

Oil Pollution Control Regulations in the Baltic Sea

The Effect of Institutional Interplay on Implementation of the Ecosystem Approach

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21.1 INTRODUCTION

The importance of the ocean for safeguarding a habitable Earth system is key. This means that careful management of our Earth's most valuable natural resource is central. This is a fact that has recently gained more recognition as global warming has become apparent with unprecedented extreme weather and climate events caused by climate change.¹ The importance of sustainably managing marine ecosystems is well recognised, and implemented in different policy instruments such as the United Nations Sustainable Development Goals² (the United Nations 2030 Agenda for Sustainable Development), the United Nations Convention on Biological Diversity 1992³ and the European Green Deal and the Biodiversity Strategy, aiming to halt the loss of marine biodiversity and to move towards a zero-pollution society.⁴ However, it has remained a challenge to halt the continuing degradation of marine ecosystems and to manage this global resource sustainably. Regardless of the awareness that regional regulation of the marine environment has been considered as key in addressing these challenges, and despite the long-standing efforts of institutions such as the Baltic Marine Environment Protection Commission (HELCOM), the ability to halt degradation of the marine environment at regional sea level has not been achieved.⁵ Therefore questions arise. What are the challenges facing the rule

¹ The Intergovernmental Panel on Climate Change.

² United Nations Sustainable Development Goals, SDG 14 'Life Below Water'.

³ United Nations Convention on Biological Diversity 1992.

⁴ Communication from the Commission to the European Parliament, The Council, the European Economic and Social Committee and the Committee of the Regions on a new approach for a sustainable blue economy in the EU Transforming the EU's Blue Economy for a Sustainable Future COM/2021/240.

⁵ Marine messages II; Navigating the course towards clean, healthy and productive seas through implementation of an ecosystem-based approach (2019) European Environment Agency Report 17.

of law in ecosystem-based management of marine ecosystems? Are the current legislative measures in force such that they will strengthen the rule of law central to achieving sustainability and environmental goals to safeguard the marine environment?⁶ The aim of this chapter is to consider these questions in the context of the Baltic Sea, one of the world's most regulated seas, with specific emphasis on regulation of ship source oil pollution. The first part of the chapter will briefly discuss the Baltic Sea marine environment and the concerns introduced by shipping in general. Then, consideration will be given to the current legislative framework to regulate oil pollution and the concept of the ecosystem approach in the fragmented and multi-layered legislative framework specifically at regional sea level.

The Baltic Sea is a small enclosed sea surrounded by nine nation States. Eight of these are Member States of the European Union – the Russian Federation being the exception. Anthropogenic pressures on the ecological status of the Baltic Sea are all prioritised in legislative frameworks at national, regional and European contexts as major environmental problems.⁷ There is a general trend in increasing global seaborne trade volumes, the Baltic Sea being no exception to this trend. Increasing traffic volumes will undoubtedly have an effect on the marine environment.⁸ Of the total annual tonnage of maritime transport globally, carriage of crude oil and oil products accounts for around 3,000 million tonnes.⁹ It is estimated that the number of vessels in the Baltic Sea is to double in the next twenty years, and that of oil-carrying vessels in particular, due to a predicted increase in demand for maritime oil transport. This increase will also be influenced by the European Commission introducing intermodal maritime-based logistics chains as a more sustainable and commercially efficient alternative to road-only transport ('Motorways of the Sea').¹⁰ The increase in maritime traffic volume as well as the increase in vessel sizes, added to sectoral competition for space in the already narrow and shallow Baltic Sea, will continue to challenge regulation of shipping activities and their effect on the vulnerable marine ecosystem.

Oil released from shipping into the Baltic Sea marine ecosystem occurs through intentional or negligent actions: emptying of tanks, bilge water dumping or accidents.¹¹ The International Maritime Organization (IMO) construction regulations on oil pollution have introduced vessel design features, as well as regulation for on-

⁶ IUCN World Declaration on the Environmental Rule of Law.

⁷ M. Gilek, M. Karlsson et al., *Environmental Governance of the Baltic Sea* (Berlin, Heidelberg, New York: Springer, 2016).

⁸ United Nations Conference on Trade and Development, *Review of Maritime Transport 2018*.

⁹ United Nations Conference on Trade and Development, *Review of Maritime Transport 2020*.

¹⁰ Corrigendum to Decision No 884/2004/EC of the European Parliament and of the Council of 29 April 2004 amending Decision No 1692/96/EC on Community guidelines for the development of the trans-European transport network (OJ L 167, 30 April 2004. Corrected version in OJ L 201, 7 June 2004).

