effectiveness over a well-specified time interval. This would capture the aggregate effect of a regime ... however, the most controversial issue is to select the start and end points of the measurement interval ...” Frank Grundig, “Dealing with temporal domain of regime effectiveness: A further conceptual development of the Oslo-Potsdam Solution” (2012) 12 *International Environmental Agreements* 111 at 112.

<sup>27</sup> Detlef F Sprinz, “Effectiveness” in Jean-Frédéric Morin and Amandine Orsini, eds, *Essential Concepts of Global Environmental Governance* (Abingdon: Routledge, 2015) 64 at 65.

must be considered when evaluating a regime. The second is the distance between the actual current condition of the problem and the condition of the problem under an 'optimum solution'. This is the condition that would occur if the perfect regime was assumed to be operating.<sup>28</sup>

Two criticisms can be made of the Oslo-Potsdam Solution. A first is that the setting or location of the optimum regime boundary (or upper limit) may be subjective. Should an ideal regime result in "mere" sustainable use of an environmental amenity? Its lasting or permanent reversal, *i.e.* remedying? Or the ultimate output of preservation of a kind prescribed for Antarctica? An answer in law is to examine the agreed and stated objectives of the regime as may be found in constitutional documents such as a treaty. A second criticism is that separating regime performance from actual results may be obscured by the Oslo-Potsdam approach. This is a matter of a regime's *achievement*: "Most have defined effectiveness as the ability of the regime to generate consequences but [the Oslo-Potsdam Solution] has been criticized for focusing too much on institutional outcomes and not enough on ecological outcomes."<sup>29</sup>

As a synthesis of the IRD and ERE schools, Oslo-Potsdam has an implicit starting point the cooperation of states.<sup>30</sup> A mutual understanding of an environmental protection matter must accrue before states will accept collective effort is needed. In the Oslo-Potsdam approach, the threshold conditions of understanding and acceptance of the need for a regime among states provides a first subject in the evaluation of IEL regime rule-sets. Regimes are successful because

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<sup>28</sup> See e.g. Carolyn Johns *et al*, "Environmental regime effectiveness and the North American Great Lakes Water Quality Agreement" (2018) 18 *International Environmental Agreements* 315 at 321 (citations omitted). "The advantage of the Oslo-Potsdam Solution is that it does not prescribe a specific methodology [allowing] for a wide variety of methodologies appropriate to specific circumstances to establish the upper collective optimum (CO) and lower bounds no-regime counterfactual (NR) as well as the actual performance of the regime." *Ibid.* at 322, citations omitted.

<sup>29</sup> *Ibid.*, citations omitted.

<sup>30</sup> For a discussion of the Oslo-Potsdam Solution explaining its points of evaluative reference, see "Dealing with temporal domain of regime effectiveness", *supra* note 26 at 112. "The collective optimum is the optimal solution for the group under consideration." *Ibid.* at 115. A collective optimum includes the desired scientific solution to an environmental problem among states (e.g. reduction of greenhouse gases) which accounts for or dispenses with social and economic considerations.



states make reciprocal commitments to them, with many commitments directed by legal rules. This is a matter of cooperation, arguably the first goal of rules a would-be regime must foster.

### ***Evaluating inception: Threshold characteristics of regime and rule formation for assessment***

In designing evaluation criteria, we need to contrast between what can be called conception-attraction-negotiation rules, and the later administrative and substantive rules to ensure a regime's operation.<sup>31</sup> The commentators emphasize processes which attract states to commit and perform responsibilities under environmental regimes, but with little attention to the legal norms manifest in such mechanisms.<sup>32</sup> The discussion of what makes for effective law has been mostly confined to substantive rules.<sup>33</sup> This narrow approach is explained by two phenomena of modern IEL's creation: (i) an accepted approach of uniform structuring of environmental agreements in the post-Stockholm era and (ii) an understanding among states that international law otherwise provides for the operation of environmental treaty regimes.<sup>34</sup>

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<sup>31</sup> Ernst Haas' definition is helpful. A regime is "the norms, rules, and procedures agreed to in order to regulate an issue-area". "Why Collaborate?: Issue-Linkage and International Regimes Source" (1980) 32 *World Politics* 357 at 358.

<sup>32</sup> "As more and better data begin to become available, the literature should grow in at least three ways. First, there should be an observed expansion of IEAs evaluated. Second, geographic focus should broaden from the European countries. Third, increased data coverage across countries and time should improve the available methods for identifying IEA effects." Kendall A Houghton and Helen T Naughton, "International environmental agreement effectiveness: A review of empirical studies" in Theodore Eisenberg and Giovanni Ramello, eds, *Comparative Law and Economics* (Cheltenham, UK: Edward Elgar, 2016) 442 at 453.

<sup>33</sup> Whole regime effectiveness and party behavior has been the concern of IEL governance theory, and we are now advancing beyond ERE and IRD. "Nonetheless, there are fundamental challenges confronting those seeking to pin down the causal roles of regimes, separate out the signal of regime effects from the noise of other forces, and understand the interactions between institutional arrangements and other drivers that influence the success of efforts to avoid or solve problems like the tragedy of the commons or the consequences of large-scale environmental externalities." Oran Young, "Sugaring off: Enduring insights from long-term research on international environmental regimes" (2013) 13 *International Environmental Agreements* 87 at 100.

<sup>34</sup> International environmental regimes encompass more than their structuring treaties. However, multilateral environmental agreements have similar form and operative provisions. This consistency should allow more efficient negotiation and implementation by states. Conservation (species and habitat), pollution response and resource use treaties are most similar. Those for particular processes, such as the Aarhus and Espoo Conventions, are distinguishable. See Figure I in Chapter 2 at page 108.

Multilateral environmental agreements, which have strongly influenced how environmental regimes are defined in treaty form and by their administration, tend to be uniform and located in international law by the states that make them.

A further reason for criteria to assess incipient features including cooperation that can generate negotiated rules is that such features appear through the life of a regime as states create rules or modify existing ones, e.g. the International Whaling Commission's prohibition of commercial whaling. A recent example is the negotiation of the *Minamata Convention*. The Minamata regime prescribes rules to reduce the creation and emission of mercury into the ocean-atmosphere commons.<sup>35</sup> Ensuring the success of those rules turns on states accepting the

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Global administrative law for treaties has *horizontal* norms, although not entirely integrative across the international and IEL landscapes, in the form of the *Vienna Convention on the Law of Treaties* together with judicial pronouncements as to what makes for acceptable performance of treaty obligations. The *vertical*, or deepening, structure of such norms is to be found in the practice of administrative rule-making in regimes, for example the progressive delegation of the implementation of regime rules to a secretariat and IO type bodies, as discussed in Chapters 3 and 4. On the transparency and review of institutional decision-making, see Nico Krisch and Benedict Kingsbury, "Introduction: Global Governance and Global Administrative Law in the International Legal Order" (2006) 17 *European Journal of International Law* 1 and Eyal Benvenisti, *The Law of Global Governance* (The Hague: Hague Academy of International Law, 2014).

*Vienna Convention on the Law of Treaties* (23 May 1969) 1155 UNTS 331 (in force 27 January 1980) (VCLT).

<sup>35</sup> *Minamata Convention on Mercury* (10 October 2013) XXVII UNTS 17 (in force 16 August 2017). See online: UNEP <[www.mercuryconvention.org](http://www.mercuryconvention.org)>. The challenge for many states to comply with the Convention is less control of point-source mercury releases and more eliminating coal from thermal power generation. Article 22 is unique among multilateral pollution treaties: *Effectiveness evaluation* -

1. The Conference of the Parties shall evaluate the effectiveness of this Convention, beginning no later than six years after the date of entry into force of the Convention and periodically thereafter at intervals to be decided by it.
2. To facilitate the evaluation, the Conference of the Parties shall, at its first meeting, initiate the establishment of arrangements for providing itself with comparable monitoring data on the presence and movement of mercury and mercury compounds in the environment as well as trends in levels of mercury and mercury compounds observed in biotic media and vulnerable populations. [Continued overleaf.]
3. The evaluation shall be conducted on the basis of available scientific, environmental, technical, financial and economic information, including: (a) Reports and other monitoring information provided to the Conference of the Parties pursuant to paragraph 2; (b) Reports submitted pursuant to Article 21; (c) Information and recommendations provided pursuant to Article 15; and (d) Reports and other relevant information on the operation of the financial assistance, technology transfer and capacity-building arrangements put in place under this Convention.

new regime. States entered into the regime after calculating possible gains and the degree to which cooperation, including through burden-sharing, will result by assessing the accession behavior of other parties.<sup>36</sup> For the post-Stockholm multilateral regimes their success was a result of negotiated rules perceived as legitimate (because of party and party negotiation of them) and precise, combined with a capacity for what can be called their understood performance by states, in distinction to broadly stated and uncertain standards. In this way, UNCLOS has problems as a stand-alone environmental regime. Many of its performance rules are too general for states to assess their performance and that of others. States seem to need specificity before committing to implement a regime. This explains why regional seas arrangements have been preferred to build on the generalities of UNCLOS.

Environmental regime evaluation theory under the IRD and ERE schools has not been concerned with the formation of regimes including cooperation as a factor for assessment. How states arrive at collective rule-making is crucial, and cooperation explains that. Two examples can be given of cooperation among states for environmental protection matters that demonstrate how such a threshold activity can be gauged. A first is the various regional air pollution regulation regimes. The most advanced of them – by extent of regulation, adoption by states and apparent result – is that for Europe built upon the LRTAP Convention. Europe's regime was the result of strong consensus among states shaped by European Union coordination to accept collective regulation and defer to organizations such as the UNECE for rule-making.<sup>37</sup> In contrast, South-East Asia continues to suffer seasonal air pollution problems

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<sup>36</sup> The behavior of states during regime creation includes what can be called *negotiating cooperation* and (from defining the regime in a treaty) *accession cooperation*. The evaluation literature, above, suggests that at least a moderate degree of commonly understood information (scientific, economic and political) is needed to engage states in what can be called *formation effectiveness*. In the case of mercury, the causes and nature of a globally distributed pollutant had been clear for decades.

<sup>37</sup> No comparison between such political regions of what might be called strength of foundational conditions to realize IEL seems to have been done, although some qualitative evidence can be found in

because of an incomplete cooperative-collaborative relationship among the region's states. The second example is the problem of creating governance regimes for the global commons, *i.e.* areas beyond national jurisdiction. States continue to be governed through a weak conservation obligation in the global commons, both the seas and as recently understood in the problem of greenhouse gas emissions, the atmosphere.<sup>38</sup>

The ERE and IRD schools are sufficiently new and complex that it is understandable there has not yet been a move develop or extend them to evaluating the law, *i.e.* the rule-sets of international environmental protection regimes. However, commentators have examined the specific qualities of environmental rules in a manner that provides a starting point – after the threshold question of cooperation between states – to pursue criteria to evaluate rule-sets. Böhmelt and Pilster suggest the *precision* of directing rules and their *flexibility* in a 2010 analysis of regime effectiveness.<sup>39</sup> They approach the rules output of regimes categorically as *legalization*. Their goal was to demonstrate the effectiveness of law in regimes consisting of “a system of institutionalised rules, norms and regulations ...”<sup>40</sup> For the present task of conceiving evaluative criteria, Böhmelt and Pilster's characterization of legalization having three components is helpful: “First, there is obligation, that is, a regime's propensity to bestow binding commitment to it. Second, precision, that is, the unambiguous definition of states' required actions in certain circumstances. Third, legalisation entails delegation, that is, the granting of authority to one or more than one third party.”<sup>41</sup> The two scholars then applied the

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UNEP evaluations of global regimes. Even across the regional seas regimes, effective comparison of underlying legal conditions presents challenges.

<sup>38</sup> The present work toward a high seas biodiversity-conservation regime may take states beyond what has been a persistent Groatian doctrine. See UN General Assembly Resolution 69/292, “Development of an 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” (6 July 2015).

<sup>39</sup> “International Environmental Regimes: Legalisation, Flexibility and Effectiveness”, *supra* note 6.

<sup>40</sup> *Ibid.* at 248.

<sup>41</sup> *Ibid.*

gauging of obligation-precision-delegation to 116 environmental regimes. They found that the qualities of obligation and delegation, *i.e.* “granting authority of implementation, interpretation, rule application and dispute resolution to one or more third parties”, had limited effectiveness.

The criterion with the greatest impact on regime success was the precision of legal rules:

As expected in our second hypothesis, regimes with a precise system of rules and obligations are likely to be more effective ... Although much of the existent [*sic*] international law is comparably imprecise, our research shows that clear and well-defined obligations should not be the exception. Vague norms and regulations do not suit nations’ long-term interests to protect the environment. On the contrary, precise norms prevent states from interpreting and applying regulations according to their short-term preferences. In other words, precision should be the deliberate choice of states when establishing or restructuring an effective regime.<sup>42</sup>

Böhmelt and Pilster derived the framework of precision-obligation-delegation from a theory of legalization of international regimes originally proposed in 2000. Legalization’s features mark the degree to which a regime (or institution, that label then being prominent) is found on a *multidimensional continuum*: “[R]anging from an ‘ideal type’ of legalization, where all three properties are maximized; to ‘hard’ legalization, where all three (or at least obligation and delegation) are high; through multiple forms of partial or ‘soft’ legalization involving different combinations of attributes; and finally to the complete absence of legalization, another ideal type.”<sup>43</sup> This continuum is helpful in defining the extent of an environmental protection regime, ranging from informal norms to formalistic ones with specific directing rules and compliance requirements. The discourse about legalization in the early 2000s is relevant to our fashioning of evaluative criteria, although the debate had a short half-life. We can now see that a

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<sup>42</sup> *Ibid.* at 255. The precision/no precision dichotomy can be seen in the scope of the *International Convention for the Regulation of Whaling*. Whales for commercial exploitation, listed in the ICRW Schedule, had specific rules for their capture until the 1985/86 moratorium. Small cetaceans fall outside the ICRW, and the regime prescribes norms of conduct for states in respect of them informally or coincidentally, with a few regional instruments such as ACCOBAMS filling some gaps.

