

Nengye Liu, Cassandra M. Brooks and Tianbao Qin (eds), *Governing Marine Living Resources in the Polar Regions* (Edward Elgar Publishing, Cheltenham), 2019, ISBN: 978 1 78897 742 5, hardbound, £90.00, xxi + 244 pp.

This edited volume on the governance of marine living resources in the polar regions brings together a significant number of scholarly articles by an excellent mix of leading and established researchers and practitioners, as well as promising early-career academics. The research is very timely indeed, as evidence of the impacts of anthropogenic climate change on the polar regions has become both widespread and alarming. Some of these impacts are clear and undisputed, such as the recession and thinning of sea ice and the poleward shifts in the distribution of fish species. However, the extent and implications of other potential impacts, for instance ocean acidification, are still quite uncertain at this stage and warrant further research.

These changes are occurring amidst adjustments in the global geopolitical order and efforts to strengthen regional and global regimes relating to international fisheries law in particular and the international law of the sea in general. Prominent among these efforts are the currently ongoing negotiations on a new Implementing Agreement to the United Nations Convention on the Law of the Sea (LOSC) relating to the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction (BBNJ Implementing Agreement). Linkages between the BBNJ negotiations and recent and current developments within regional polar regimes exist in particular in relation to marine protected areas (MPAs), bioprospecting for marine genetic resources, and assertions by coastal States of special roles, interests or rights in areas beyond national jurisdiction (i.e., the high seas and the Area) adjacent to their maritime zones. These linkages imply that progress in the BBNJ negotiations, as well as in polar regimes, is often hampered due to fears that concessions in one arena will create precedent-setting effects in other arenas; as also noted by Cassandra M. Brooks in Chapter 4 of this book.

The book consists of three Parts: Parts I and II deal with Antarctica and the Arctic respectively, and Part III is devoted to future challenges and prospects. The Antarctic part contains four chapters, all of which address different aspects of the 1980 Convention on the Conservation of Antarctic Marine Living Resources (CAMLR Convention) and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) established by it. Chapter 2 examines the nature of the CAMLR Convention and the qualification of CCAMLR, Chapter 3 the implementation of CCAMLR's conservation measures, Chapter 4 CCAMLR's ongoing challenges in adopting MPAs, and Chapter 5 decision-making within CCAMLR.

Chapter 2 – co-authored by Tony Press, Indi Hodgson-Johnston and Andrew Constable – contains a strong and in-depth analysis of the CAMLR Convention and CCAMLR in order to substantiate the argument that they are fundamentally different from regional fisheries management organisations (RFMOs) and their constitutive instruments. Account is taken in particular of the origins of the CAMLR Convention within the Antarctic Treaty System (ATS); the unique conservation objective of the Convention; the ecosystem and precautionary approaches to fisheries management pursued by CCAMLR; the ability for non-fishing (or non-user) States to accede to the CAMLR Convention and become members of CCAMLR; and the linkages between the CAMLR Convention and the Antarctic Treaty and other instruments and bodies of the ATS.

As the authors note, their arguments do not just have academic significance, but are directly related to other positions taken on these issues, in particular by China and Russia. It is submitted that, since it became a member of CCAMLR in 2007, China has gradually become more assertive in exercising its explicit right to block consensus in CCAMLR and its implicit right to interpret the provisions of the CAMLR Convention, in particular the relationship between conservation and rational use in Article 11. While the latter right is a prerogative of every sovereign State, China may take the view that it is particularly entitled to exercise this right on account of its non-participation in the negotiation of the CAMLR Convention, as this occurred between 1977 and 1980, during a period in which China was temporarily unable to perform its long-standing historic role as one of the main global powers. China may also have similar arguments in relation to the international law of the sea in general, or even international law as such.

In Chapters 4 and 12, Brooks and Nengye Liu also highlight the linkages between China's position and performance on fishing in CCAMLR, its ambitions on expanding high seas fishing – as, *inter alia*, reflected in its 13th Five-Year Plan on Distant Water Fishing (2016–2020) – and the indefinite moratorium on mining enshrined in Article 7 of the 1991 Environmental Protocol to the Antarctic Treaty. Even though the requirements for modifying or amending that moratorium as laid down in Article 25(5) of the Protocol create a very high threshold, some recent actions by China have been interpreted as questioning the need and appropriateness of the moratorium. At the 40th (2017) Antarctic Treaty Consultative Meeting (ATCM) held in Beijing, for instance, the host country initiated a special meeting, entitled 'Our Antarctica: Protection and Utilization', after the opening of the ATCM, even though it was not part of the formal ATCM agenda. Also noteworthy are the consistent use of 'protection' alongside 'utilization' in the opening speech by Mr Zhang Gaoli, Vice Premier of the State Council of China, as well as its title – 'Uphold the Principles of

the Antarctic Treaty and Seek Sustainable Development of Mankind' – and the suggestion that the proposed axiom 'all good principles should adapt to changing times' is (also) appropriate for the ATS. Conversely, the pertinence of the well-known proverb 'actions speak louder than words' would be difficult to question in light of China's astounding and overwhelming efforts, determination and long-term vision and strategy to ensure control of and access to resources across the globe, as exemplified by its worldwide and multi-faceted Belt and Road Initiative.