¹¹ HELCOM core indicator report (HELCOM 2018).

board requirements including adequate competency of seafarers,¹² and the ‘Shipboard Oil Pollution Emergency Plan’.¹³ Measures such as the phasing-out of single-hull construction of vessels¹⁴ and ‘Goal Based Standards’ for ship construction introduced by the International Convention for the Safety of Life at Sea (SOLAS), to regulate oil tankers and bulk carriers, encouraging innovation in ship design and promoting safety,¹⁵ have been considered by some as highly successful in regulating accidental oil pollution to date.¹⁶ As one of the most recent measures at regional sea level, accidental oil pollution from shipping is also managed through the introduction of ‘Traffic Separation Schemes’ and utilisation of ‘Ship Reporting Systems’.¹⁷ These measures take into consideration the specific topographic features of the Baltic Sea, which has also been established as among the ‘Particularly Sensitive Sea Areas’ (PSSAs) by the IMO to regulate ship-source pollution. PSSAs are areas requiring special protection by action through the IMO because of their significance for recognised ecological, socio-economic or scientific attributes, where such attributes may be vulnerable to damage by international shipping activities.¹⁸ The Baltic Marine Environmental Protection Commission (HELCOM) has compiled data on fifty-two different anthropogenic pressures affecting the Baltic Sea.¹⁹ Since monitoring started, there have been 4,420 illegal oil discharges and 216 other discharges.²⁰ The HELCOM Monitoring and Assessment Strategy outlines the core indicators that form the basis for marine environmental assessment in the Baltic Sea. In relation to oil pollution, the estimated oil introduced to the Baltic Sea is considered to be an indicator threshold value of a defined reference period. Oil contamination of the marine environment has been identified as one of the large-scale environmental problems in the Baltic Sea.²¹ As the Baltic Sea marine environment is a complex adaptive system, it should be regulated as a whole, rather than having different regulatory regimes for the different components.²² This is also

¹² International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978.

¹³ MARPOL Annex I, Regulation 37.

¹⁴ MARPOL Annex I, Regulations 19 and 20.

¹⁵ The International Association of Classification Societies, *Annual Review. Celebrating 50 Years*. (2018).

¹⁶ B. Hassler, ‘Accidental versus Operational Oil Pollution in the Baltic Sea: Risk Governance and Management Strategies’ (2011) *AMBIO* 40, 170–178.

¹⁷ HELCOM. The Clean Shipping Guide 2016.

¹⁸ Resolution A.982(24), Revised Guidelines for the Identification and Designation of the Particularly Sensitive Areas. 2005.

¹⁹ HELCOM. Towards a tool for quantifying anthropogenic pressures and potential impacts on the Baltic Sea marine environment: A background document on the method, data and testing of the Baltic Sea Pressure and Impact Indices, *Balt. Sea Environ. Proc. No. 125*.

²⁰ HELCOM Map and Data service, <http://maps.helcom.fi/website/mapservice/index.html>.

²¹ O. Udovik and M. Gileck, ‘Coping with uncertainties in science-based advice informing environmental management of the Baltic Sea’ (2013) *Environmental Science & Policy* 29, 12–23.

²² F. M. Platjouw, *Environmental Law and the Ecosystem Approach: Maintaining Ecological Integrity through Consistency in Law* (Oxfordshire: Routledge, 2018).

recognised by the regional legislative measures currently in force, setting ecological targets as an objective, aiming to move away from sectoral management of the different marine ecosystem components. However, attempts to manage a large sectoral variety successfully through joint objectives has proven to be a challenge, as in order to achieve success, there must be an understanding of both ecosystem dynamics and socio-ecological interactions.²³ This understanding must be taken into consideration in environmental decision-making, and law plays a central role in interacting with socio-ecological resilience.²⁴

21.2 ECOSYSTEM APPROACH IN THE CONTEXT OF BALTIC SEA MARINE PROTECTION

Central to the legislative instruments in force in the Baltic Sea regulating the use of aquatic systems, as with many global instruments on ocean management, is the concept of the ecosystem approach. As a feature of marine environmental protection, the ecosystem approach can be considered a fairly new concept. The first explicit utilisation was in 1980 in the Convention on the Conservation of Antarctic Marine Living Resources, recognising the importance of safeguarding the environment and protecting the ecosystem integrity of the seas surrounding Antarctica.²⁵ Ecosystem Based Management (EBM) is based on agreed indicators and reference points to monitor the status of the marine environment. As stated by the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea in 2006, ecosystem-based approaches to management require integrated information and knowledge within and among ocean sectors, which generally do not sufficiently exist. The current science knowledge base hinders more informed decision-making and implementation of EBM.²⁶ In relation to management of the marine environment in the Baltic Sea, it is apparent that it is not just ecological and social complexity hindering management but also lack of scientific interdisciplinary interaction to assess the risks. The multitude of institutions and fragmented policy instruments with a mismatch between the ecological processes of the marine ecosystem and the legislative framework hinders successful management of marine

²³ H. Österblom, A. Garmark et al., 'Making the Ecosystem Approach Operational: Can Regime Shifts in Ecological- and Governance Systems Facilitate the Transition?' (2010) *Marine Policy* 34, 1290–1299.