<sup>43</sup> Kenneth W Abbott, Robert O Keohane, Andrew Moravcsik, Anne-Marie Slaughter and Duncan Snidal, “The Concept of Legalization” (2000) 54 *International Organization* 401.

considerable part of the approach to international environmental governance is the preference for a formalistic, rules-based approach – captured in treaty form – where characteristics of obligation, precision and delegation are apparent.<sup>44</sup> This is the result of a pursuit of binding normativity, at least once states overcome initial scientific uncertainty about an environmental problem and commit to negotiate toward being bound by rules. Martha Finnemore and Stephen Toope's response to legalization is necessarily recalled when conceiving of evaluatory criteria because getting to identifiable rules is a task broader than their mere conception: "Focusing on law as a set of relationships, processes and institutions embedded in social context has the further advantage of reformulating the lively legal debate over how 'soft' law 'hardens' and connecting it with the rich and growing body of work on transnational norm dynamics that has occupied constructivists in recent years."<sup>45</sup> Thomas Franck observed that it is possible to overcome the schism between formalization and relationships in the legalization debate, which helps to shape the purpose of evaluatory criteria: "'Good' international environmental law in an actionable form beyond abstraction is *legitimate* law, with properties of determinacy, source validity (or 'pedigree'), coherence and adherence."<sup>46</sup> These are qualities for evaluation to begin with.

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<sup>44</sup> Martha Finnemore and Stephen J Toope, "Alternatives to 'Legalization': Richer Views of Law and Politics" (2001) 55 *International Organization* 743.

<sup>45</sup> *Ibid.* at 751. Finnemore and Toope correctly noted there would not be "a long trail of scholarship on the concept of legalization ..." *Ibid.* at 756. However, legalization explains IEL's evolution. The trend to specificity, formality, and a referring of the law through delegation to adjudication and comment by third parties continues.

<sup>46</sup> Thomas Franck, *The Power of Legitimacy Among Nations* (Oxford: Oxford University Press, 1990). Validity engages what John Gardner says about legal positivism. "In any given legal system, whether a given norm is legally valid, and hence whether it forms part of the law of that system, depends on its sources, not its merits (where its merits, in the relevant sense, include the merits of its sources)." *Law as a Leap of Faith* (Oxford: Oxford University Press, 2012) at 21.

## II. CRITERIA TO EVALUATE ENVIRONMENTAL RULES

Designing criteria to evaluate the rule-sets of environmental regimes must address three initial problems.<sup>47</sup> The first is the extent to which regime evaluation methodology can be built upon. The validity or capacity of the ERE and IRD schools to apply to law may be limited. An assessment of rule-sets will be different from environmental regimes as a whole. This is because the evaluation of legal rules on a basis equivalent basis to a regime risks concluding that such rules acceptably result from the regime. Regimes are necessarily evaluated for their result. Rules, however, demand a search for effectiveness, toward ensuring collectively agreed behavior by states and implementation of rules on actors responsible for environmental protection, namely, citizens and corporations. The ERE and IRD schools, if applied merely to evaluate rule “output” may obscure defects in rules or allow them to be considered too narrowly, only within the regime. This may present a problem where there is specificity of a rule requiring action by states that derogates or conflicts with IEL as a whole. An example is the rules for some allowable substitute chemicals under the Vienna Convention ozone layer protection regime recently found to exacerbate climate change because they were not originally understood to be greenhouse gases.<sup>48</sup>

The second threshold problem is the extent to which assessment criteria should be aligned with a regime to more closely assess the regime’s rule-set or, otherwise, if criteria must

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<sup>47</sup> Arguably, the precursor to evaluation is whether a regime *must* be assessed. No principle of law seems to require this. Few environmental treaties and regional agreements have review mechanisms apart from member state meetings. The existence of coordinating mechanisms for decision-making by parties in such meetings and by administrative secretariats arguably structures review processes for more optimal result. An example is the ICRW whaling regime. Until the 1972 establishment of the International Whaling Commission as a coordinating entity for ICRW parties, decision-making for scientific and catch allocation was sometimes wrong. See Patricia Birnie, *International Regulation of Whaling: From Conservation of Whaling to Conservation of Whales and Regulation of Whale-Watching* (New York: Ocean Publications, 1985). See also Malgosia Fitzmaurice and Duncan French, eds, *International Environmental Law and Governance* (Boston: Brill Nijhoff, 2015).

<sup>48</sup> This is also a problem of regime cross-synthesis and adaptation, discussed below. An example of specific derogation from the general is the role of the precautionary principle in some fisheries treaties.

be general in nature to be capable of application across IEL regimes. This can be called the horizontal and vertical *consistencies* of the criteria. The criteria to be applied to a rule-set arguably must account for a regime's purpose and characteristics, *i.e.* horizontally along the continuum of the regime. Because rule-set evaluation necessarily must account for international law and the principles of IEL – a vertical orientation – specific criterion for a regime's rule-set would ideally be applied, if infrequently. While the goal is not uniformity of criteria, it does include coherence.<sup>49</sup>

The third problem for criteria design is *causation*, which should be expectedly difficult to identify at a whole-regime level. Assessing the result of output of legal rules with differing implementation between various states and attributing such performance to the quality or character of the rules is uncertain. We may not be able to satisfactorily measure rule design and performance as a discrete factor of regime success. Identifying causation in structured, well-defined regimes, again recalling the ozone layer regime of the Vienna Convention-Montreal Protocol, is difficult.<sup>50</sup> Nevertheless, causation needs to be accounted for. Attribution of applied legal rules to a result, even if not quantifiable as such or faintly behavior changing, is necessary to ensure legitimate method. The causal result of rules may be limited to a threshold

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<sup>49</sup> Robert Keohane and David Victor prescribe *coherence* as the first test of an environmental regime: "The various elements of a ... regime complex could be compatible and mutually reinforcing; they could be incompatible and mutually harmful; or they could be somewhere in-between these extremes. A regime whose components are compatible and mutually reinforcing is coherent." *The Regime Complex for Climate Change* (The Harvard Project on International Climate Agreements. January 2010: Discussion Paper 10-33) at 19. Keohane and Victor suggest five other criteria to evaluate diffuse regimes ("regime complexes"): *accountability, effectiveness, determinacy, sustainability* and *epistemic quality*, discussed below.

<sup>50</sup> Examples of a clear connection between a rule-set in a regime and output includes those for pollution response with quantified targets, for example the LRTAP Convention and the UNFCCC Kyoto Protocol. See Adam Byrne, "The 1979 Convention on Long-Range Transboundary Air Pollution: Assessing its Effectiveness as a Multilateral Environmental Regime After 35 Years" (2015) *Transnational Environmental Law* 1 at 19: "The regime has an unfortunate dynamic whereby the required emissions reductions are perhaps too lenient for developed states, but are perceived by the states with economies in transition (EIT) as complex and costly to implement. This is particularly concerning if we recall that the LRTAP regime is weak in terms of recognizing common but differentiated responsibilities. Thus, in adopting relatively advanced implementation strategies, a degree of state participation may have been sacrificed." [Footnote omitted.]



consideration, asking if the rule-set of an environmental regime can empirically be assessed as contributing to the regime's output.<sup>51</sup>

An important quality of an environmental regime's rule-set will be complementarity to the rule of law.<sup>52</sup> Rules must avoid impeding the rule of law and preferably enhance it.<sup>53</sup>

International law presumes that states negotiating with others to create particular arrangements (environmental and otherwise) do so lawfully.<sup>54</sup> However, there may be instances where an environmental protection rule apparently contravenes rule of law principles. An example from a national legal system is Canada's framework for ocean fisheries conservation through which the country ostensibly realizes an international obligation for fisheries conservation on the high seas. However, the framework also avoids international review of enforcement activities because of a reservation exempting the country from the jurisdiction of the International Court of Justice.<sup>55</sup> Complementarity to the rule of law may demand an ethereal assessment and occur infrequently but is arguably a necessary *a priori* character for evaluation.

The creation of evaluation criteria must account for what an environmental regime

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<sup>51</sup> In addition to determining the existence of the rule-set, we might engage in a subjective assessment of its prescriptiveness, whether one of strongly directive rules or of behavioral operation through normative influence on states.

<sup>52</sup> An important related quality is operation of the rule-set such that the regime itself functions consistent with the rule of law, including performance of regime obligations by states. Ideally, IEL rules would be consistent with and ensure realization of international human rights norms.

<sup>53</sup> The concept of a "rule of international environmental law" is elusive. No principles for it (e.g. access to the law, equality before the law, and certainty of the law) exist outside of international law as a whole. An improved design of IEL should emphasize rule of law qualities. See Cormac Cullinan, "The rule of Nature's law" in Christina Voight, ed, *Rule of Law for Nature: New Dimensions and Ideas in Environmental Law* (Cambridge, UK: Cambridge University Press, 2013) at 94.

<sup>54</sup> "It is a rule of interpretation that a text emanating from a Government must, in principle, be interpreted as producing and as intended to produce effects in accordance with existing law and not in violation of it." *Portugal v India, Right of Passage over Indian Territory, Preliminary Objections*, 1957 ICJ Rep 142.

<sup>55</sup> Canada's reservation under Article 36(2) of the ICJ Statute was in response to the collapse of fish stocks in the northwest Atlantic. The exemption excluded from the Court's jurisdiction "disputes arising out of or concerning conservation and management measures taken by Canada with respect to vessels fishing in the NAFO Regulatory Area, as defined in the Convention on Future Multilateral Co-operation in the Northwest Atlantic Fisheries, 1978, and the enforcement of such measures." The reservation was accepted by the Court in *Spain v Canada, Fisheries Jurisdiction*, 1998 ICJ Rep 432.

operating through a rule-set is meant to achieve. An environmental regime is directed to *output purposes* arrived at by remedial responses to adverse impacts, e.g. human health or loss of natural amenity problems. Nonetheless, a normative ideal can be seen in both general and pollutant-specific environmental protection regimes of a character that implicitly moves states toward idealized performance. The *Paris Agreement* regime to reduce greenhouse gas emissions relies on both qualities.<sup>56</sup> The Agreement's rules are intended to change state behavior without the prescriptive standards or conduct norms found in traditional approaches to regulate and diminish a pollutant. Another point for evaluation is that rule-sets, if not always particular rules, need to be determinate, *i.e.* coherent. Rule-sets must exist as rules and be capable of application. These starting points suggest four categories to address the creation and what can be called the lifecycle of environmental rule-sets, how they ensure realization of the regime and its adaptation over time, and the regime's place relative to others.

The four categories are: (i) *rule engagement*; (ii) *rule application*; (iii) *rule development (or evolution)*; and (iv) *rule synthesis*. Using *rule* as a descriptor reminds us that it is the compliance directions of an environmental protection regime – whether of a geographic region, a specific environmental protection issue or of the application of a global multilateral instrument or combination of instruments – that are to be subjected to evaluation. It follows that the four criteria should be applied consistent with how environmental rules are created and operate in the following order: *engagement – application – development – synthesis*. This temporal aspect of environmental rules is important because of changing influences on rules (legal, scientific and political-economic), and because of a needed reconciliation, *i.e.* synthesis, across regimes and their rule-sets. In addition, the category descriptions are meant to account for the recent legalization and fragmentation debates, and the now accepted ERE and IRD

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<sup>56</sup> *Paris Agreement*, *supra* note 13. The Paris Rulebook of implementing requirements to be negotiated in late 2018 is expected to extend each of these qualities of engagement, application, a capacity for rules to evolve and some cross-topic organization.

evaluation methods. The four criteria are summarized overleaf in Table III.

### ***Rule engagement***

Once the threshold question of identifying what comprises the rule-set, *i.e.* the body of rules of an environmental protection regime is addressed, the propensity for engagement of those rules by states can be considered. *Rule engagement* is defined as the features of rules promoting the attraction and commitment of states from conception of a regime, to negotiating it, and then implementing and cooperating to achieve it. It is at the last of these stages rules can be said to have accrued. Therefore, rule engagement seeks to identify how successfully the rule-set fosters or necessarily ensures cooperation between states as a core principle of IEL. It evaluates how rules direct state action toward a remedying of a common problem, including the preservation of an environmental feature. The rule-set does not need to be fully operational before it can be evaluated in such terms. Assessing rule engagement in the formative stages of a regime may frequently be desirable. It is important to ask, in light of the animating principles above, whether early-stage rules have the qualities of being certain, are rooted objectively in law and can be capable of application. These qualities are useful to secure states' interest in a regime and participation in the making of its rules (and, otherwise, administration of the regime).<sup>57</sup>

*Rule engagement* is different from rule application. Engagement can be defined as the propensity of a proposed rule to attract states to it.<sup>58</sup> *Application*, in contrast, is the property of implementation. Successful application should expectedly result from engagement, but the long periods needed to implement environmental regimes, recalling the example of the

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<sup>57</sup> This explains why states prefer treaties as the instruments to create environmental regimes, and not informally where the participation of states is more ephemeral, *i.e.* harder to objectively identify. As with human rights treaties, states routinely have civil society and international community stakeholders to whom they account in the formative stages of a regime.

<sup>58</sup> IEL rules could be evaluated in the context of having a lifecycle. However, few IEL rules have prospective end-points. Environmental regimes, most obviously for pollution control, are most often to alleviate a permanent problem. Only those for persistent organic pollutants followed by ozone depleting substances, because of technical (chemical) substitutions, can be said to have possible finite lifespans.