Chapter 3 by Keith Reid focuses in particular on the implications of the 'Olympic fishery' used by CCAMLR to avoid over-exploitation in the fishery for Antarctic krill (*Euphausia superba*). An Olympic fishery is an alternative to managing a fishery by means of dividing the total allowable catch (TAC) among participants in the fishery, for instance by means of individual allocations of fishing opportunities (catch quotas) or fishing effort (effort quotas). It consists of the fishery's commencement on a given date and time, subsequent regular reporting of the catch, and the fishery's closure once the TAC has been reached or is about to be reached. As pointed out by Reid, Olympic fisheries have been phased out in many parts of the world, mainly because of their economic inefficiency. It is also worth noting that Olympic fisheries commonly have (very) low fuel-use intensity (i.e., the quantity of fuel used per quantity of fish landed) and therefore also deserve reconsideration in the context of the need to take climate change mitigation measures. Olympic fishing is nevertheless expected to be used by CCAMLR for the foreseeable future, as catch and effort quotas raise concerns related to the unresolved question of territorial sovereignty over Antarctica. Reid provides valuable information on and insights into the way in which CCAMLR manages the Olympic fishery for Antarctic krill, including with respect to monitoring, prior notification and reporting. In closing, he reflects on the need for possible adjustments in light of future developments, for instance higher catch rates in the krill fishery.

Chapter 4 by Brooks examines CCAMLR's efforts and progress on establishing MPAs. She focuses in particular on the time period between the 2012 and 2015 Annual CCAMLR Meetings, using a total of 40 semi-structured interviews conducted during the 2014 Annual CCAMLR Meeting. From these interviews, Brooks distilled various barriers to progress on MPA proposals: procedural issues (i.e., lack of transparency and clarity); economic tradeoffs; internal issues (namely, diverging views on CCAMLR's objective and qualification applied to MPAs); and external issues (e.g., geopolitics). Her summary and analysis of these issues is extremely insightful.

Chapter 5 by Nils Vanstappen examines the linkages between procedural legitimacy and compliance in CCAMLR, focusing specifically on inclusive (in

terms of participation) and evidence-based decision-making. The issue of legitimacy has been of key importance to the ATS, as several non-parties to the Antarctic Treaty questioned the legitimacy of the ATS during the 1980s. At the outset, Vanstappen qualifies CCAMLR as 'more than an RFMO', which implies that the analysis of the rules and practices of CCAMLR must also take account of the minimum standards laid down in international fisheries law, in particular the 1995 Fish Stocks Agreement. As regards participation, the analysis covers the rules on accession and membership in the CAMLR Convention (but not the practice so far), the policies for engaging with non-parties, and the participation by non-governmental organisations and inter-governmental organisations. As regards evidence-based decision-making, the analysis focuses on the independence of the Scientific Committee, covering the status of members, funding, agenda-setting and its relationship with the Scientific Committee on Antarctic Research (SCAR). Based on these analyses, Vanstappen concludes that CCAMLR's decision-making is relatively legitimate and has contributed to its overall success, including regarding compliance.

Part II on the Arctic contains three chapters on distinct fisheries issues, namely, fisheries in the high seas of the central Arctic Ocean, Russia and Arctic fisheries, and fisheries in the maritime zones of Svalbard.

Chapter 6 by David VanderZwaag first provides a concise analysis of the outcomes of the two-stage negotiations on high seas fishing in the central Arctic Ocean: the 2015 Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean adopted by the five central Arctic Ocean coastal States (the Arctic Five), and the 2018 Central Arctic Ocean Fisheries (CAOF) Agreement, adopted by the Arctic Five together with China, the European Union (EU), Iceland, Japan and South Korea. The second part of the chapter looks at five key uncertainties related to the CAOF Agreement: its implementation; compatibility of coastal State fisheries conservation measures; determination of extended continental shelf boundaries and corresponding coastal State rights over sedentary species in the Arctic; the future of research and scientific coordination; and the implications of the BBNJ Implementing Agreement. On each of these, VanderZwaag raises highly pertinent questions.