²⁴ A. Garmestani, C. R. Allen and M. Benson, 'Can Law Foster Social-Ecological Resilience?' (2013) *Ecology and Society* 18(2), 37.

²⁵ V. De Lucia, 'Competing Narratives and Complex Genealogies: The Ecosystem Approach in International Environmental Law' (2015) *Journal of Environmental Law* 27, 91–117.

²⁶ G. Piet, F. Culhane et al., 'An Integrated Risk-Based Assessment of the North Sea to Guide Ecosystem-Based Management' (2019) *Science of the Total Environment* 654, 694–704.

ecosystems.²⁷ The ecosystem approach is also a concept that is somewhat new in law, with some uncertainty as to how such a concept may be compatible with, and incorporated into, law.²⁸ EBM has evolved through non-binding soft law principles, with the result that implementation and application lack legal clarity. This can be seen as weakening the rule of law.

The central features of the ecosystem approach discussed in this section, which take into consideration scale dependency, scientific knowledge, participation and adaptive management, will be considered in Section 21.3 in relation to the legislative instruments currently in force in the Baltic Sea. This consideration is used to determine explicit or implicit evidence of the existence of EBM.

21.3 ECOSYSTEM APPROACH IN THE BALTIC SEA

International environmental protection has been characterised as ‘regime dense’,²⁹ and marine environmental governance is no exception – it consists of complex multilevel and multi-sectoral integration.³⁰ Regulation of the marine ecosystem in the Baltic Sea may be divided into three interrelated levels, including global governance (e.g., the International Maritime Organization), regional (e.g., the EU and HELCOM) and national (e.g., port authorities).³¹ Such multilevel governance structures are considered desirable in the Baltic Sea.³² The EU legislative provisions in relation to sustainable management of the marine ecosystem use the ecosystem approach, which is key to EU environmental policy. Central to EU marine law is achieving or maintaining set quality standards, such as the concept of ‘good environmental status’ through adoption of programmes entailing regular assessments.

21.3.1 *United Nations Convention on the Law of the Sea (UNCLOS)* *and International Convention for the Prevention of Pollution from* *Ships (MARPOL)*

The United Nations has been at the heart of developing the only global treaty framework for protection of the marine environment since the Stockholm

²⁷ A. V. V. Nanda, J. Rijke, L. Beesley, B. Gersonius, M. R. Hipsey and A. Ghadouani, ‘Matching Ecosystem Functions with Adaptive Ecosystem Management: Decision Pathways to Overcome Institutional Barriers’ (2018) *Water* 10(6), 672.

²⁸ A. K. Nilsson and B. Bohman, ‘Legal Prerequisites For Ecosystem-Based Management in the Baltic Sea Area: The Example of Eutrophication’ (2015) *AMBIO* 44(Suppl 3), 370.

²⁹ O. R. Young, ‘Institutional Linkages in International Society: Polar Perspectives’ (1996) *Global Governance* 2(1), 1–24.

³⁰ M. Gilek and K. Kern (eds.), *Governing Europe’s Marine Environment. Europeanization of Regional Seas or Regionalization of EU Policies?* (Hampshire: Ashgate Publishing, 2015).

³¹ B. Hassler, ‘Accidental versus Operational Oil Spills from Shipping in the Baltic Sea: Risk Governance and Management Strategies’ (2011) *AMBIO* 40(2), 170–178.

³² Gilek and Karlsson, *Environmental Governance of the Baltic Sea* (n 7).