**Table III – Summary of rule evaluation criteria**

<b>Evaluation criterion</b>	<b>Description of the criterion</b>	<b>Secondary criteria</b>	<b>Remarks</b>
<i>Rule engagement</i>	A threshold examination of the attraction a proposed or new rule-set holds for states, including to negotiate and prospectively implement such rules.	<ol style="list-style-type: none"> <li>1. Relevancy of rules to the expressed purpose of the regime.</li> <li>2. A priori prospect of the rules to give effect to the envisioned regime.</li> <li>3. Fairness: Perceived fairness of rules, and their assurance of a fairly operating regime.</li> <li>4. Completeness and clarity of threshold second order rules: (i) regime defining, (ii) negotiation, (iii) administrative-function rules.</li> <li>5. Quality of second order performance rules: (i) regime monitoring and evaluation, (ii) epistemic generation, (iii) operative administration of the regime.</li> </ol>	<p>The five secondary or sub-criteria assess the propensity or attractiveness of a regime's directing rules to would-be participant states, and the basis for the rules to succeed toward fulfilling the regime's purposes once it is operation.</p> <p>The criteria presume that threshold evaluative questions of the existence of a rule-set (as a legal artefact), its definition and identification of purpose, and relation to international environmental law have been completed.</p>
<i>Rule application</i>	An evaluation of the completeness and the capacity of the rule-set to be implemented by states.	<ol style="list-style-type: none"> <li>1. Clarity of the rule-set for adoption and implementation by a state, including later amendment (Having determinacy and <i>readiness for implementation</i>).</li> <li>2. Precision.</li> <li>3. Universal availability for implementation.</li> <li>4. Perceived and actual result of the rule-set in operation.</li> <li>5. Justiciability.</li> <li>6. Alignment (consistency) of the rule-set with international environmental law.</li> <li>7. Utility (effectiveness) of second order regime administration rules.</li> </ol>	<p>These seven sub-criteria evaluate the core functioning, or application, of the rule-set.</p> <p>It is the effectiveness of the rules to meet the regime's stated purpose and necessary evolution that is considered in their application.</p>

Table III continued overleaf

Table III, continued

Evaluation criterion	Description of the criterion	Secondary criteria	Remarks
<i>Rule development</i>	An assessment of the rule-set's evolution or progress over the life of the regime and adequacy to receive needed changes.	<ol style="list-style-type: none"> <li>1. Robustness of rules to withstand evolutionary changes.</li> <li>2. Capacity of rules to ensure epistemic performance: generation of actionable knowledge of concerns to the regime and about regime performance.</li> <li>3. Availability and quality of rules for regime monitoring and review.</li> <li>4. Availability and quality of rules for third party observation and commentary on regime performance.</li> <li>5. Adaptive capacity to foster new norms within the regime and to receive and legislate exogenous norms (including from IEL).</li> <li>6. Jurisgenerative potential.</li> </ol>	The six sub-criteria assess adaptive character and the propensity for rules to evolve to ensure regime success including in response to external problems and developments such as new principles of law and changing related environmental regimes.
<i>Rule synthesis</i>	A determination of the rule-set's capacity to contribute to the integration or synthesis of environmental regimes and the development of IEL.	<ol style="list-style-type: none"> <li>1. A threshold consideration is whether the rule-set is <i>non-opposable</i> to those of related regimes.</li> <li>2. The fragmentary nature (or extent) of the rule-set is addressed at this stage.</li> <li>3. Rules to ensure reconciliation or harmonization with related regimes, including for third instrument and informal measures.</li> <li>4. Prescribed measures and rules to ensure internal integration of a regime, especially in multi-instrument, multiple problem regimes.</li> <li>5. The presence of defining guideposts or indicia to engage other regimes.</li> <li>6. Whether the rule-set allows for reception of norms from IEL and environmental regimes, including rule revision.</li> <li>7. The existence of rules allowing for "export" of norms to related regimes and influence IEL systemically.</li> <li>8. Whether the rule-set is sustainable (supportable over time) is evaluated at this point.</li> </ol>	The eight sub-criteria allow us to examine how administrative and substantive rules align with those of other regimes, and contribute to a reciprocal development of rules and regimes, the systemic strengthening of IEL.

staged application of the *Minamata Convention*, discussed in Chapter 2, demonstrate otherwise.<sup>59</sup> Moreover, an initially understood robustness (or *adaptability*) of a rule-set can have the problem of a regime being narrowly conceived or later contending with emergent problems of political and scientific understanding. The Kyoto Protocol, two decades after being created with discrete and apparently fair rules, is an example of a generalized rule-set reaching the limits of adaptation and being overtaken by particular rules. The Protocol continues to have indicative value, but is eclipsed by the scale of the problem to be addressed and the climate change regime acquiring new rules under the 2015 *Paris Agreement*.<sup>60</sup>

When developing criteria to evaluate the success of an environmental rule-set for its engagement by states the question is what makes rules amenable to being considered by states.<sup>61</sup> A survey of apparently successful regimes, including transboundary air pollution in Europe and Antarctic fishing, offers three answers. First, rules grounded in the experience of states – ones that avoid novelty – and relevant to a collective environmental problem make for more effective regimes, again acknowledging the problem of causation.<sup>62</sup> Second, rules that exemplify or are meant to make good the idealized purposes of a regime should in theory attract states to implement them. However, generality, while useful in the formation

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<sup>59</sup> *Minamata Convention*, *supra* note 35. States expressed clear support for the treaty when it opened for signature, including emphatic statements about the need to eliminate mercury as a human health risk. After a comparatively short four year period the treaty came into force.

<sup>60</sup> Targets for developed states to reduce their GHG emissions under Kyoto were superseded by Paris. See e.g. Annalisa Savaresi, “The Paris Agreement: A New Beginning?” (2016) 34 *Journal of Energy & Natural Resources Law* 16.

<sup>61</sup> Another descriptor is legitimacy. See Daniel Bodansky, “The Legitimacy of International Governance: A Coming Challenge for International Environmental Law?” (1999) 53 *AJIL* 596, and Thomas M Franck’s, *The Power of Legitimacy Among Nations*, *supra* note 46.

<sup>62</sup> Two rules illustrate this first evaluative indicator. The rule against transboundary pollution, given its widespread adoption in IEL treaties and otherwise customary acceptance, should be uniformly attractive to states. The precautionary principle, to the extent it is a soft IEL rule, has arguably been most realized where explicitly defined and applied in regimes. CCAMLR is an example.

of a regime to secure commitment of states, can be a problem at implementation. A third answer lies in the perceived fairness of the rule-set. Rules seen as imposing unequal costs or asymmetrical burden-sharing among some parties should be expected to diminish engagement, recalling the UNFCCC climate change regime.<sup>63</sup>

When crafting evaluative measures, we must recall that environmental regimes are more than the quality of substantive behavior directing rules. *Regime process* or second order (e.g. administrative) rules need to be accounted for when assessing rule engagement. Three species of process rules exist in many international environmental regimes: (i) regime-defining rules; (ii) negotiation (and later amendment) rules; and (iii) administrative-function rules. The first of these categories comprises rules that situate the regime in a legal context and within a wider ordering arrangement, for example the statement and subsequent conduct of Arctic states that the law of the sea is the basis for the region's environmental governance. Second, negotiation-revision rules established for the creation of an environmental regime may seemingly have limited or initially soft legal character. It is primarily the principles of cooperation, good faith and obligation of consultation between states – which can entail a political process overly general to reduce to evaluation – that are relevant. Nevertheless, there is a place for entry and negotiation, *i.e.* formation rules. Well-conceived rules should draw from previous regimes found to be successfully joined by states, including by the range of consultation to be done, the roles to be accorded to participating or advising civil society NGO, IO and scientific constituencies, and whether regime creation is to be overseen by a third-party delegate. An example of the latter is the IMO's creation of

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<sup>63</sup> Fairness in rule application is a crucial aspect of the success of multilateral IEL rule-sets. Routinely, states negotiate regime formation aware of economic, regulatory and governance costs while balancing net environmental gain. The negotiating history of UNCLOS from 1973 to 1982 can be understood from a fairness perspective, G-77 countries insisting (often successfully) on provisions to ensure equality between states. See Chapter 4 at pages 204-207.

the *Polar Code for Shipping*. No less important and amenable to being ground rules of legal character are the qualities of transparency, flexibility, provision for outlier and minority state interests, and continuity of negotiation.<sup>64</sup> When it comes to the environment, providing for receipt of scientific knowledge is also a desirable formative rule.

Third, administrative-function (or what are called here *process*) rules fulfill needed tasks when an environmental regime becomes operational. These are found as subsidiary provisions in a treaty regime, occasionally flowing from the governing instrument and increasingly as agreed-upon measures between state parties and regime secretariats about matters of non-core regime performance. As a type of secondary legislation these rules contribute to regime performance by sustaining the involvement of states in the regime and the implementation of substantive provisions. The ATS and regional seas agreements such as the OSPAR Convention now have detailed administrative rules. Such rules ensure information flows into regime decision-making while mediating the interests of numerous parties.<sup>65</sup> Another conception of an evaluative measure for second order rules is to examine how they enable the criteria of rule application, rule development and rule synthesis to be realized. Administrative-process rules have the categories of: (i) administrative rules with an

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<sup>64</sup> There are also what can be called entrance rules to permit non-state actors (IOs and NGOs) to participate in regime negotiations. Criteria to evaluate such rules would be subjective, depending on the extent of desired non-state actor influence in the process: *For what reason is participation sought and what sort of IO and NGO will be allowed to qualify?* See Michele Betsill and Elisabeth Corell, "NGO Influence in International Negotiations: A Framework for Analysis" (2001) 1 *Global Environmental Politics* 65. Leading reasons for a presence of NGOs to participate in regime formation are for their epistemic contributions and legitimating presence. The presence of Indigenous representative organizations as Permanent Participants in the Arctic Council is an example.

<sup>65</sup> In the early years of the *Antarctic Treaty*, *supra note 3*, there was limited need for internal governance norms and process type rules. The 1980s debate about mining on the continent, the introduction of a fisheries treaty (CCAMLR) needing coordination across the ATS, the creation of the ATS Secretariat and the administration of the 1991 Madrid Protocol extended the scheme. For a discussion of the application of global administrative law in the context of a regional fisheries treaty see Andrew Serdy, "Implementing Article 28 of the UN Fish Stocks Agreement: The first review of an objection to a conservation measure in the New South Pacific Regional Fisheries Management Organisation" (2016) 47 *Ocean Development & International Law* 1.



objective of the routine functioning of a regime, including the assurance of governance, e.g. the processes for meetings and conferences of parties); (ii) rules to ensure epistemic performance, *i.e.* the acquisition of scientific and social knowledge about the regime's objectives, its comprehension and how that knowledge will be acted upon in regime implementation; and (iii) accountability mechanisms of the regime, internally to assess performance (including that of individual member states) and externally for other parties or whose validation is desirable.<sup>66</sup> This brings us to the minor features of administrative rules suitable for evaluation, including the criteria of ease of access to them by states and the extent to which such rules generate actionable information within the regime.<sup>67</sup>

### ***Rule application***

Criteria to assess the second category of rule-set effectiveness, *rule application*, should expectedly have greater objectivity. Rules more readily capable of being received and

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<sup>66</sup> Consider the role of the Aarhus and Espoo Conventions for public participation and accountability in environmental decision-making, thereby touching on regime performance in the (mainly European) states which have adopted them. Anne Peters considers both goals: "The currently best-trodden path is that of *inclusion* and *participation* of civil society actors and business. NGOs are being formally integrated into the international legal process through accreditation, participatory status, and voice. Some observers consider these forms of participation as constituting a 'deliberative democracy'. I insist that presence, observation, notice and comment, and hearing fall short of democracy, because these rights do not allow the participants to block a decision or to disempower the law- and policy-makers." "Dual Democracy" in Jan Klabbers, Anne Peters and Geir Ulfstein, eds, *The Constitutionalization of International Law* (Oxford: Oxford University Press, 2009) 263 at 269, emphasis in original, footnotes omitted.

<sup>67</sup> How can process rules ensure generation of actionable information? This is information about the nature of a collective environmental problem, scientific, social and economic. An *ideal* rule fosters the generation of such information by a regime and its receipt from external sources. The periodic review of performance under human rights treaties, which allows for commentary from the state concerned, administering treaty organizations and third parties is an analogue. See e.g. the work of the UN Human Rights Council in periodic state reviews under the *International Covenant on Civil and Political Rights* and the *International Covenant on Economic, Social and Cultural Rights*. On how civil society influences such reviews see Jonathan Graubart, "'Legalizing' Politics, 'Politicizing' Law: Transnational Activism and International Law" (2004) 41 *International Politics* 319.

Process rules to ensure the availability and receipt of traditional Indigenous knowledge will be important in some settings and arguably take the Arctic as the leading exemplar.

applied by states should be taken as better ensuring the normatively desired conduct of states.<sup>68</sup> The capacity of an environmental rule-set to apply with certainty, consisting of formal obligatory rules and ones of an influencing character, has two dimensions. The first is *availability* of the rule for application by interested states. This means asking if the rule is sufficiently clear even as it may not guide every possible behavior of a state. The second is the extent to which the rule (and rule-set as a whole) will be adopted by states, which is a matter of propensity. The implementation by states of environmental regimes turns on more than the sufficiency of rule-sets, given factors which influence those states to implement regimes. One approach to the sufficiency of implementation as part of evaluating rule application is to examine the legal culture of the state that accepts an IEL rule-set. Rules that flow from an international environmental regime can be thought of in such a context as *transplants*. Therefore, a receiving legal system must account for the adaptive challenge of making sense of and prescribing effective domestic rules.<sup>69</sup> This suggests IEL rules need to be precise and deterministic. Yet precision is achieved with a corresponding reduction of discretion and perhaps an isolation of national rule-sets between regimes.

A determinant of successful rule application is the propensity of the rule to promote desired regime performance. We need to ask how readily the rule-set translates into implementation by a state subscribing to it. This directs us to examine rule design: clarity, precision, universality of adoption across interested states, as well as the apparent and actual

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<sup>68</sup> What are the *indicia* of “good” IEL rules, aside from a fostering of normativity as a whole? Clarity and precision, a quality of being implementable, avoidance of conflict with other rules, cohesion with the rule-set in which they are found as well as IEL as a whole, justiciability, and capacity for future evolution, *i.e.* flexibility within an expressed purpose of a regime. A good environmental rule is also one that can be adopted by a state into its legal system with known financial and governance costs.

<sup>69</sup> The extensive standard rules for navigation, ship construction and environmental protection in the global maritime industry are an example. States negotiate with strong consensus in the International Maritime Organization such that a receiving state’s legal system need only direct industry actors (ship owners and operators) to comply with the rules, without specific local legislation.

causal result of the rule-set and justiciability.<sup>70</sup> In addition, rule-sets designed to allow for review, informally by cooperative processes, by third parties or by litigation among states concerned, should expectedly perform better in application.