Chapter 7 by Alexander Sergunin analyses Russia's present Arctic fisheries management policies relating to the national, bilateral and multilateral levels. It begins with an informative overview of Russia's fisheries laws, regulations and governmental institutions. Specific attention is devoted to Russia's implementation of the precautionary approach to fisheries, its position on its exclusive rights over marine resources in its maritime zones, as well as MPAs established therein. As regards bilateral cooperation, the Chapter relates to

Norway, Greenland and the United States. Of these three, cooperation with Norway is by far the most important and occurs predominantly through the Joint Norwegian Russian Fisheries Commission. Sergunin notes the overall success of that cooperation, despite disagreements on the application of the 1920 Spitsbergen Treaty to the Fisheries Protection Zone established by Norway around Svalbard, as well as on the appropriate response to illegal, unreported and unregulated (IUU) fishing in the Barents Sea. As regards multilateral cooperation, Sergunin examines RFMOs and other bodies with geographical competence in the marine Arctic and attempts to combat IUU fishing in the various high seas enclaves in the marine Arctic, including the 2018 CAOFA Agreement. Sergunin concludes with various broader reflections, including on the fragmented nature of international Arctic fisheries law.

Chapter 8 – co-authored by Sandra Cassotta and Rachel Tiller – deals with various fisheries issues relating to the 1920 Spitsbergen Treaty, the positions of Norway and other contracting parties on the geographical scope of application of the Treaty, and Norwegian practice, in particular on the Fisheries Protection Zone around Svalbard.

Part III on Future Challenges and Prospects consists of four chapters. The first two chapters deal with two new and emerging issues in the Antarctic, namely, autonomous underwater vehicles (AUVs) and unmanned aerial vehicles (UAVs), and bioprospecting. The third deals with the settlement of fisheries disputes, and the fourth is the volume's concluding chapter.

Chapter 9 by David Leary examines the opportunities and challenges with AUVs and UAVs in Antarctica. These underwater and aerial vehicles are currently used in Antarctica for a wide range of scientific purposes, and potentially can be used for fishery surveys as well. UAVs used for tourism purposes during the 2014/15 and 2015/16 tourist seasons led the International Association of Antarctica Tour Operators (IAATO) to adopt a voluntary moratorium on their use for its members. As part of his analysis of the relevance of applicable international law, Leary concludes that the LOSC – in particular its provisions on marine scientific research – have limited relevance for the Antarctic continent, due to the absence of undisputed coastal States. In light of the potential impacts of AUVs and UAVs on the environment – in particular interference with animals – and on human safety, Leary examines the relevance of the various components of the ATS, and provides an overview of recent actions by the ATCM on UAVs. At the end of his thorough and fascinating analysis, he highlights the need for further research on the potential impacts of AUVs and UAVs in Antarctica.

Chapter 10 – co-authored by Ana Flávia Barros-Platiau, Carina Costa de Oliveira, Gabriela G.B. Lima Moraes and Pierre Mazzega – deals with

bioprospecting in Antarctica. It examines currently ongoing bioprospecting and patenting activities in Antarctica and the absence of a regulatory response from the ATCM. This is caused by the fact that reaching consensus is difficult due to the diverging views and (commercial) interests of Antarctic Treaty Consultative Parties, among other things in light of the complex relationship and interaction between the various components of the ATS on the one hand, and various global instruments such as the LOSC and the ongoing BBNJ negotiations on the other hand.

Chapter 11 by Valentin J. Schatz focuses on the settlement of fisheries disputes relating to the high seas in the Arctic and Antarctica. After identifying its geographical scope, applicable global and regional instruments, and the substantive scope of conservation and management measures, Schatz provides a concise but sound overview of inter-State dispute settlement, the dispute settlement mechanisms included in the LOSC and the Fish Stocks Agreement and their applicability to key Arctic and Antarctic actors. The core of the Chapter offers an in-depth analysis of the dispute settlement mechanisms incorporated in the Antarctic Treaty, the CAMLR Convention and the constitutive instruments of those RFMOs whose geographical mandate extends to the high seas of the Arctic. He ends with well-argued conclusions on the development of compulsory dispute settlement.

Chapter 12, co-authored by two of the editors, Liu and Brooks, is devoted to the future of governing marine living resources in the polar regions. After a presentation of the main findings of the book, it offers a future outlook in relation to the threats and opportunities posed by three scenarios: technological development; climate change; and rising powers.

There is no doubt that this edited volume succeeds in its objective of providing a broad range of readers with a sound and solid assessment of key features of the governance regimes of marine living resources in the polar regions.

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