Conference on the Human Environment in 1972.³³ The United Nations Convention on the Law of the Sea of 1982 (UNCLOS), which came into force in 1994 with the objective of codifying pre-existing treaties and conventions, may be considered the ‘constitution for the oceans’,³⁴ providing an authoritative framework for regulation of marine affairs.³⁵ UNCLOS is in force in the whole of the Baltic Sea, and all of the Baltic Sea States as well as the EU are parties to the Convention. The relevance of maritime zones for the Baltic Sea is that all of the sea areas are defined as ‘territorial’ or ‘exclusive economic zones’ of the coastal States that have jurisdiction over regulation and enforcement – there are no ‘high seas’ in the Baltic Sea. UNCLOS also stipulates that the ‘flag State’ has the main responsibility for ships flying their flag. In addition to regulating at global scale, UNCLOS gives specific consideration to regional seas, such as recognition and allocation of ‘Special Areas’ and ‘Special Sensitive Sea Areas’. EBM of the oceans is to be implemented holistically as stated in the preamble to the UNCLOS, ‘Conscious that the problems of ocean space are closely interrelated and need to be considered as a whole’. According to Article 197 State parties to the Convention must co-operate both globally as well as regionally when necessary, directly or through a competent international organisation to protect and preserve the marine environment. However, the maritime zones set by the Convention do not take into consideration maritime ecosystem boundaries.

The International Maritime Organisation (IMO), established by the Convention on the International Maritime Organisation of 1948, has been central to negotiation of the key legislative measures regulating all sources of shipborne pollutants. Regulating specifically shipping-induced oil pollution by introduction of technical standards is the International Convention on the Prevention of Pollution from Ships 1973 (MARPOL 73/78) as amended in 1978, coming into force in 1983 with the aim of regulating marine pollution caused by operational activities and accidents. Regulation of shipborne pollution in general differs from other sources of marine environmental pollution due to the IMO being the central regulator in this field of activity. Ecosystem-based management has been incorporated into MARPOL – it establishes ‘Particularly Sensitive Sea Areas’ based on ecological and socio-economic importance. In relation to institutional interaction within the legislative framework, it is noteworthy that IMO legislative measures have at times been influenced by and negotiated as a response to EU measures.³⁶ In relation to vertical

³³ R. Rayfuse (ed.), *Research Handbook on International Marine Environmental Law* (Cheltenham: Edward Elgar Publishing, 2017).

³⁴ R. Churchill, ‘The LOSC Regime for the Protection of the Marine Environment: Fit for the Twenty-First Century?’ In R. Rayfuse (ed.), *Research Handbook on International Marine Environmental Law* (3–30) (Cheltenham: Edward Elgar Publishing, 2017).

³⁵ H. Ringbom, ‘Regulation of Ship-Source Pollution in the Baltic Sea’ (2018) *Marine Policy* 98, 246–254.

³⁶ H. Ringbom and M. Joas, ‘Concluding Article: The Changing Regulatory Landscape of the Baltic Sea – An Analysis’ (2018) *Marine Policy* 98, 317–324.

fragmentation and governance of ship-source oil pollution, the UNCLOS 1982 and MARPOL 73/78 have been incorporated into regional seas conventions such as the Helsinki Commission (HELCOM), and into the national legislatures of the Baltic Sea nation States.³⁷ However, it is noteworthy that the EU has developed instruments regarding shipping control due to general dissatisfaction with the IMO regulations and the apparently weak connection to national maritime administrators, leading to broadly discretionary practices.

21.3.2 *The Convention on the Protection of the Marine Environment of the Baltic Sea Area 1992 and the HELCOM Baltic Sea Action Plan*

The Convention on the Protection of the Marine Environment of the Baltic Sea Area 1992 (the Helsinki Convention) came into force on 17 January 2000. With ten Contracting Parties, including all of the Baltic Sea States and the EU, it applies to the Baltic Sea only.³⁸ A key area in the work of HELCOM is addressing sea-based pollution sources.³⁹ Every ship entering the Baltic Sea is ‘urged’ to comply with the anti-pollution regulations of HELCOM, irrespective of the flag State or being a party to the Convention.⁴⁰ The convention text refers to MARPOL provisions but also includes specific shipborne pollution regulations, and is amended when necessary to take into consideration developments in international law (last amended 1 July 2014⁴¹). HELCOM also acts as the coordination platform regarding implementation of the Directive 2008/56/EC of the Parliament and of the Council of 17 June 2008 establishing a framework of community action in the field of marine environmental policy (Marine Strategy Framework Directive, MSFD), and the programme of measures under the Directive contributes directly to implementation of HELCOM agreements. The Contracting Parties also agreed in 2017 to use HELCOM as the coordinating platform for regional implementation of the UN Sustainable Development Goals related to the oceans. Assessment of the status of the environment, in terms of pressures as well as ecosystem components, is based on HELCOM core indicators, each of which have a set threshold value against which the current status is assessed – on an ‘achieved or ‘failed’ basis. HELCOM also introduces Recommendations, of which there are to date over 260.⁴² These usually reinforce international obligations with more detail in relation to implementation in

³⁷ M. Elliot, ‘Integrated Marine Science and Management: Wading through the Morass’ (2014) *Marine Pollution Bulletin*, 86(1–2), 1–4.