Because international environmental regimes and IEL are fragmented, without systemic integration between them, the determinacy of rules assumes an important place. While flexibility and indeterminacy have a place in the creation of a regime and sometimes its evolution, precision underpins what states agree to implement domestically. Moreover, the nature of many environmental collective action problems is such that specific standards of conduct are desirable, whether numerical fishery catch limits, volumes of pollutant emissions, or specific targets to safeguard habitat. Furthermore, monitoring and perceived fairness among states of equal burden sharing in collective responses is an important feature of some environmental regimes.<sup>71</sup> Precision, which at its core is exactness, is a significant characteristic for apparently successful environmental protection rules.<sup>72</sup>

Two features of precision are apparently needed to ensure, *i.e.* ground effectiveness: They are what can be called the *internal character* of the prescribed rule and its *extrinsic referent* capacity. The first of these features is relevant to the capacity of an implementing

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<sup>70</sup> Precision might also be called “directness of conferred responsibility”, by which states comprehend how to implement a rule-set and its constituent rules. This should result in better monitoring and states being willing to pursue informal and formal compliance challenges among themselves. I derive this label from the problem of *diffuse* responsibility between states considered by Ibo van de Poel and André Nollkaemper. See respectively “The Problem of Many Hands: Climate Change as an Example” (2012) 18 *Science and Engineering Ethics* 49 and “The Problem of Many Hands in International Law” Amsterdam Law School Legal Studies Research Paper No. 2015-35 (Amsterdam Center for International Law No. 2015-15) (November 2015).

<sup>71</sup> A recent example of compliance monitoring of individual performance of a quantified rule in a multilateral regime is the *Paris Agreement* requirement for states to accurately determine, account for and allow “individual nationally determined contributions” for reduction of greenhouse gases to be available to and reviewed by other parties. See Article 4 of the *Paris Agreement*, *supra* note 13.

<sup>72</sup> Current IEL treaties said to be “strongly precise” may not be successful simply out of possessing this single characteristic but are arguably more amenable to assessment. Consider fisheries treaties and chemical pollutant treaties with specific, even narrow, performance and allocation rules.

state to receive norms and translate them into action – by prescription, operation of government and legislation – into its jurisdiction and for domestically regulated actors.<sup>73</sup> However, it may be the external quality of the rule-set with greater influence on a regime's success. That is because a state may choose to gauge its performance in comparison to others. This is the causal intersection with the flexibility mechanisms, or features, of a regime that allows states to adjust their engagement when uncertain about the extent and quality of performance.<sup>74</sup> Uncertainty is a phenomenon to be accounted for in the functioning of environmental rules, including identification of the sometimes unknown scale of an environmental problem, acceptance and performance of obligations by other states, and adaptation (*i.e.* reception) and performance by the state concerned. Böhmelt and Pilster concluded that not every flexibility feature overcomes uncertainty. Flexibility of membership appears to have little effect. So do agenda-setting and decision-making mechanisms. However, “[r]egular bodies can adjust regime behaviour and exert influence. This makes a regime ultimately more effective.”<sup>75</sup>

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<sup>73</sup> There is an *a priori* foundation of necessity for the norm-rule or attendant rule-set, fostered by the environmental regime in a making clear the problem to be remedied. Pollution remedying regimes start their development at a point of uncertainty and participant skepticism until a shared epistemic imperative yields threshold confidence. Examples include the long-range air pollution and climate change regimes. A question to ask is whether highly specific rule-sets are more readily taken up by participating states. The hypothesis is that certainty in shared rule-design engages states more closely to the regime project and results in improved subsequent implementation.

<sup>74</sup> “Summing up, flexibility mechanisms directly address countries’ concerns about sovereignty, power sharing and enforcement. While still operating within the framework of a regime, they intend to increase the independence of states to deal with an environmental problem. The emission trading system of the Kyoto Protocol, opting-out clauses or changes in decision making provide examples of this. We claim that due to these characteristics, flexibility mechanisms are likely to increase an environmental regime’s effectiveness.” “International Environmental Regimes”, *supra* note 6 at 250.

<sup>75</sup> *Ibid.* at 257. “[T]he flexibility of a regime and, therefore, its effectiveness increase if a regime has independent bodies that participate in the decision-making process or are even authorised to make final decisions independent from states’ preferences. Our results show that this ‘regime flexibility’, as measured by the existence of subsidiary, regular or mixed bodies, has an impact on effectiveness. The variable is significant in both models.” *Ibid.* at 255, emphasis in original.

Seelarbokus' analysis of the extent of comparative engagement in 31 multilateral agreements between developing and developed states confirms the desirability of regime flexibility and avoiding of rigid rule systems.<sup>76</sup> It is transparency and flexibility, coupled with the absence of strong, *i.e.* binding norms, that foster participation and therefore regime effectiveness: "The key is to flexibly solicit, rather than compel, [cooperation] and to establish goals and targets in a framework that takes seriously the concerns of states with equity and fairness as far as international burden-sharing [is] concerned."<sup>77</sup> The rules of regimes for ensure public participation and open processes such as the generation of knowledge and information sharing, are important to such flexibility as a whole across IEL. Suitable examples are the Aarhus and Espoo Conventions that operate in UNECE member states and a few others. However, their absence or of comparable requirements, *i.e.* transparency mechanisms in many places arguably impedes the evolution of environmental protection regimes.<sup>78</sup> Such regimes on their own appear less amenable to transparency in being implemented and available to civil society evaluation of their performance.

When it comes to the characteristics of the precision of rules, more research is needed.<sup>79</sup> That is because flexibility offers advantages for states to seek accommodation or

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The influence and therefore the conferred flexibility of "strongly independent" (*i.e.* autonomously functioning) secretariats is evident in the ICRW regime, the international shipping environmental regime, and the Antarctic regime. Each experienced improved effectiveness when secretariats were created after previous meetings of states directly to administer the regime.

<sup>76</sup> "The influence of Treaty Design on the participation of Developing and Developed Nations in International Environmental Agreements (IEAs)", *supra* note 6.

<sup>77</sup> *Ibid.* at 298.

<sup>78</sup> When it comes to the Arctic the substantial presence and apparent engagement of Indigenous peoples, in both sub-national governments and the Arctic Council, seems to supply a part answer to the absence of Aarhus-like public participation and accountability regime. Any such rules are soft, with their development usefully evaluated from the standpoint of the 2007 UN Declaration on the Rights of Indigenous Peoples. See the discussion in Chapter 1 at page 91.

<sup>79</sup> This was observed by Daniel Bodansky in "Rules vs. Standards in International Environmental Law" (2004) 98 *Proceedings of the Annual Meeting of the American Society of International Law* 275. The desirability of precision, as least over time as a regime matures, reveals the limits of UNCLOS as a

the tailoring of a rule-set to their settings.<sup>80</sup> In assessing what makes for successful rule-sets, it is helpful to distinguish between regimes having a narrow remedial objective, for example, for accepted global commons problems such as transboundary pollution and ones anticipating more transcendent environmental protection. However, there are now a sufficient number of environmental governance regimes to offer evidence of rule efficacy. For example, UNEP-supported and non-UNEP regional seas agreements have specific rule schemes with measures for governance and decision-making. The most comprehensively implemented of regional seas arrangements – those for the Baltic, the Mediterranean and the OSPAR area of the Atlantic – comprise several instruments with detailed rules for specific matters. A quality of diverse rule-sets is that they permit the internal, *i.e.* infra-regime, reconciliation of precise obligations, while having the quality of adaptability.<sup>81</sup>

Another measure of *rule application* is the extent to which the rule-set is consistent with substantive existing requirements of international environmental law. This is a check of

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legislative scheme, as opposed to one that is constitutive, for environmental governance.

<sup>80</sup> Peter Sand notes in a review of the LRTAP Convention that vague performance obligations can foster participation in a regime because of the flexibility for joining states and their initial implementation. “Regional Approaches to Transboundary Air Pollution” in John L Helm, ed, *Energy: Production, Consumption and Consequences* (Washington, DC: National Academy Press, 1990) 246.

<sup>81</sup> For all that regional seas have common measures for ocean governance, their rule-sets differ considerably, a reflection of varying interests involved, UNEP’s influence, particular collective problems, and the application of related multilateral IEL regimes. There has yet to be a comparative analysis of rule-sets in regional seas agreements. See Joseph FC DiMento and Alexis J Hickman, *Environmental Governance of the Great Seas* (Cheltenham, UK: Edward Elgar, 2012) (positing the general regime evaluation criteria of physical result, contributions of and to IEL, and improved relations between states and peoples), and Nilufer Oral, “Forty years of the UNEP Regional Seas Programme: From past to future” in Rosemary Rayfuse, ed, *Research Handbook on International Marine Environmental Law* (Cheltenham, UK: Edward Elgar, 2015) at 339. See also UNEP, *Regional Seas Conventions and Action Plans: A Framework for Regional Coordination and Cooperation to Protect Shared Marine and Coastal Resources*, online: UNEP <[www.unep.org](http://www.unep.org)>.

Nilufer Oral’s analysis of the Black Sea regional governance framework suggests building blocks for an Arctic Ocean regime: a coordinating convention, and subsidiary (and complementary) protocols for land-based pollution, ocean dumping, emergency response, biodiversity, transport of hazardous substances, regulation of offshore activities, coastal zone management, environmental impact assessment, and a compliance mechanism. See *ibid.* at 360.

uniformity, in order to avoid conflict with the requirements of other regimes and identify problems of fragmentation. An example is the possibility for conflict in the regulation of transboundary hazardous waste under the 1992 Basel Convention and the 2009 Hong Kong Ship Recycling Convention (which has not yet entered into force).<sup>82</sup> Applying the Basel Convention regime means that states should prohibit the export of used ships and also refrain from accepting them for dismantling, on the assumption they contain hazardous pollutants. The Hong Kong Convention impliedly operates on the inevitability of transboundary trade for ship dismantling so long as pollutants are identified, and basic environmental regulations exist in receiving (recycling) states. Of course, overlapping regimes are not always objectionable. The practice of ship dismantling has been accepted as a necessary response outside the Basel regime. The selection of among differing standards in specific matters of environmental protection allows states to join a regime at lower cost (whether economically, politically, socially or in the capacity to regulate), while leaving a possibility of moving to a higher standard at a later time. The “conflict check” of entire rule-sets is not reducible to such simplistic comparison. Conflicts may be desirable (or tolerable) where other imperatives exist to the formation and function of regimes having common subjects.<sup>83</sup> The extent to which a rule-set has the propensity to engage with other environmental rule-sets, *rule synthesis*, is discussed below. This is relevant to the Arctic because of the vulnerability of its natural environment – one in apparent need of regulation to ensure the sound

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<sup>82</sup> *Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships* (15 May 2009) at: IMO <[www.imo.org](http://www.imo.org)>. The Convention will be years before it enters into force, 24 months after at least 15 states with an aggregate of 40% of the world’s commercial shipping tonnage and themselves conducting a combined 3% of annual ship recycling. In theory, the more strict *Basel Convention* regime applies until that time. See KP Jain, JFJ Pruyn and JJ Hopman, “Critical Analysis of the Hong Kong International Convention on Ship Recycling” (2013) 7 *International Journal of Environmental, Chemical, Ecological, Geological and Geophysical Engineering* 684.

<sup>83</sup> An example can be found again in shipping. Arguably, the Kyoto Protocol Article 2 “delegation” of greenhouse gas regulation in the commercial shipping sector to states acting through the IMO derogates from whole-of-state reduction targets, monitoring and commitments.

functioning of its diverse elements – and because there is no animating framework to direct application of IEL because of the Ilulissat Doctrine.<sup>84</sup>

It is therefore necessary to consider how IEL rule-sets can be evaluated for their strength, that is, the extent to which they prescribe requirements that states will commit to being bound by. This is less a matter of the *potential* of rule-sets for implementation, and more one of what might be called their “obligatory compulsion”. Seelarbokus suggests the strength-of-rules characteristic of a regime will include the following elements: (i) legislative requirements; (ii) review and verification mechanisms; (iii) target deadlines; (iv) trade or membership sanctions; and (v) the necessity of specific states or groups of states before the regime becomes binding.<sup>85</sup> However, for both developed states and developing ones, Seelarbokus found that there was a consistent preference to avoid obligatory mechanisms: “Contrary to expectations, *both* developing and developed countries seemed to disfavor IEAs with strong binding provisions.”<sup>86</sup> This finding helps to confirm the criterion of flexibility when it comes to assessing *rule engagement*, how a rule-set provides for adjustment or the revisiting of rules during the performance (application) phase of its lifecycle.<sup>87</sup> Not all

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<sup>84</sup> Norms and regulations derived from regimes of global application in the Arctic including the CBD, CITES and CMS allow for greater legitimacy and reduced costs in their adoption but at a cost of agency monitoring of them and potential loss of specificity in response to the region’s particular problems. This must be balanced with the state-wide implementation of global norms and regulations by Arctic states which are concerned with environmental protection in other regions, too.

<sup>85</sup> “The influence of Treaty Design on the Participation of Developing and Developed Nations in International Environmental Agreements (IEAs)”, *supra* note 6 at 293. “[S]trong clauses within an [international environmental agreement] seem to attract more developed states to participate in the IEA. Moreover, developed countries seem not to favor clauses allowing any party to propose amendments, as well as clauses allowing financial transfers to take place among parties ... The results [of examining 31 IEAs] show that developed countries tend to participate less in stronger agreements, and more in those agreements which include provisions enhancing transparency or favoring dispute resolution first.” *Ibid.* at 295.

<sup>86</sup> *Ibid.* at 296.

<sup>87</sup> “The key is to flexibly solicit, rather than compel, [international environmental cooperation] and to establish goals and targets in a framework that takes seriously the concerns of states with equity and fairness as far as international burden-sharing [is] concerned.” *Ibid.* at 298.



environmental protection regimes have the same purpose. When it comes to the evaluation of the binding strength of rule-sets, it should be expected that some regime types – for example for the allocation and conservation of ocean fisheries – with strongly precise rules from event to event, should have greater acceptance and realized implementation by states. Regimes oriented toward conservation and environmental protection governance in a wholesale sense – regional (geographically directed) and species-habitat, *i.e.* biodiversity, frameworks – should be less amenable to such features, because they do not prescribe rules in response to discrete phenomena. As the progress of regional seas agreements has shown, particular rules can be set aside to await stronger consensus among participants and be supplemented with discrete instruments. Examples include the protocol under the Barcelona Convention for the Mediterranean regional sea framework and the *Antarctic Treaty* Madrid Protocol.

