1. Oceans under control

Philippe Cury, Sophie Arnaud-Haond and Françoise Gaill

In 1609, the Dutchman Hugo de Groot, known as Grotius, defended the freedom to navigate and trade throughout the seas in his work Mare Liberum (The Freedom of the Seas). The oceans were an open space, where humankind could trade and do business freely. In 1635, the Englishman John Selden published a riposte to Dutch dominance, the Mare Clausum (Of the Dominion, or, Ownership of the Sea), which questioned the need for ownership of the seas. A competition emerged for the incremental conquest of the oceans, just as had been the case on land, at the cost of conflict and wars. Given their highly strategic nature, the oceans and seas are without a doubt still the subject of fierce debate and conflicts of interest today. The nature of the debate has hardly changed in several centuries, but with the stakes now global, the distribution maps have been redrawn, reviving ambitions and with them, the issue of access rights.

What kind of governance is needed for marine resources that are shared between nations but are migrating in response to climate change? What type of access should be provided for humans who migrate on a global scale, with constantly evolving technologies, and who are diversifying the use of marine spaces and the exploitation of marine resources, with new types of geopolitical and biological implications? Will new access rights or strangleholds emerge with the restriction on the freedoms of the high seas and the congested use

of seas that lap at often overpopulated coasts? With these challenges, new contexts are emerging, with an evergreater number of increasingly more global geopolitical, economic, diplomatic and institutional environments.

The marine world now appears to be approaching the limits of its existence and is being rapidly appropriated, with the irreversible nature (in legal, ecological and other terms) of this appropriation highlighting the urgent need for careful consideration of the spatial planning and ownership of the seas.

This chapter brings together a series of contributions which outline the key points and the open questions for achieving a satisfactory outcome to the discussions that are now needed for the development of a coherent global biological and legal strategy for ocean governance.

What does international law, the very basis of the concept of ocean governance, which is being reinvented along with the emergent issues, have to say about the ecosystem approach to fishing, new genetic resources, climate change and the new challenges in the Arctic and Antarctic Oceans, the spatial management of the oceans, scientific overviews or the new role of international negotiations? These myriad questions require an understanding of current developments in governance, the development of practical proposals or consideration of new areas for research.



Saint Gilles coral reef. The reefs of Réunion Island are under significant threat from motor boats, fishermen, divers and increased levels of pollution. © IRD / A. BORGEL. ■

This review of the observations, international initiatives and global pressures associated with a new form of governance for the oceans is rapidly taking permanent shape. There is an obligation for decisions taken today to gather the best available expertise for collective decisions on the future of the oceans under the ever-more pervasive influence of the human community.

As an outcome from the joint action of scientists, civil society and certain countries, an analytical report on the ocean and the cryosphere in the context of climate change will shortly be available from the intergovernmental panel on Climate Change (IPCC). In the meantime, we look forward to reading synthetic articles in this chapter on which we can base our reflections on global ocean governance in the years to come.

Editors

AGATHE EUZEN FRANÇOISE GAILL DENIS LACROIX PHILIPPE CURY

The Ocean revealed



CNRS EDITIONS

Acknowledgements

We have received a great deal of support, without which we could never have produced this book. We would like to thank the chairman and members of the AllEnvi research alliance for their backing of the project, and the executive secretariat of AllEnvi for their assistance, the CNRS Ecology and Environment Institute for their precious support and the scientific communities at the various research performing organizations involved.

The publication's coordinators also express their warmest thanks to the members of the editorial committee for all their hard work and responsiveness, and to all the contributors for their enthusiasm in sharing their knowledge, even within some very tight deadlines! The English version could not have been produced without the efficiency and meticulousness of the translators. The coordinators would also like to thank CNRS Éditions who have provided their support throughout the publication process. Finally, this book could not have been published without the energy and professionalism of Elsa Godet, who threw herself into the challenge of producing the book in both languages.

Steering Committee

Philippe CURY, IRD.

Agathe EUZEN, CNRS.

Françoise GAILL, CNRS.

Denis LACROIX, Ifremer.

Stéphanie THIÉBAULT, CNRS, Vice-président of AllEnvi.

Multidisciplinary Editorial Committee

Sophie ARNAUD-HAOND. Ifremer.

Cédric BACHER. Ifremer.

Jacques BERTRAND. Ifremer.

Laurent BOPP. CNRS.

Catherine BOYEN, CNRS.

Chantal CAHU. Ifremer.

Sylvie LAPÈGUE. Ifremer.

Philippe CURY. IRD.

Pascale DELECLUSE. CNRS.

Agathe EUZEN. CNRS.

Lise FECHNER. Ifremer.

Françoise GAILL. CNRS.

François GALGANI. Ifremer.

Jean-Pierre GATTUSO. CNRS.

Françoise GOURMELON. CNRS.

Catherine JEANDEL. CNRS.

Denis LACROIX. Ifremer.

Gérard LE BOUEDEC. University of Bretagne Sud.

Nadine LEBRIS. Pierre et Marie Curie University.

Pierre-Yves LE TRAON. Ifremer.

Marina LÉVY. IRD.

Catherine MÉVEL. CNRS.

Frédéric MÉNARD. IRD.

Éric RIETH. CNRS.

Thierry PEREZ. CNRS.

Sarah SAMADI. MNHN.

Patrick VINCENT. Ifremer.

Editorial and graphic design:
Elsa Godet (www.sciencegraphique.com)

Translation:

Morris Traduction (www.andrewmorris.fr) and Daphne Goodfellow p. 166 Graham Maclachlan (Mactrad)

> © CNRS Éditions, Paris, 2017 ISBN: 978-2-271-11907-0