³⁸ Convention on the Protection of the Marine Environment of the Baltic Sea Area 1992. Art. 2.

³⁹ HELCOM Assessment on maritime activities in the Baltic Sea 2018.

Baltic Sea Environment Proceedings No.152. Helsinki Commission, 253pp.

⁴⁰ HELCOM, *The Clean Shipping Guide* 2016.

⁴¹ In accordance with HELCOM Recommendation 34E/3, Annex VII ‘Response to Pollution Incidents’ is amended with substantial changes to Regulation 1 (1), Regulation 2, Regulation 8 (1a), Regulation 10 (1a, 1b, 1c, 2 and 3) to explicitly include response on the shore.

⁴² HELCOM.

the Baltic Sea.⁴³ Deployment of EBM is stated in the preamble: ‘Acknowledging, that the ecosystem approach is based on an integrated management of all human activities impacting on the marine environment and, based on best available scientific knowledge about the ecosystem and its dynamics, identifies and leads to actions improving the health of the marine ecosystem thus supporting sustainable use of ecosystem goods and services’.

The Baltic Sea Action Plan (BSAP), guiding the policy actions of HELCOM, was adopted in 2007. Its aim is restoration of good ecological status of the Baltic Sea marine ecosystem by 2021, by introducing innovative management approaches into policy implementation – including that of the ecosystem approach, and supporting the contracting States in fulfilling their national, European and international obligations. The BSAP refers to the ecosystem approach, integrated management, stakeholder participation and understanding interactions between social and ecological systems.⁴⁴ It has the specific goals of achieving a Baltic Sea unaffected by eutrophication, undisturbed by hazardous substances, having environmentally friendly maritime activities and favourable status of biodiversity. The BSAP also has detailed provisions for shipping activities. In relation to oil pollution of the marine environment from shipping, the objective is to stop illegal spills. Implementation of the HELCOM Recommendations is reported regularly, most recently being ‘Implementation of the Baltic Sea Action Plan 2018: Three years left to reach good environmental status’. The ecological objectives of the Action Plan, and that of reaching favourable conservation status of Baltic Sea biodiversity, a holistic controlling element, can only be achieved by taking into consideration all of the human activities affecting the Baltic Sea marine ecosystem. The Helsinki Convention has been seen as a catalyst for the MSFD,⁴⁵ discussed in more detail in Section 21.3.3.

21.3.3 *Marine Strategy Framework Directive*

The Marine Strategy Framework Directive, a goal-oriented legislative tool implementing EBM at regional sea level, was adopted in 2008 with the main objective of achieving ‘good environmental status’ of EU marine waters by 2020. Included in the Directive are eleven qualitative descriptors in Annex I, which will aid the Member States in their interpretation of what the term ‘good environmental status’ entails. Key in achieving good environmental status is the regulatory objective to protect marine biodiversity by establishing European marine regions and sub-regions. The Directive lists the pressures related to human activities on the marine environment,

⁴³ HELCOM, Implementation of the Baltic Sea Action Plan 2018.

⁴⁴ M. Boström, S. Grönholm and B. Hassler, The Ecosystem Approach to Management in Baltic Sea Governance: Towards Increased Reflexivity? In Gilek and Karlsson, *Environmental Governance of the Baltic Sea* (n 7).

⁴⁵ Österblom et al. (n 23).

and is implemented in conjunction with detailed criteria and methodological standards, which guide the Member States in implementation,⁴⁶ using existing regional institutional structures in doing so. Each Member State is to develop a strategy specific to its own marine waters, also reflecting the overall perspective of the marine region or sub-region concerned (Article 11). The Directive thus also places importance on the BSAP as an already existing provision. The MSFD emphasises the importance of addressing all the human actions that have an impact on the marine ecosystem in order to succeed in conservation and sustainable use. The EBM is explicitly mentioned as a means of attaining the goals of the MSFD, in support of the priority to conserve ecosystem structure and function as well as resilience. The MSFD requires application of the ecosystem approach in the marine strategies of the Member States, and thus makes it a legally binding principle in the management of marine ecosystems.⁴⁷ The MSFD is a regulatory tool, which transitions marine governance from the national and supranational arenas towards the transnational arena of the regional seas,⁴⁸ emphasising cross-border and cross-sectoral integration. It aims to regulate the whole of the marine environment rather than just activities taking place in the Baltic Sea and introduces the concepts of 'marine region' and 'regional co-operation'. The Directive creates an obligation to fulfil the requirements of certain international agreements and commitments related to protection of the marine environment from pollution such as the Convention on the Protection of the Marine Environment of the Baltic Sea Area.⁴⁹ To aid in uniform implementation of the Directive, the Commission passed a Commission Decision laying down criteria and methodological standards on good environmental status of marine waters and specifications and standardised methods for monitoring and assessment.⁵⁰ This was based on the need for a clearer, more coherent and comparable set of good environmental status criteria and methodological standards, which became apparent after the first implementation cycle. As to implementation of the MSFD and the BSAP, this is addressed in parallel,⁵¹ and due to the complementarities between these two, the BSAP was seen as a pilot providing