It follows that an evaluation of *rule application* is narrow, being concerned with the success of the rule-set that is to be implemented. However, the quality of a rules is only one part of why it is put into effect by a subscribing state. We can conclude that a coherent rule – precise, agreed to during its conception and perceived to be fair – is desirable.<sup>88</sup> It is the

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The atmospheric protection treaties for long-range transboundary pollutants, ozone depleting substances and greenhouse gas emissions are a useful continuum to test the binding-obligatory features of control and reduction measures. An “immediate and strongly binding” regime like that for stratospheric ozone protection under the *Vienna Convention*-Montreal Protocol succeeded because of the acute nature of the problem to be addressed, the perception of fairness (including burden sharing) among participants, and reduced (*i.e.* tolerable) economic and social costs because there was a technological substitute for the chemical pollutant.

<sup>88</sup> Nicolas De Sadeleer expresses it thus: “Decisions generally follow a careful balancing of divergent interests through the use of over-refined procedures. When they do address the heart of a problem, compromise texts immediately peter out in a plethora of detail. Or they make do with setting out the bases for minimal agreement, surrounded by a degree of woolliness that will allow each party provisionally to turn them to account: until the norm is once again renegotiated, having ceased entirely to satisfy the various actors concerned. Environmental law at the international, EC, and national levels is completely submerged in this regulatory wave, at once master and slave of the policy it supports.” *Environmental Principles*, *supra* note 10 at 255.

quality of application of a rule (and by extension, a regime's rule-set) that we seek to assess, something which is found in its amenability to meaningful implementation.

### ***Rule development***

*Rule development* is defined as the capacity of a rule-set when operating to be adaptable or responsive to the purpose of the regime. *Robustness* is an important characteristic of a rule to be identified, the evolutionary or adaptive quality of the rule-set including the processes to amend the rule itself and its implementing mechanisms.<sup>89</sup> To ensure adaptive evolution – and it must be recalled that “whole rule-sets” for regimes such as regional seas are not transformed by revision of existing rules, but often by engrafting of specialty rules and reconciling mechanisms for them across the regime – rule-sets must have a potential for adaptation and a capacity for the creation of feedback about their performance.<sup>90</sup>

Therefore, the quality of how information is taken up in the progressive development of a regime is a desirable thing to assess in a rule-set. *What epistemic capacity is to be ensured by the regime's rule-set?* Answering this question means identifying the rules of regime monitoring and evaluation, those for generation of knowledge needed for the functioning of the regime, and corrective revision in the context of a regime desired by its

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<sup>89</sup> Bradnee Chambers defines robustness, in the context of environmental treaties as a “built-in mechanism that allows [the treaty] to learn and adapt by incorporating new provisions that strengthen its internal ability to solve the problems it has been created to address ... Thomas Gehring observed a similar characteristic of robustness in the Montreal Protocol, which he calls adaptive learning in dynamic regimes.” *Interlinkages and the Effectiveness of Multilateral Agreements* (Tokyo: United Nations University Press, 2008) 123 at footnote 97.

Melissa Weber identifies the robustness of environmental governance frameworks as *effectiveness* coupled with *participant confidence*, the latter founded on state authority, legitimacy and resilience. See “Comparing the robustness of Arctic and Antarctic governance through the continental shelf submission process” (2014) 50 *Polar Record* 43.

<sup>90</sup> An example of a specialty rule-set appearing in the Arctic environmental regime is the *Polar Code*. Whatever the future adaptiveness of the Code and its related norms, it shows the epistemic uptake of desired policy responses to regulate the environmental impacts of shipping in the polar regions, including research culminating in the 2009 *Arctic Marine Shipping Assessment Report*. See Chapter 1 at page 52.

member states to be adaptable.<sup>91</sup> Adaptation can be characterized as internal, the capacity of the regime (by its rule-set) to maintain a regime's purpose in the face of external changes. Furthermore, the quality of adaptation can be approached as having an external dimension, through which the regime is efficiently situated relative to other regimes. Examples include the Basel and Hong Kong Conventions, above, and measures for conservation of Arctic Ocean fisheries relative to regional fisheries agreements and UNCLOS discussed in Chapters 1 and 4. The object of evaluation is the presence and extent to which rules allow for or support regime adaptation. Some rules may be simple amending provisions of the regime's treaty instrument or criteria for inclusion of subjects for regulation by an existing regime, e.g. CITES. Ideal adaptation rules would provide for periodic regime performance review and an allowing for critiques from external regime actors.

The experience of regional seas agreements and multilateral IEL conventions, *i.e.* the biodiversity and migratory species treaties, is useful because both have rule-sets located across treaties, protocols and administrative measures which provide for adaptation. Application of the agreements and multilateral conventions are helped by organizations such as the IUCN along with NGOs capable of third party monitoring and evaluation.<sup>92</sup> Rule-set evaluation would account for this, including if civil society participation in environmental impact assessments and decision-making under the Aarhus and Espoo Conventions (or similar regional regimes) has been assured. Therefore, the measure of assessment might be described as the sufficiency of the rule-set to provide for internal adaptation of the regime

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<sup>91</sup> The global commercial whaling regime has such properties in the ICRW rule-set, including the requirement for member states to annually agree on quotas. But the parties remain unable to agree on rules for corrective revision, and therefore have not reconsidered the majoritarian decision of 1982 to practically evolve away from commercial whaling.

<sup>92</sup> The role of UNEP in many regimes and the accepted place in Europe for European Commission review and development of multilateral regimes is notable.

and allow for reception of external influences toward possible adaptation.

When it comes to adaptation, the most significant quality of a rule is arguably a generation of knowledge about the environmental problem to be confronted, the regime's performance, and its output result.<sup>93</sup> The quality of an environmental regime's epistemic performance is the foundation of regime performance. Regimes that effectively yield information about their function and the state of the environment they are concerned with should be expected to be successful.<sup>94</sup> The Arctic offers an illustration: Its environmental protection regime has an established capacity to generate knowledge including high quality scientific and socio-economic performance information, yet until 2017 it had no treaty instrument to accomplish that.<sup>95</sup> While collective environmental response in the Arctic after the 1991 Arctic Environmental Protection Strategy (AEPS) was an initial focus for engagement by states, evaluation-monitoring and therefore knowledge generating mechanisms emerged singularly and by informal means.<sup>96</sup> Only later, after the Arctic Council superseded the 1991 AEPS was there integration of this capacity. What might be called the Council's research-and-policy output ensured a continuing epistemic productivity in the absence of formal measures.

At this point in the progress of environmental regimes after Stockholm, creating rules

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<sup>93</sup> Part of this, illustrated by doubts during the creation and in the early years of the UNFCCC regime, is scientific certainty. "High levels of scientific certainty and consensus can contribute to a better understanding of the problem and potential solutions for addressing it." Steinar Andresen and Steven Hoffman, "Much Can Be Learned about Addressing Antibiotic Resistance from Multilateral Environmental Agreements" (2015) *Journal of Law, Medicine & Ethics (Supplement)* 46 at 49.

<sup>94</sup> By credibility, clarity and currency. There appear to be no published comparative studies across multilateral IEL regimes such as the CBD and UNFCCC, nor regional ones including regional seas arrangements. Arguably the UNFCCC regime has partly succeeded because of a strong generation of knowledge, notably the research of the Intergovernmental Panel of Climate Change.

<sup>95</sup> See the discussion of the 2017 *Fairbanks Scientific Cooperation Agreement* among Arctic Council states in Chapter 1 at page 54 and Chapter 4 at page 224.

<sup>96</sup> These informal means include funding of specific working groups with particular study mandates, for example, CAFF.

for epistemic production and governance response by states should be a sophisticated process. An example of such sophistication is CCAMLR.<sup>97</sup> The Convention's rules require that credible knowledge be obtained for matters of resource allocation between parties and applied on the basis of the precautionary principle. The needed rules, therefore, underscore credibility. Such credibility includes the relative independence and bias negating features of government, scientific, social policy and economic entities that contribute to the regime through generation of knowledge. The experience of such entities in the Arctic, overseen by the Arctic Council and in civil society, and Antarctica (the Scientific Committee for Antarctic Research) are similar.<sup>98</sup> They generate knowledge, including the reconciliation of ideas across regime subject areas, and foster transparency and accountability.<sup>99</sup> Rule-sets would ideally provide for them expressly, as up-front rule-design. As a regime matures or, conversely, faces impediments to implementation, rules to create and allow for reception of knowledge from epistemic organizations will need rethinking.<sup>100</sup>

Non-governmental organizations routinely fulfill an epistemic role when it comes to

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<sup>97</sup> *Convention for the Conservation of Antarctic Marine Living Resources* (20 May 1980) 19 ILM 841 (in force 7 April 1982) (CCAMLR).

<sup>98</sup> The Arctic Council working groups are the ACAP, AMAP, EPPR, CAFF, PAME and SDWG. A leading national organization is Canada's ArcticNet with a "central objective ... to contribute to the development and dissemination of the knowledge needed to formulate adaptation strategies and national policies to help Canadians face the impacts and opportunities of climate change and modernization in the Arctic". See Chapter 1 at page 49.

<sup>99</sup> Environmental regimes are at the intersection of state primacy and the pluralism of national and international civil societies concerned about them. A suitably designed rule-set can ensure the influence of civil society actors (IOs and NGOs) for regime success. This includes sustaining epistemic output. See Naghmeh Nasiritousi, Mattias Hjerpe and Björn-Ola Linnér, "The roles of non-state actors in climate change governance: Understanding agency through governance profiles" (2016) 16 *International Environmental Agreements: Politics, Law and Economics* 109. And see Timothy Meyer, "Epistemic Institutions and Epistemic Cooperation in International Environmental Governance" (2013) 2 *Transnational Environmental Law* 15, and Peter M Haas, "Introduction: Epistemic Communities and International Policy Coordination" (2013) 46 *International Organization* 1.

<sup>100</sup> Complementarity between epistemic organizations is a useful thing to ensure sufficiency and critical review of information produced for a regime, and to reinforce the limited capacity and influence of others concerned with the regime. An example is the IPCC being outside the UNFCCC and its UNFCCC Subsidiary Body for Scientific and Technological Advice.

the development or evolution of a regime. However, it may be risky to create rules allowing for their engagement to later foster “regime information-performance” knowledge. NGOs may not have capacity and legitimacy for the task. Moreover, a decision to choose between commenting NGOs can be politically fraught. And the performance of environmental regimes may be helped if certain NGOs remain at a distance and offer a civil society voice for regime accountability:<sup>101</sup> “In international law-making and in law-enforcement, NGOs are apt to furnish information, offer expertise, vocalize interests, act as opposition and counter-power or even as quasi-prosecutors.”<sup>102</sup> The question is whether a regime’s rules should provide for NGO involvement, *i.e.* accord NGOs “status of presence” and account for observations they may make about regime performance.<sup>103</sup> In some regimes, these low thresholds appear to have been successful.<sup>104</sup> Allowing a commentary role for NGOs, but stopping short of reviewing the regime in a formal sense seems useful. In many states NGOs can lack capacity or legal standing to pursue formal review of decision-making in domestic environmental regimes. Only in some, *e.g.* Australia, the Netherlands and the USA, do they

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<sup>101</sup> The outspoken, routinely critical commentary from NGOs at the 2009 Copenhagen Conference of UNFCCC Parties is an example.

<sup>102</sup> Anne Peters, “Membership in the Global Constitutional Community” in *The Constitutionalization of International Law*, *supra* note 66, 153 at 236. “All this generally helps to improve the quality of the debates, of the law-making procedures, of the international rules themselves, and might also facilitate their effective application.” *Ibid.*

<sup>103</sup> States seem to have agreed on this requirement, although in general terms, in *Agenda 21* at the 1992 UNCED conference: “Critical to the effective implementation of the objectives, policies and mechanisms agreed to by Governments in all programme areas of Agenda 21 will be the commitment and genuine involvement of all social groups.” *Agenda 21*, Article 23.1. See the restatement of the commitment in “The Future We Want: Draft Resolution Submitted by the President of the General Assembly” (24 July 2012), UN doc A/66/L.56 at paragraph 43: “We underscore that broad public participation and access to information and judicial and administrative proceedings are essential to the promotion of sustainable development.” See the discussion in Chapter 2 at pages 131-132.

<sup>104</sup> Arguably, the comparative absence and limited capacity of environmental NGOs in some settings, *e.g.* South East Asia, the Middle East and sub-Saharan Africa has hindered the advance of regimes. However, the data is unclear and there is a risk of unhelpful value judgments. “In order to improve two decisive factors which increase the legitimacy of global governance, namely inclusiveness and board participation, measures to counteract the skewed impact of NGOs from the north are needed.” *Ibid.* at 240.

have sufficient resources and status to do so.<sup>105</sup> The question, when it comes to assessing the adequacy of rule development (or evolution), is whether participation by NGOs (and IOs) in monitoring and commentary is provided for and whether there is transparency about how such commentary is considered.<sup>106</sup>

The essential question about the adequacy of rule development is whether the regime's rule-set is *adaptive*. In other words, does the rule-set provide for evolution of the regime to ensure its purposes are met? The challenge is to ensure the regime is equipped with a capacity to respond to changes demanded of it:

Step-level changes [faced by regimes] can occur cumulatively over time as advancing technology is more widely diffused and changes the capability distributions and therefore the interests and utility functions of the participants. Step-level changes are also introduced by powerful *dei ex machina* that occasionally throw up major and unexpected challenges for the regime to respond to. The task of leadership is to mobilize the membership to align capabilities, interests, coalitions, and epistemic communities in such a way as to produce qualitative growth in institutional capacity to respond.<sup>107</sup>

The task of gauging rule development entails a two-fold inquiry. We must ask what provision the rule-set makes for rule amendment, in substance and matters of regime administration.<sup>108</sup> The second question is whether the regime has a *jurisgenerative* quality,

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<sup>105</sup> Recalling the examples of the Natural Resources Defense Council in the United States (acid rain in the 1980s) and Humane Society International Ltd. in Australia (whaling in the 2000s).

<sup>106</sup> The commentary experience of the Arctic Council setting presents a mixed track record in this respect. The Council has procedural rules for the participation and accounting of Indigenous organizations' views. However, the extent to which the Council receives such commentary and acts upon it, including by subsequent single member state response, is opaque. We know the extent of commentary receipt and responsive action by the Arctic Council most through what Indigenous organizations publicly observe. Consider e.g. the April 2009 Circumpolar Inuit Declaration on Arctic Sovereignty discussed in Chapter 1 at page 36.

<sup>107</sup> *Environmental Regime Effectiveness*, *supra* note 6 at 299.

<sup>108</sup> The leading IEL treaties provide for the adjustment of subject-matter, that is, the inclusion of additional objects of regulations within them such as the listing mechanisms for species in CITES and newly designated persistent organic pollutants under the *Stockholm Convention*. However, the acceptance of their inclusion remains with states acting in conference with others.

*i.e.* the extent to which it is capable of creating new rules for functioning and effectiveness to fulfill original and evolving purposes.<sup>109</sup> The search for these qualities must be for more than textual existence. It must consider the sufficiency of how states will engage adaptation and internalize such changes, *i.e.* apply them domestically.

### ***Rule synthesis***

The next advancement in international environmental protection regimes must necessarily come from their integration. Arguably, this is the point where IEL after Stockholm has arrived. Two phenomena justify an improved synthesis of regimes and their rule-sets. The first is a needed reconciliation or harmonization of regimes given the causal connections between environmental problems and in light of weaknesses in regimes to provide for their own performance. The second is efficiency. Multilateral regimes in response to problems of habitat, species and regional arrangements have been pursued in isolation to each other at a cost of effective governance across environmental problems.<sup>110</sup> This was to be expected during peak treaty-making in the 1990s. However, mechanisms for the common administration and development of IEL regimes await design, evaluation and implementation.<sup>111</sup>

Different normative approaches to the same environmental problem, e.g. fisheries

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<sup>109</sup> The Antarctic Treaty System is arguably the most advanced of regional IEL regimes in its creation of operating-administrative rules to ensure performance, allowing for internal governance without the formality of new treaty-type agreements between participating states. See Davor Vidas, *Implementing the Environmental Protection Regime for the Antarctic* (Dordrecht: Kluwer, 2002). The OSPAR Convention is not far behind.

<sup>110</sup> Such costs are expectedly recovered by resolution of the environmental problem, for example improved human health through reduction of pollutants and availability of common pool resources. However, the costs of regime entry (adoption and meaningful implementation) (including early-stage social and economic disruption) are high for many states.

<sup>111</sup> Three examples of regime integration should be recalled: (i) the European Union's synthesis and internal legislation of IEL regimes; (ii) the common secretariat for some of the chemical pollutants treaties such as for the Basel Convention and others; (iii) UNEP's commentary and integration role.



conservation and biodiversity preservation, should be welcomed in the pursuit of evolving regimes as a heuristic for better regime design. Disparate rules can have a useful function in the development of a rule-set. The problem with fragmentation is one of gaps in rule-sets for specific environmental matters, as well as conflicts between rules, including where a desired rule is nullified. However, some rules operate in a kind of horizontal isolation from others, relevant to the same environmental problem, and sometimes at remove from the canon of directing general environmental law principles.<sup>112</sup> Therefore, one aspect of evaluation, less to examine a rule-set's substance and more for identification, is whether the rules have features tending to fragmentation and conflict with those of other regimes. Not quite a search for consistency, this is a determination of *non-opposability*. However, framed in such terms, the task may be onerous. A rule-by-rule conflict check may not be efficiently possible or yield an accurate determination. Consider the following example from the Arctic's environmental rules: If we presume the Arctic's would-be regime to have 10 discrete rules that potentially engage those of other regimes, for example the five consisting of the CBD, CMS, CITES, UNFCCC and *Straddling Stocks Convention* each having 10 rules applicable to the region, 500 comparisons would be needed to check for conflicts and inconsistencies. Therefore, states which accept they will implement multiple regimes relevant to the same

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<sup>112</sup> See Harro van Asselt, "Managing the Fragmentation of International Environmental Law: Forests at the Intersection of the Climate and Biodiversity Regimes" (2012) 44 *International Law and Politics* 1205. "With respect to legal techniques, it has been shown that there are inherent limitations to the use of conflict resolution rules and the law of treaties—which are primarily related to the focus on conflicts between treaty norms—and to the disregard for interactions triggered by treaty body decisions. Furthermore, the usefulness of some legal approaches is restricted, given that their purpose is to establish a normative hierarchy, an objective that can be questioned in the context of international environmental law. Nevertheless, the discussion of legal techniques has also shown that there is potential for using the international lawyer's toolbox in an innovative fashion, for instance, through devising new treaty provisions that dynamically reflect the relationship with other treaties or through harmonized interpretation." *Ibid.* at 1275.

matter will need to rely on after-the-fact interpretive and harmonization techniques.<sup>113</sup>

This leads to an additional evaluation measure, assessing how rule-sets provide for the application of legal interpretation and conflict reconciling measures. Such measures may be formal, e.g. Articles 30 and 31 of the *Vienna Convention on the Law of the Treaties* as well as informal, such as an acquired custom between states that a regime will rely on certain norms in preference to others.<sup>114</sup> This is a step toward synthesis, reconciliation and norm-borrowing between regimes toward mutual (or reciprocal) realization. Not all regimes complement each other. Regional governance regimes including for pollution response along with ones for habitat preservation and species protection have similar aims. Their parallel application should in most settings be reconcilable. Resource exploitation treaties do not appear to be as amenable to cross-region or setting synthesis.<sup>115</sup> Nevertheless, there is a basis in law for resource treaties to contemplate an overall environmental protection in a particular setting beyond conservation of the resource in question. For the Arctic, this includes the general prescriptions of the law of the sea along with UNCLOS's measures for integration, the *Biodiversity Convention* with its meta-ordering norms, and principles of customary IEL.<sup>116</sup> Good rule-sets will contain interpretive guideposts, beginning with a statement of regime purpose, definition of key terms, reference to other instruments, and

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<sup>113</sup> The huge development in international law and proliferation of IEL regimes over three decades meant that reconciliation would be *a posteriori*. Indeed, even the interpretive instrument that is the *Vienna Convention on the Law of Treaties*, *supra* note 34, did not come into force until 1980.

<sup>114</sup> Article 30 of the *Vienna Convention on the Law of Treaties*, *ibid.*, is the starting point for interpretive harmonization. It is often the later or successor instrument that is to prevail, however IEL treaties do not often replace earlier ones, sometimes overlapping without clear reference to subject-matter and each other. The 2015 *Paris Agreement* and the 1998 Kyoto Protocol are examples.

<sup>115</sup> We can discount for now the environmental conservation requirements of the seabed mining regime under Part XI UNCLOS.

<sup>116</sup> Synthesis may have practical limits. Some regimes may be preferable for their operational strength or because they have more powerful norms. The Biodiversity Convention, which for such a purpose includes habitat preservation arrangements such as the Ramsar Convention, could be applied to bestow common principles to subject-matter specific IEL regimes.

guidance to states and courts. However, environmental regimes do not always prescribe such things. To arrive at synthesis, it seems that a reconciling mechanism or framework is needed.<sup>117</sup> The International Law Commission's 2006 guidance about fragmentation underscores the utility of integration. The imperative is to overcome disparity and conflict between rules: "The techniques of *lex specialis* and *lex posterior*, of *inter se* agreements and of the superior position given to peremptory norms and the so far under elaborated notion of 'obligations owed to the international community as a whole' provide a basic professional tool box that is able to respond in a flexible way to most substantive fragmentation problems."<sup>118</sup>

What might be called *rules to engage* related regimes could fail to ensure the meaningful synthesis of regimes, an important goal in regional settings where the ideal is to maximize application of global-multilateral regimes and IEL's general principles. Two aspects of the effectiveness of rules must therefore be considered. The first is how the rule-set provides for reception of norms from IEL's meta-ordering sources. In the Arctic, those sources include UNCLOS, the CBD, the CMS, the UNFCCC and IEL's general principles.<sup>119</sup>

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<sup>117</sup> The idea of a specialty instrument for the application of environmental treaties, a sort of Vienna Convention on the Law of Environmental Treaties, is attractive. But it could fragment the general interpretive scheme of the VCLT, impose negotiating costs on states, and be discounted because of an already-full landscape of IEL treaties.

Meta-principles to guide the coordination of IEL treaties are useful, as found in the World Charter for Nature and Agenda 21. "There is a critical need for the establishment of principles and criteria for integration to guide the negotiation and implementation of international environmental agreements. The potential roles of the full range of international institutions need to be explored to ensure the development and effective application of such principles and guidelines." Meinhard Doelle, "Integration among Global Environmental Regimes" in Aldo Chircop, Ted L McDorman & Susan J Rolston, eds, *The Future of Ocean Regime-Building: Essays in Tribute to Douglas M. Johnston* (Leiden: Martinus Nijhoff, 2009) 63 at 84.

<sup>118</sup> International Law Commission, *Fragmentation of International Law: Difficulties Arising From the Diversification and Expansion of International Law* (13 April 2006), UN doc A/CN.4/L.682, paragraph 492.

<sup>119</sup> This is not a complete canon. Their relationship with soft law instruments such as the World Charter for Nature needs to be assessed if an ordering role for them is pursued. It may be preferable to

The second is the extent to which a regime's rules allow for subordinate or interstitial legislation, including across a threshold into informal norms which allow for better administration of the regime. More than any other setting, Antarctica has acquired vertical rules by which its environmental regime is realized. Admittedly, the quality of the rule-set itself to allow for the creation of such secondary rules may not be quantifiable. This points to the acceptance of adaptation of the primary rules of the Antarctic Treaty System environmental regime. The result has been geographic and transaction specific rules that internally harmonize a rule-set and import influencing provisions from IEL at large, including the multilateral regimes.<sup>120</sup> An example is the designation of specially protected land areas to ensure biodiversity habitat preservation.<sup>121</sup>

An additional rule synthesis indicator can be suggested, the existence and capacity of an environmental regimes rules to yield *internal integration*. Regimes founded on a single treaty instrument, e.g. CITES, have limited requirement for such reconciling mechanisms.

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create a continuum of regimes applicable to the Arctic, from most normative (or requiring substantive accounting in its integration) to least. To the extent that IEL obligations for environmental impact assessment can be found, they should be included in the meta-ordering canon. Arguably, a customary norm has emerged whereby Arctic states consider themselves bound to conduct environmental assessments although at a high threshold leaving many activities beyond review. Given the ecological fragility and uncontrollable external impacts on the Arctic environment, a holistic or continuous environmental assessment mechanism is needed.

<sup>120</sup> The several somewhat hierarchical sources of environmental norms for Antarctica comprise: (i) the Antarctic Treaty (as a constitutional text for environmental conservation); (ii) the ATS related environmental and resource treaties, including CCAMLR and the Madrid Protocol; (iii) general environmental treaties with application in Antarctica; (iv) ATCM Decisions, Measures, Resolutions and Recommendations; (v) ATS treaty measures, e.g. CCAMLR conservation measures. Guidelines for environmental management are routinely adopted through Decisions and Resolutions.

By comparison, regional seas regimes have a flat rules structure, consisting of an original or framework management agreement and equal weight secondary subject instruments.

<sup>121</sup> The protected areas are small and widely scattered. See e.g. Measure 1 (2014), Antarctic Specially Protected Area No. 113 (Lichtfield Point), online: ATS Secretariat <[www.ats.aq](http://www.ats.aq)>. The reluctance of Antarctic states to agree on large marine protected areas for biodiversity conservation shows the political limits to rule-making in the ATS. See Jennifer Jacquet, "'Rationale use' in Antarctic waters" (2016) 63 *Marine Policy* 28, and Cassandra M Brooks, "Competing values on the Antarctic high seas: CCAMLR and the challenge of marine-protected areas" (2013) 3 *Polar Journal* 277.

Others, such as those for regional seas, need to have managerial and informal measures to foster a parallel operation of rule elements. Moreover, the implementation of rule-sets by states creates an opportunity to reconcile rules from a perspective of unitary local governance. The propensity of international environmental regimes, however, has not been toward overt rules-directed internal synthesis, but extending the regulated subjects of the regimes by specific rule-sets for them. This has reinforced a structural approach to making IEL, treaty-oriented and remedial, as equally weighted rule-sets.<sup>122</sup> The interstitial reconciling mechanisms, whether interpretive rules or practices, between them have only recently been needed. And a meta-ordering body of norms is something that is not yet in sight for IEL.

We can turn to how to evaluate the integrative capacity of a rule-set by considering what can be called its *norm-generating propensity*. The question is one of the extent to which the rule-set moves beyond or exerts an influence external to its regime so as to give rise to the replication of norms across regimes and in IEL as a whole. Such a characteristic is also an *integrative or coordinating normativity*. An example is CCAMLR's provision that fisheries allocations must be made under the precautionary principle.<sup>123</sup> The extent to which the principle animates the remainder of the ATS regime is unknown. No causal linkage or result should expectedly be found between the assertion and conduct of the parties under the principle and its deepening within IEL more widely. However, we are at a point in the

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<sup>122</sup> When identified in the form of regimes, IEL is pluralistic, drawing on the perceived social utility of responding to environmental problems. "Special rules and rule-complexes are undoubtedly necessary – somewhat in the sense that different sovereignties are. The world is irreducibly pluralistic. The law cannot resolve in an abstract way any possible conflict that may arise between economic and environmental regimes, between human rights and diplomatic immunity or between a universal law of the sea regime and a regional fisheries treaty. Each has its experts and ethos, its priorities and preferences, its structural bias. Such regimes are institutionally 'programmed' to prioritize particular concerns over others." *Fragmentation of International Law*, *supra* note 118 at para. 488.

<sup>123</sup> *Supra* note 97.

evolution of international environmental governance where it can be asked if regimes influence each other through discrete rules. Asking about norm-generating propensity could reveal a continuum of such influence: *conflicting, none, weak, some* and *strong*. Carefully applied, this marker of evaluation could reveal where a rule-set is deficient in receiving norms from IEL which it purports to operate under or been designed to account for.