⁴⁶ Commission Decision (EU) 2017/848 of 17 May 2017 laying down criteria and methodological standards on good environmental status of marine waters and specifications and standardised methods for monitoring and assessment, and repealing Decision 2010/477/EU.

⁴⁷ Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC) COM(2020) 259 final.

⁴⁸ J. Tatenhove, 'How to Turn the Tide: Developing Legitimate Marine Governance Arrangements at the Level of the Regional Seas' (2013) *Ocean & Coastal Management* 71, 296–304.

⁴⁹ Approved by Council Decision 94/157/EC.

⁵⁰ (EU) 2017/848 of 17 May 2017.

⁵¹ H. Backer, J. M. Leppänen, et al., 'Helcom Baltic Sea Action Plan – A Regional Programme of Measures for the Marine Environment Based on the Ecosystem Approach' (2010) *Marine Pollution Bulletin* 60(5), 642–649.

the experience on which to build the MSFD.⁵² The MSFD may be considered key in the EU delivering on its global commitments on marine environment protection.⁵³

21.4 INSTITUTIONAL INTERPLAY AND THE ECOSYSTEM APPROACH

As discussed previously, the ecosystem approach in marine policy was initiated at global level and further adopted in marine ecosystem regulation by the UN Law of the Sea, as well as the EU in its marine policy and regionally by HELCOM through its Baltic Sea Action Plan. This adaptation has been influenced by institutional interaction between regimes. Successful implementation of EBM in achieving the objective of reducing concentrations of hazardous substances close to natural levels by keeping to a minimum the release of oil into the marine environment in accordance with the Baltic Sea Action Plan and the Marine Strategy Framework Directive⁵⁴ is dependent on integrating this concept in policies, and linking regional governance to a global framework.⁵⁵ It is also of importance to consider the interlocking structure of international governance institutions and EU legislative instruments.⁵⁶ As the legislative instruments discussed previously do not function in a vacuum, the success of multilevel arrangements is influenced by horizontal and vertical interplay, as well as integration of non-member States of the EU.⁵⁷ Therefore, it is also of importance to consider the influence of one institution on another in the Baltic Sea. Institutional interaction may create synergy, or it may undermine or disturb the effectiveness of policies.⁵⁸ Resultant links between institutions may generate consequences that are benign, such as regional regimes, which gain strength from being nested into global regimes. Such interaction between regional and global institutions in relation to shipping governance in particular may be essential but has not received enough attention in academic discussion.⁵⁹

⁵² S. Gänzle, 'The European Union's Strategy for the Baltic Sea Region (EUSBSR): Improving Multilevel Governance in Baltic Sea Cooperation?' (2017) *Journal of Baltic Studies* 48(4), 407–420.

⁵³ Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC) COM/2020/259.

⁵⁴ 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.

⁵⁵ B. Hassler, 'Oil Spills from Shipping: A Case Study of the Governance of Accidental Hazards and Intentional Pollution in the Baltic Sea.' In Gilek and Karlsson, *Environmental Governance of the Baltic Sea* (n 7), 125–146.

⁵⁶ S. Oberthur and T. Gehring, *Institutional Interaction in Global Environmental Governance Synergy and Conflict among International and EU Policies* (Cambridge: Cambridge University Press, 2006).

⁵⁷ Gilek and Kern (n 30).

⁵⁸ Oberthur and Gehring (n 56).

⁵⁹ O. Stokke 'Regime Interplay in Arctic Shipping Governance: Explaining Regional Niche Selection' (2013) *International Environmental Agreements: Politics, Law and Economics* 13(1), 65–85.