Regional seas arrangements communicate a norm-generating propensity between themselves. They have similar rule-sets and governance approaches for regulation of specific matters such as land based pollution, fisheries conservation and ship-source pollution through individual instruments. Within a loose regime of regional seas, it can be said there is considerable external influence of rule-sets across the system.<sup>124</sup> That should not be surprising given similar policy needs to protect the marine environment in small and enclosed seas, the extensive presence of UNEP to animate their development and the numerous states which are parties to more than one agreement, especially around Europe. As such, a search for rule influence may be one as to substantive norms sought to be ideally pursued or amplified broadly across IEL regimes as well as structural ones.<sup>125</sup>

## CONCLUSION

The success of international environmental protection regimes is too important to avoid evaluating and thereby ensuring future improvement to the rules by which those regimes

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<sup>124</sup> Regional seas arrangements are numerous, but many states are not members nor do they encompass a majority of coastal areas, *i.e.* EEZs. Regional seas arrangements have resulted substantially as remedial projects to pronounced human uses and industrial activity in semi-enclosed seas and large population centres, *e.g.* the Baltic, Black Sea, Mediterranean and OSPAR arrangements.

<sup>125</sup> When it comes to IEL expressed conventionally, treaty structures are strongly similar. Does greater normativity result from this? It might, but not directly by the emphasis of stated norms across regimes, but in how states implement treaty commitments, on a programmatic basis helped by uniformity. The reverse seems to confirm the point; disparate treaty forms for similar topics (such as conservation related ones) would impede their performance.

operate. Assessing what features of the law make for better performance is crucial. The means to such an evaluation are available because of the extensive development of the law now found in IEL treaties of all types, the acceptance of international law by states in general, and the ability to assess environmental regime performance as a whole. Some distinction is needed in answering the question of desirability. Should we evaluate environmental law rules as law, at some remove from political and economic considerations, or the effectiveness of environmental law in making instrumental governance regimes? The four criteria presented in this chapter are meant to answer both parts of the question.

The frailties inherent in evaluating environmental protection law between states for its success must be recalled. The first is that states accept and implement IEL rules for reasons greater than an understanding of obligation. Environmental law imposes agency, reputational, economic and social costs on states, burdens gauged critically by states. The second and related difficulty of setting an evaluative framework is the problem of causation. Do some regimes function well – as Antarctica’s arguably did in the first 20 years of its existence – in the absence of detailed rule-sets? How does the place of a rule-set relative to its regime shift or take on added importance as an environmental problem (*i.e.* the goal of the regime) changes?

Another frailty is whether evaluation could contribute to fragmentation. The priority may be for consistency of evaluation across the continuum of IEL, given a needed integration of regimes and their rules for cross-connecting problems of environmental law. The idea of rule integration is directed to this priority. However, as long as the evaluative approach is one about rule-sets of specific regimes, there will be limits to the practical result of such assessment. Not all environmental regimes can be reconciled at a level of the consistency or desired mutually reinforcing character of their rules. It is here that we may need to revert to

the meta-ordering norms, *i.e.* the law's basic principles.

We must be careful to not allow evaluation of the law to be at the cost of failing to comprehend how regimes allow for informal normativity. Theories of regime performance, recalling the ERE and IRD schools account heavily for influences in the success (or output) of a regime. The empirical can be more amenable to assessment. The informal means by which environmental regimes are brought into existence and are performed, a subject needing continuing analysis, must not be sidelined in the pursuit of assessing rules.<sup>126</sup>

Therefore, in the interest of better environmental governance, we should avoid too great an emphasis on evaluating rules when the state of environmental law and regime theory alike arguably remain at an early stage. Finally, and at odds with the empirical, some aspects of the law's efficacy – returning to the problem of causation for a moment – can assuredly be eliminated by a turn to the quantitative. Environmental rules in an age of remediation must routinely be concerned with entire output, for example: *Was the stratospheric ozone layer restored? Did the acidity of rainfall over Europe decline? Was shipping pollution in the Arctic regulated away to below threshold levels of impact and concern?* All the same, it is the possibility of quantifying individual results of rules that demands attention.

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<sup>126</sup> Game theory can arguably be applied in the analysis of environmental regimes. Gauging the effectiveness of the climate change regime in the context of the Prisoner's Dilemma and Nash Equilibrium is an example. Environmental rules that ensure transparency for an actor's comparative decision-making acquire a different prospect in this regard.



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## CONCLUSION

- I. AFTER ILULISSAT
- II. THE CASE TO EVALUATE IEL

### I. AFTER ILULISSAT

Ten years after the Ilulissat Declaration, much has been done to apply international environmental law (IEL) to the Arctic including its polar ocean. Although incomplete, the list of new IEL rules together with cohering features of the law – in a region where states have rejected the possibility of preservation similar to Antarctica – is comparatively extensive. The Arctic Ocean is now in practical terms entirely within areas with regimes that obligate states to govern for environmental protection: The EEZ, extended continental shelves and, otherwise, the Area of the international seabed (along with a central Arctic high seas now under a fisheries moratorium). However, the law's application in this extensive reach is hardly structural, *i.e.* within a framework for predictable, orderly application and an assuring of efficacy. An application of IEL by jurisdictional enclosure is a useful starting point given the Ilulissat Doctrine as that permits an identification of the regimes to necessarily apply. But a territorial basis for IEL to apply through jurisdiction of single states offers no guarantee that suitable environmental protection rules will result. We may yet need to evaluate environmental governance for regime output, applying the ERE and IRD schools (or their fusion in the Oslo-Potsdam Solution) before we can turn to examining regime rule-sets.

The analysis of IEL's development and its purported coherency in the Arctic was approached by asking three hypothetical questions. The first question was whether IEL is sufficiently developed to allow for effective environmental protection governance in the Arctic.

The second was to assess if the cohering features examined in Chapters 2–5 can suffice for systemic integration (if not expansion) of IEL into the region. The question was a consequence of the Ilulissat Doctrine, by which Arctic states reject a single instrument to coordinate for IEL, in contrast to Antarctica and regional seas agreements.<sup>1</sup> The analysis of IEL’s sufficiency and reception into the Arctic allows us to examine state of IEL as a whole, its successes and shortcomings. Several things allow us to extrapolate from the Arctic as a setting to IEL’s global context, including relatively recent application of IEL, the absence of a coordinating treaty for IEL, the uncomplicated geographic jurisdictions of coastal states and an absence of pronounced originating environmental problems. The contention is that the Arctic is a blank slate against which IEL’s development can be assessed. A third hypothetical question pursues the analysis a step further, *i.e.* whether it is possible to evaluate IEL in specific geographic places for its effectiveness. The evaluation criteria proposed in Chapter 5 – rule engagement, rule evaluation, rule development (or evolution), and rule synthesis – are available for application in an Arctic with fewer variables than other regional seas areas, similar to Antarctica.

### ***The challenges of coherency***

Humanity remains without a central coordinating and generating platform for international environmental law. IEL continues to be conceived and operate under certain shortcomings: encompassing a diverse range of environmental protection and natural resource subjects, disparate in application and only beginning to address the causal problems of what it regulates. IEL also imperfectly accounts for the particular role and needs of Indigenous peoples who have a particular reliance on environmental protection. The law’s successful rapid development and reception by states contain the challenges for its continuing evolution, its less than systemic –

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<sup>1</sup> The Doctrine is explained in the Introduction at pages 1–8, and Chapter 1 at pages 34–36.

*i.e.* fragmented – nature, along with the costs and capacity limits of states to implement. As discussed, what is meant by coherence is a quality short of constitutionality toward an idealized organization of norms. Coherence, in other words, is a *constitutiveness* in pursuit of common features across the law with a goal of reducing conflicting norms toward synthesis, and more integrated application by states.<sup>2</sup> An example of coherency in the Arctic is the central high seas fishery, for which a 2017 moratorium resulted by applying the precautionary principle to preserve the region’s biodiversity.<sup>3</sup> Of course, this development occurred as the region’s states have been slow to establish marine protected areas across common ecosystem areas.

A second example of coherency in the Arctic is what can be called the paradox of Ilulissat. The paradox is that, by rejecting a single IEL organizing treaty or framework coupled with adoption of UNCLOS as the vehicle for that purpose, greater state responsibility for environmental protection is been claimed and may have resulted. This is because the Arctic Ocean in the decade after the Ilulissat Declaration came to be jurisdictionally enclosed. No part of the Arctic Ocean including its seabed is now without coastal states now acquiring or being subjected to international rules for environmental protection.<sup>4</sup> As noted, the central Arctic fishery is now agreed to be off limits for conservation purposes. And a central as-yet unallocated international seabed is, by agreement (except that of the United States), subject to the environmental protection regime of Part XI UNCLOS. The paradox is that the rejection of overt IEL organization for the Arctic region by treaty – whether of a regional sea type or similar to the *Antarctic Treaty* – ensured the law of the sea as a vehicle for environmental protection obligations into the reach of coastal state or otherwise international maritime areas, all with

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<sup>2</sup> See notably the discussion in Chapter 2 at page 98.

<sup>3</sup> See the discussion of the *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean* in Chapter 1 at page 66.

<sup>4</sup> In other words, a global commons in the Arctic – except the atmosphere above – has now been eliminated when it comes to state responsibility for environmental protection.

environmental protection rule-sets.

This law of the sea's importation of IEL rules arguably reinforces the preference of Arctic states to collectively identify environmental protection problems and assign priorities in response even as some new rules have been created in the region's emergent governance regime. The territorial jurisdiction of states in maritime areas marks the distinction between the two and in environmental law terms is the enduring result of the Ilulissat Declaration. Where states perceive they possess exclusive jurisdiction over a geographic area – for practical purposes the territorial sea and EEZ – they have not moved to cooperative projects to expand IEL in the Arctic. This can be seen in the absence of environmental protection instruments (or other organization of IEL) pursued in the setting of the Arctic Council.<sup>5</sup> Indigenous peoples have clearly influenced a greater subscribing by states to IEL, but this remains limited to Arctic Council declarations for singular state adoption and implementation of the law. States implicitly accept they will apply law of the sea rules and the applicable multilateral (and customary law, it should be added) rules on an individual basis in their coastal areas. Where cooperation has been required to transcend national maritime zones, however, the law of the sea has been a basis to reinforce regional tendencies to arrive at collective priorities. Examples of this after the Ilulissat Declaration are recent ones: the *Polar Code*, the Fairbanks Scientific Cooperation Agreement, and the central ocean fisheries moratorium.<sup>6</sup> There is then the declared commitment of Arctic Council states to create a network of marine protected areas across the polar basin. Progress toward that has been slow, and arguably delayed given the necessity of an expansive, organized protection of marine habitat. It will be the creation of

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<sup>5</sup> The 2013 *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic*, discussed in Chapter 1, is the exception. The continuing Canada-United States moratorium on petroleum development in the Arctic basin is arguably another, although perhaps not as durable. On the 2017 *Agreement on Enhancing International Arctic Scientific Cooperation*, see Chapter 1 at page 54.

<sup>6</sup> *International Code for ships operating in polar waters*, discussed in Chapter 1 at page 54.

MPAs among states as shared management regimes that transcend national EEZs that most demonstrates the passing of state exclusivity under Ilulissat. Such areas should predictably see a formalization of Indigenous governance in a transboundary sense, reinforcing Indigenous influence in the setting of the Arctic Council.<sup>7</sup>

This is not to suggest an absence of features to collectively organize IEL in the Arctic. The governance of Arctic environmental protection matters, whether since 1991 under the Arctic Environmental Protection Strategy or its subsequent manifestation, the Arctic Council in 1996, has had a pronounced regional aspect.<sup>8</sup> Collective decisions and acceptance of environmental impact problems stopped short of joint rule-making, at least until recently, but an extensive and consistent pattern of cooperation for environmental governance was established before Ilulissat and is something that continues. A regional approach to receiving and organizing IEL, or receiving normative principles from the law of the sea, is not required to result in formal output of rules compelling states to act on shared priorities. An example can be found in the *Convention on Biodiversity* and its Aichi targets to create MPAs.<sup>9</sup> The focal point for Arctic states to act lies in that treaty and little more than some obligation is needed for states to individually create and administer MPAs in cooperation with others in shared ecosystems.

### ***Assessing the sufficiency of IEL for the Arctic***

Because the Arctic is not the originating location of the more serious environmental protection problems faced by the region, what IEL would or does apply to environmental protection in its geographic setting now appears sufficient. Of course, IEL has been insufficient to address

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<sup>7</sup> The gradually increasing autonomy of a Greenland under Indigenous governance, the initial progress in Canada to implementation of the UN Declaration on the Rights of Indigenous Peoples, and adoption of the Sámi Convention in Finland, Norway and Sweden will be cross-cutting influences. A regime for Indigenous governance of environmental protection in the polar north can now be conceived.

<sup>8</sup> See the discussion of the AEPS in Chapter 1 at pages 46 ff.

<sup>9</sup> See the discussion in Chapter 1 at note 28 on page 38, and page 59.

exogenous problems which accrue in the Arctic, notably greenhouse gas emissions and globally transported pollutants.<sup>10</sup> The Arctic now being jurisdictionally enclosed, the combination of the law of the sea and among Arctic states of multilateral IEL treaties suggests a would-be comprehensiveness. But this is not a coherency across related subjects or common geographic settings such as shared ecosystem areas. The question of sufficiency is one about the scope (*i.e.* extent) and quality of mechanisms both to organize IEL and the rules to specifically apply. That, considered below, is a task for evaluation. Leaving aside the law's inability – more accurately, its present incapacity – to correct global problems impacting the Arctic, a question of sufficiency is two-fold: (a) if there exist features of the law which can result in bringing to bear or fashioning needed rules for the region and (b) whether such rules when applied will contribute to rules directed to global environmental phenomena.