Thus, in order to appreciate the conditions required for legitimate and integrated marine governance arrangements in the Baltic Sea, a key to understanding is the multi-level dynamics of marine governance, the institutional setting where these policies are developed and implemented, and interaction between institutions.⁶⁰

Institutional interplay has been recognised as an important feature of global environmental governance since 1998,⁶¹ and the effectiveness of a specific institution is a culmination of its own features as well as its interaction with other institutions.⁶² International regimes and organisations, as well as the EU, may be considered institutions that involve States as the main actors addressing issues in specific areas.⁶³ The term 'institution' may be defined to include international regimes and organisations as well as EU legislative instruments. Institutional interplay may be defined as one institution affecting the contents, operations and consequences of another.⁶⁴ It refers to a causal relationship between two institutions where the 'source' institution exerts influence on the 'target' institution,⁶⁵ affecting its development or performance. Institutional interplay may also cluster around certain issues and institutions jointly addressing a particular problem, as is the case with oil pollution control, contributing to the effectiveness of governance in that specific area.⁶⁶ Institutional interplay may take the form of horizontal or vertical interplay, where the former is interplay between institutions at the same level of governance, and the latter concerning the interaction between global and regional institutions. In considering the institutional interplay of the regimes, the conceptual framework developed by Oberthür and Gehring, where there is no implication that influence runs back and forth between institutions, but where the causal influence implies that influence runs unidirectionally from the source to the target, is deployed.⁶⁷ Thus, in order to establish a causal relationship there must be a source institution and its rules establishing influence, a target institution and a specific issue area subject to the influence of the source institution, as well as unidirectional causal pathways connecting the institutions.⁶⁸ Interplay through cognition, as one of the three forms of interplay identified by Oberthür and Gehring, is a transfer of knowledge and ideas taking place in the agenda-setting phase and during implementation from one institution to the other. In the case of more complex interplay through cognition, joint learning and development of converging policies in the

⁶⁰ Tatenhove (n 48) 296–304.

⁶¹ O. R. Young, *Institutional Dimension of Global Environmental Change Science Plan*, Public Administration and Public Policy, Vol. II, No. 9, 16 (Bonn: IHDP Report, 1999/2005).

⁶² S. Oberthür and O. Stokke, *Managing Institutional Complexity: Regime Interplay and Global Environmental Change* (Cambridge: MIT Press, 2011).

⁶³ *Ibid.*

⁶⁴ *Ibid.*, 144.

⁶⁵ *Ibid.*

⁶⁶ *Ibid.*

⁶⁷ *Ibid.*, 229.

⁶⁸ *Ibid.*, 228.

different institutions may result. The second type of interplay is through commitment, where one institution affects the decision making of another by normative commitments. In overlapping issue areas commitments of one institution will result in a change of preference in the other, leading to different outputs. This is a type specifically relevant to nested institutions such as the IMO and the EU, interdependent in regulating environmental aspects of shipping. The EU may not have formal control of the IMO but may influence it due to overlapping regulations and compliance procedures in place. Finally, interplay through compliance is present in the implementation phase, when institutions have overlapping issue areas, and where the output of one institution effects a behavioural change further altering implementation and resulting in behavioural change in another institution. If an additional means of implementation is activated by diffusion of an obligation between institutions with similar identical objectives, this will increase the effectiveness of both institutions involved. Institutional interplay also has an effect on implementation of the ecosystem approach to management in the Baltic Sea.

Regarding the ecosystem approach in marine management, cognitive interplay was initiated at international level as discussed previously and evolvement of which is evident between the MSFD and the HELCOM BSAP, as the MSFD was based on knowledge contained in the BSAP. Cognitive interaction is also clear between the EU and the HELCOM BSAP in relation to the MSFD,⁶⁹ the MSFD being influenced by the HELCOM BSAP, and based on its existing knowledge. The MSFD is clear on the requirement of ecosystem-based management. The difference in learning between organisations may have an effect on how a concept such as the ecosystem approach to management may form during the process.⁷⁰ Interaction through commitment plays an important role within nested institutions such as the IMO and the EU as a commitment within one affects the decision making process in the other.⁷¹ In the Baltic Sea the ecosystem approach has generated synergies due to transforming the non-binding recommendations of HELCOM into EU law through the MSFD. Institutional interaction through compliance in relation to the IMO and the EU manifests in binding standards⁷² and their enforcement mechanisms,⁷³ by implementation of IMO obligations into EU law, creating synergies. For shipping regulation, interplay through compliance of IMO regulations and

⁶⁹ Tatenhove (n 48) 296–304.

⁷⁰ K. Kern, 'Governance for Sustainable Development in the Baltic Sea Region' (2011) *Journal of Baltic Studies* 42(1), 21–35.

⁷¹ J. van Leeuwen and K. Kern, 'The External Dimension of European Union Marine Governance: Institutional Interplay between the EU and the International Maritime Organization' (2013) *Global Environmental Politics* 13(1), 69–87.