The question therefore in appraisal of the regime or governance features emerging after Ilulissat is whether there are sufficient means to apply existing and prospective IEL to the Arctic. It appears there are. Therefore, the policy stance elected in the Ilulissat Doctrine may no longer be materially important – a barrier to ensure effectiveness organization and development of IEL – for the region. Needed coherency is a matter of organizing the law, but to some degree that that quality for the Arctic is being realized informally. The foundation of has been regional governance writ large over the past quarter century. It is not regionalism toward greater development application and secondary rule-making, of the kind discussed in Chapter 3 contended as the basis for such regional governance. Instead, it has been the basic conditions giving rise to such regional coordination of IEL that have been at work. These foundational elements, discussed in Chapter 1, may be briefly recalled. The first and arguably essential

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<sup>10</sup> As discussed in Chapter 1, there are local environmental impacts in the Arctic which would benefit from application of IEL rules and specific measures, including the problems of overfishing in the Bering Sea and pollution from land-based activities and shipping.

element has been cooperation between states. Arctic states fund, direct research resources and pursue civil society engagement for the purpose of collective engagement with each other. The consistently wide-ranging matters dealt with by the Arctic Council and the extensive work of the Council's several committees are evidence of this. The Fairbanks Scientific Cooperation Agreement is the most recent instance of what can be called confidence to cooperate. A second element consists of the standing administrative arrangements for environmental protection. It is a feature based partly on the conduct of research on environmental protection problems and which therefore yields governance priorities, e.g. in the work of CAFF and environmental protection measures identified and put forward by PAME for action by Council member states. A third element of the conditions to foster governance was the creation of a secretariat for the Arctic Council. What constancy of administration imparts on governance can be seen in the examples of creation of secretariats for the *Antarctic Treaty* and the *International Convention for the Regulation of Whaling*. A fourth element has been the willingness of Arctic states to delegate standards and regulation-making environmental protection in shipping to the IMO as a competent third party organization. This has been done for rule-making among groups of states smaller than the Arctic eight for the fisheries agreements around the periphery of the Arctic, including for the Barents and Bering Seas, the Svalbard archipelago and bilateral cooperative arrangements. The four elements are mutually reinforcing. Cooperation begets trust and therefore a commitment of states toward realizing shared or collective priorities for environmental protection. Sound administration of research engenders confidence to cooperation. The Arctic, it must be recalled, has the advantage of mutuality of interest among a relatively few number of states.<sup>11</sup>

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<sup>11</sup> This mutuality of interest has undeniably been secured, or emphasized, by an original and continuing central participation of Indigenous transnational organizations in consultative and soft policy

This would-be sufficiency of present governance of the Arctic can therefore be tested by considering how pending environmental protection matters might be addressed. One is the organization of a network of marine protected areas. The high seas fishery of the central Arctic basin is now deferred from cooperative rule-making but what of conservation across common areas in the EEZs of two or more Arctic states?<sup>12</sup> A third is the enforcement of the *Polar Code* among Arctic states, possibly by agreement for some kind of port state control to ensure compliance. These examples suggest resolution through what Arctic states have recently experienced, namely, a making when necessary of transboundary agreements, *i.e.* the Arctic Council initiated search and rescue and marine pollution response treaties.<sup>13</sup> The pattern established after Ilulissat is set to continue, the approach to environmental problems programmatic and administrative, and treaty responses only when needed subject-by-subject.<sup>14</sup> Reinforcing this status quo are, first, the apparent success of an incremental approach to rule-making and, second, the territorial perspective of states toward a jurisdictionally enclosed Arctic. The possibility of shared biodiversity management will move matter past this dynamic.

### ***Coherency of IEL in the Arctic***

A more efficient and extended organization of IEL for the Arctic, that is, the law's synthesis across related matters and collective application by states will depend on cohering features.

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governance of the region, in the setting of the Arctic Council.

Only the Baltic and Black Seas have fewer state parties to their regional seas agreements, along with the Persian Gulf setting which does not appear to enjoy the same level of cooperation.

<sup>12</sup> A present answer to this question is that Arctic states are willing to act in small groups, such as for the Bering sea fishery (the CCBSP) and by application of the precautionary principle, to agree to treaties for specific areas or certain fisheries.

<sup>13</sup> A fourth example by asking a counterpart question can be suggested: *Would environmental protection of the Arctic Ocean be more effective under a regional seas agreement?*

<sup>14</sup> As of August 2018, no new environmental protection instruments were being contemplated by the Arctic Council and no significant discussion of "regime ordering treaties" such as one along the lines of the Espoo Convention for environmental impact assessment was being pursued.



They are, broadly, qualities of how law is arrived at for environmental protection and the quality of resulting rules. By now, these cohering features are well known to us, namely the accruing consistency and organization of IEL within that body of law, the phenomenon of regionalism having sustained governance application among Arctic Council states, and the influence of the law of the sea.<sup>15</sup> The coordinated making and application of IEL rules in the Arctic setting will necessarily rely on a continuation of these features. Can they be improved for better coherency of the law? The answer depends on identifying the preferred outcome and what is meant by coherency of the law.

The desired outcome for IEL in the Arctic is easily understood. It is to ensure meaningful, collectively agreed rules – whether derived from IEL as a whole such as through the application of multilateral conventions in the region or otherwise by local rule-making – will be applied by states in pursuit of environmental protection and perhaps, ideally, in contribution to ameliorating globally experienced environmental impacts. The aspects of this are therefore shared governance toward the creation and synthesis of acceptable, properly functioning rules that are mutually reinforcing. It is a question of overcoming the fragmentation discussed in Chapter 2 through an effective administration of IEL rules (and toward would-be local or secondary rules) and a coordinated application of such rules.

What the experience of the Arctic demonstrates is that (what might be called) two great coherencies can only result at a global level. The first is the problem of IEL (in other words, the consensus of states) not yet being directed to underlying causes of globally distributed adverse environmental impacts, in other words, the consequences of greenhouse gas emissions and other atmospheric pollutants (and those transported in the oceans), and the compromise and

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<sup>15</sup> As is discussed in Chapter 1, a feature of regionalism unique and apparently successful in the Arctic is the sustained involvement and decision-contributing presence of Indigenous peoples; in the Arctic Council, by transnational organizations and in sub-national governments. See pages 81 ff.

loss of habitat, *i.e.* biodiversity. The second needed global coherency is within IEL itself, and that is better organization across its rule-sets. Regionalism offers a partial answer, but it may not be enough or politically achievable in some settings, as can be seen in the example of stalled progress toward a network of marine protected areas in the Arctic. However, there are signs that global coherency of IEL is taking form, demonstrated in the interplay between leading chemical pollutant treaties (Basel, Stockholm, and Minamata) and between the UNFCCC and biodiversity regimes. As in the Arctic, understanding what makes for effective environmental protection rules is important in the pursuit of such would-be coherency.

## **II. THE CASE TO EVALUATE IEL**

A strong rationale to evaluate what makes for effective IEL rules is evident. This branch of international law, broad-ranging and recently created (as observed in Chapter 2), continues to be remedially-directed, evolving only gradually to address restoration and conservation of global functioning of the Earth's ecosystems. A half century after IEL's extensive start and a quarter century after its principal projects were accepted by states, taking stock of what makes for successful rules is needed. The task of evaluation must begin by confronting a three-fold problem. First, what is meant by success, *i.e.* the result or output of rules for environmental governance must be understood. A rule may be successful in its design and application, but miss a desired remedial result. A second problem is IEL's horizontal scale. Environmental law as a branch of international law is exceptionally wide in the subjects it would regulate. We can only undertake assessment by controlling scale and therefore variable elements, and that suggests individual topics themselves vast in scope at global levels: biodiversity, fisheries conservation, atmospheric protection, and pollution reduction. Asking the question if the multilateral biodiversity regime centred in the CBD is successful entails subjectivity in an

answer. Moreover, at global levels we are either going forward (*i.e.* making progress) or going backwards (*i.e.* not fulfilling the intended outcome of regimes and rules to restore or advance environmental protection). The third problem is that of the vertical scale of assessing rules: How extensively can IEL rules in a particular matter, setting or regime be evaluated for their global result?

The Arctic helpfully offers a response to such problems. As noted, it is a relatively geographically discrete setting, *i.e.* physically distinct and remote from humanity as a whole, with settled IEL applying to a fewer matters in a region with a small number of states expressing commitment to environmental governance and having capacity to implement IEL's rules. These characteristics reduce the scale of what is to be evaluated when it comes to environmental protection rules. Arguably, because the Arctic is now practically within the jurisdiction of states or otherwise the purview of the International Seabed Authority, it is a better setting to evaluate IEL than Antarctica. That is because Antarctica is a quasi-global commons of arrested territorial claims by some states with historic interest in the continent and without objective human and natural resource value to those states. How states enter into and perform obligations under IEL rules is a crucial adjunct to the success of such rules we seek to examine. In contrast to the Arctic, Antarctica exhibits less of a propensity for states to apply IEL on a national basis.<sup>16</sup> An additional reason to prefer the evaluation of IEL rules in the Arctic is the distinction between locally created or existing problems of environmental governance, and exogenous adverse impacts, as noted, the transport of chemical pollutants into the region, and the effect of greenhouse gas induced climate change. Questions of the effectiveness of the global chemical

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<sup>16</sup> This helps explain the cooperation of states to the internal governance of Antarctica's environment through the collective mechanisms of rule-making in the ATS and the CCAMLR Commission. It took time and was contentious, but the recent establishment of large marine protected areas on the coast of Antarctica demonstrates this acceptance.

pollutants framework (centred on the Vienna-Basel-Stockholm-UNFCCC-Minamata instruments) defy accurate answer in the Arctic. This is not to argue that such individual regime rule-sets should not be evaluated. If regions are crucial to collective governance and have environmental problems, *i.e.* face adverse impacts, the result of IEL rules within them is worth considering, including for the contribution of their effectiveness to a global whole.

The evaluation criteria conceived in Chapter 5 are not meant to answer the question of the sufficiency of IEL as a whole, and less the adequacy of existing IEL rules meant to govern a particular geographic region. However, an inquiry into the effectiveness of individual rules is unavoidable. The substance or result of how rules perform in their application by states allows us to determine the costs of compliance, how the rules might be revised for greater effectiveness, and what related rules are missing. In other words, the process of evaluation lends coherency to an existing body of rules. In the geographic setting of a region to be subjected to collective regulation for environmental protection, this is a desirable goal. There are two reasons why: First, states have a greater stake and therefore interest in the result of collective obligations in such settings. Assessing IEL rules in such circumstances should expectedly result in greater compliance behavior among them, and possibly compliance in other settings or as a whole. Compliance is not the entire answer to achieving coherency, of course. However, a directing of the attention of states to what has been successful in a place of collective commitment to the environment is arguably a first step to what follows for continuing environmental protection governance, including identification and application of rules. A second reason to pursue evaluation of IEL rules in geographically defined settings is to lend clarity to accepted governing arrangements for IEL, that is, those things relied on for the identification and application of IEL rules, whether there is a coordinating framework (or instrument) or shared commitments of an unstructured kind.

It can be argued that evaluation of IEL rules, provided the exercise is focused on a particular rule-set, problem, regime or geographic area, is a necessary step in the pursuit of coherency. In other words, evaluating IEL rules reveals how they perform, and therefore what better implementation of them is possible. This is a kind of internal assessment and reconciliation of rules. Again, care must be taken to not overly extend the scope of evaluation, because the causal linkages between rules and their attraction to and implementation by states is at risk of becoming remote, *i.e.* intangible. The challenge of a broad rule-set to be considered can be seen in the fourth evaluation criterion; how rules synthesize across disparate terms of varying relevance to a matter to be regulated. What alleviates this problem of evaluation scope in the Arctic Ocean, as in other maritime areas, is the law of the sea and its codified general provisions found in UNCLOS. That is because the law of the sea confers a degree of required synthesis or organization of rules. This can be seen in the general precepts of cooperation and responsibility for marine scientific research in a state's EEZ. But it is particularly an obligation for programmatic regulation of the subjects in Part XII UNCLOS, including pollution prevention and port state control of shipping. Accordingly, the approach to evaluation can be constrained as one substantially – but never entirely because of the scope of the problems of biodiversity and climate change – to inquire into the function and prospects for environmental protection rules in the law of the sea, and which flow from it. The evaluation of fisheries agreements is an example. The challenge in evaluation, however, is equally that of credibly assessing the efficacy of rules as it is acquiring insight into the synthesis of such rules with others (in law of the sea terms, of relating specific rules (such as those for fisheries regulation and conservation) back to the entire whole of the law of the sea). Properly done, evaluation of environmental protection rules can be a cohering technique for the law of the sea in a particular matter or setting. The exercise should be expected to answer the question of the

extent of implementation of the law of the sea and the limits of what are general precepts – the meta-constitutional norms described in Chapter 2 – to govern creation and application of IEL rules in the marine setting.<sup>17</sup> Because the law of the sea arrives at particular rules through its qualities of normativity, subsidiarity and delegation, it is these desired features which are properly the object of assessment in particular regimes and rule-sets in addition to the specific features of such rules and rule-sets themselves.

The law of the sea's basis (or inspiration) toward a regional approach to formal (rules-directed) and informal governance of marine environmental protection serves as a point of connection for how evaluation of IEL rules in an oceans context can foster the cohering or organizational tendencies of a regional approach. When it comes to the Arctic, we cannot yet ask an ultimate question in this regard, about the performance of a regional seas agreement as a body of rules for environmental protection. But we are not far removed, in both modes of governance – the commitment and objectivity of Arctic states to regulate and in substance – from an informal IEL regime for the region.<sup>18</sup> This is the nexus of rule evaluation's contribution to the application of the law of the sea as a singular cohering mechanism on the one hand, and that of environmental regionalism on the other. To emphasize the point, the evaluation of environmental protection rules contended here is meant to address those rules, and is not an assessment of cohering trends or even norms. Not all evaluations of today's IEL rules can be expected to contribute to cohering tendencies in the two IEL-informing areas of the law of the sea and regionalism. However, the acts of critical observation and of analysis of the success of

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<sup>17</sup> See the discussion in Chapter 2 at pages 147 ff. The animating norms found in UNCLOS include cooperation, conservation, prevention of pollution, and the added obligation to protect vulnerable marine areas including semi-enclosed seas.

<sup>18</sup> "Was Ilulissat a correct choice?" is not the question. It is whether the decision to reject preservation and an organizing instrument has yielded (and can continue to yield) effective IEL rules, *i.e.* if IEL among the states of the region can sufficiently develop to meet environmental protection problems.

rules contribute to the understanding of the entirety. An example is the commitment of Arctic states to a network of marine protected areas that has been agreed in the setting of the Arctic Council. Such an act of biodiversity regulation arrived at by a regional consensus is capable of being evaluated for the success of the prevailing rules, with the slow pace of implementing such rules illustrating that regionalism presents limits which may need alternative approaches in the pursuit of specific rules. This is an abstract outcome. What evaluation promises in concrete terms is that a limited number of states in certain geographic settings in a well-established law of the sea will respond positively to a credible assessment of the attraction of IEL rules and their further systemic implementation.

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