⁷² European Parliament legislative resolution of 13 March 2010 on the proposal for a directive of the European Parliament and of the Council on port reception facilities for the delivery of waste from ships, repealing Directive 2000/59/EC and amending Directive 2009/16/EC and Directive 2010/65/EU.

⁷³ Port State Control Directive (2009/16/EC).

the EU is of utmost importance. The institutional interplay between the IMO and the EU has been affected by recognition of the pressing need to protect the Baltic Sea with more urgent measures than IMO procedures may accommodate, and different EU initiatives have led to more stringent shipping standards. In addition, unilateral EU initiatives have influenced formation of decentralised institutional complexes as part of institutional interplay management. The institutional interplay between the HELCOM BSAP and the EU Strategy for the Baltic Sea Region (EUSBSR) can be seen from the aforementioned strategy's BSAP implementation recommendation. Thus, it may be argued that the distinctive institutional features present in the Baltic Sea make regional marine governance particularly suited to conducting knowledge-building and capacity-enhancement in the international governance system for shipping. This may be considered a regime 'niche' that a regime can specialise in within a larger institutional complex.⁷⁴

21.5 REFLECTIONS AND SUGGESTIONS FOR IMPROVEMENT

International legislative measures have been considered traditionally as the most efficient in regulating global sectors such as shipping. The current legislative measures in force regulating marine ecosystems have introduced a more holistic management approach, moving away from a top-down sectoral approach with the aim of managing the marine ecosystem as a whole. Fragmented management at regional sea level, with different sectors having their own independent and different governance arrangements, may have hindered successful implementation of the ecosystem approach into legislative measures safeguarding marine ecosystems. Therefore, it is the development of institutional interlinkages between polycentric governance arrangements that may facilitate common policy objectives, decision-making and implementation of sectoral measures in support of the ecosystem approach. In relation to ship source pollution, the core problem with the IMO has been considered to be its weak connection to national maritime administrators, leading to broadly discretionary practices.⁷⁵ In shipping, regionalisation may enable dynamic interplay and synergies between the IMO and EU shipping regulations: and it is this synergy that can be described as complementary with each other.⁷⁶ The use of 'soft' modes of governance has become central in the globally centralised regulation of ship-source oil pollution, which leaves practical implementation and enforcement to the individual States. This as such may weaken the rule of law. However, use of these modes is of specific importance in a polycentric governance system as a tool for steering policy implementation by introduction of innovative

⁷⁴ Stokke (n 59) 65–85.

⁷⁵ O. F. Knudsen and B. Hassler, 'IMO Legislation and Its Implementation: Accident Risk, Vessel Deficiencies and National Administrative Practices' *Marine Policy* (2011) 35(2), 201–207.

⁷⁶ Kern (n 70).

practices, learning and co-ordination. The role of non-governmental organisations (NGOs) and port authorities in regulating oil pollution may be considered key, as well as stakeholder-inclusive collaborative learning platforms at the regional (or sub-basin) level, with a clear mandate and aim of spatially relevant dynamics.⁷⁷ Key to management of the Baltic Sea marine ecosystem is institutional interaction, reinforcing international and European governance by activating an additional layer of enforcement by the actors involved to realise their desired objectives.⁷⁸ Thus, success in implementing EBM in the Baltic Sea is influenced by the involvement of stakeholders, as this may help inconsistencies in implementation of legislative measures by way of bottom-up initiatives in the existing framework created by 'top-down' enabling legislation. The often-wide discretion of implementing EBM may well benefit from regional regulation and soft law instruments. Therefore, regional regulation in the Baltic Sea may be utilised as an implementation tool bringing added value through local implementation;⁷⁹ in this the EU occupies a central role, which is also apparent from the institutional synergies present. It is these synergies, which may be described as complementary to each other, that have the potential to fill possible regulatory gaps.⁸⁰ Regional institutions may be seen as having a key role in strengthening international regulation of oil pollution based on IMO regulations. Regional regulation of this global environmental threat may also be central to strengthening the rule of law by enabling enactment and implementation of enforceable and effective legislative measures.

⁷⁷ Österblom et al. (n 23).

⁷⁸ Oberthur and Stokke (n 62).

⁷⁹ Gilek and Kern (n 30).

⁸⁰ T. Hickmann, H. Van Asselt, S. Oberthur, L. Sanderink, O. Widerberg and F. Zelli, Institutional Interlinkages. In F. Biermann and R. Kim (eds.), *Architectures of Earth System Governance: Institutional Complexity and Structural Transformation* (119–136) (Cambridge: Cambridge University Press, 2020).