

**world ocean review**   
Living with the oceans. 2013

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## The Future of Fish – The Fisheries of the Future

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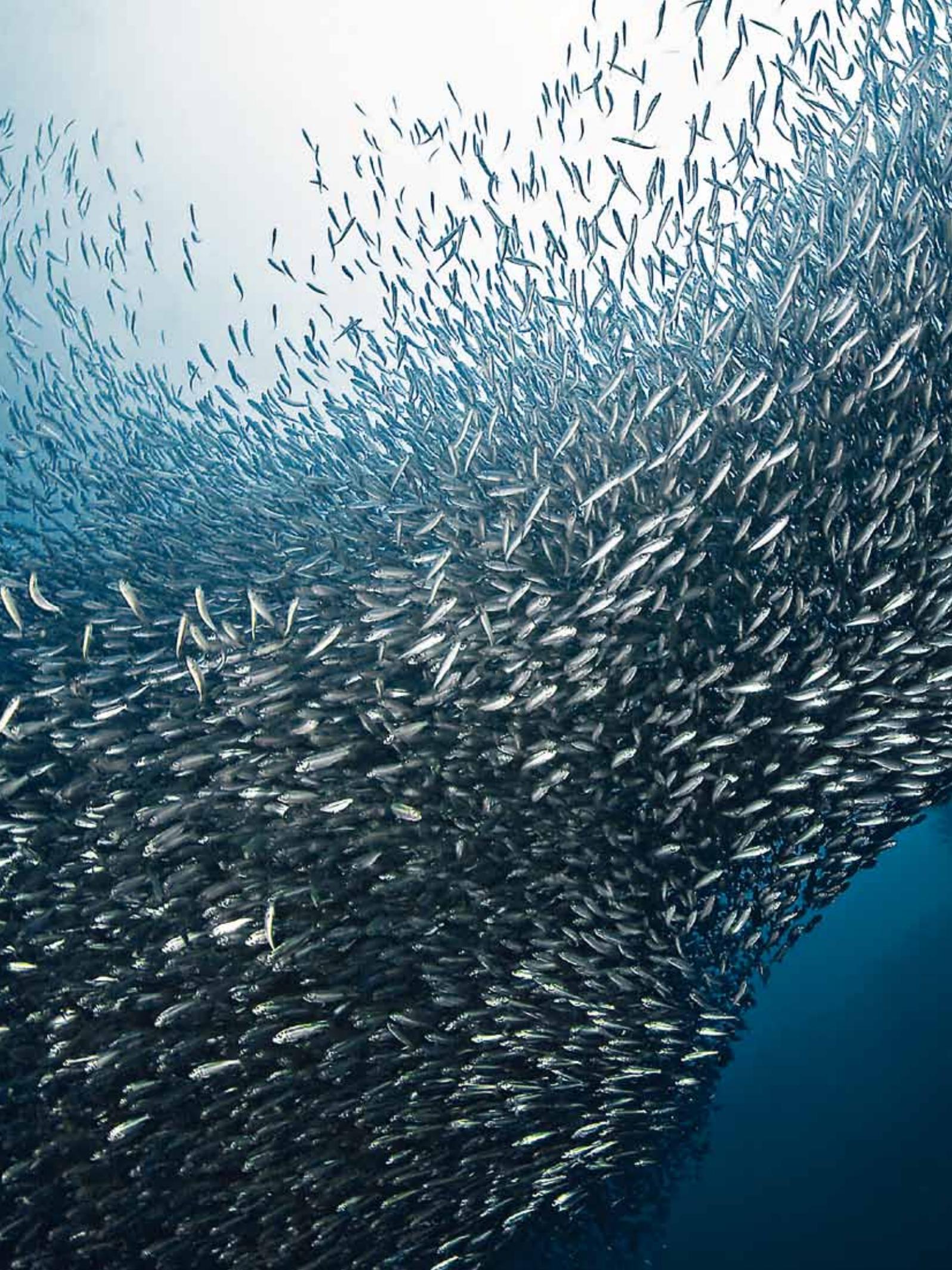
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## Preface

Our first World Ocean Review (WOR) was published more than a year ago. This status report took a comprehensive look at the seas and encapsulated the current state of ocean science. It was read by almost 70,000 people, who either obtained a hard copy in German or English from non-profit organization *maribus*, or downloaded it as a PDF file from our homepage at [www.worldoceanreview.com](http://www.worldoceanreview.com). Its readers included teachers, students, scientists and interested laypeople. Moreover, the WOR received intense media attention, with TV (e.g. “*Tageschau*”, the German evening news), online (e.g. “*Spiegel Online*”), radio and print coverage. It was also presented personally to members of parliament in Brussels, and to Federal Chancellor Merkel in Berlin.

The feedback we received was all positive, with many people commending its mix of scientific excellence and readability. The original WOR was a world first in that it was comprehensible to all, but also provided a sound basis for media debate, policy developments and lectures.

It is *maribus*' aim to publish a World Ocean Review each year. The first edition focused on the broad picture, while subsequent WORs will take a more in-depth look at individual aspects of the oceans. Interrelationships which are frequently presented in an abbreviated and simplified form will be thoroughly investigated and presented in all their complexity. Nonetheless the close cooperation between world-leading research scientists and “mare” magazine journalists guarantees that the articles will be straightforward and easily understood by all. They will provide a knowledge base for policy-makers and journalists wishing to hone their awareness of the problems involved.

This new report (WOR 2) focuses on fish and their exploitation. Fish have always been a vital source of life for mankind – not only as a food. Fish are still an essential element of the daily diet in most regions of the world. At the same time fisheries provide a livelihood to entire coastal regions and still have great economic clout. All this, however, is in jeopardy and is coming under close scrutiny. Fish stocks are declining worldwide, entire marine regions are considered overfished, and some species are on the Red List of Threatened Species.

It is not our intention with this World Ocean Review 2 to press the panic button. But by pointing out the true facts surrounding fish stocks and fisheries we seek to come to grips with an extremely complex situation. Only sound knowledge – not alarmism, nor appeasement – will save these vitally important inhabitants of the world's oceans.



**Nikolaus Gelpke**

Managing Director of *maribus gGmbH* and publisher of *mareverlag*

This publication is a wakeup call for managing humanity's relations with the ocean.

Mankind's *living with the ocean and from the ocean* has been anything but sustainable. The impact through use and exploitation has been destructive and unconscionable because humans have taken for granted the bounty of the oceans and its living resources. In so doing and despite decades of efforts since UNCLOS to evolve a global comprehensive governance regime, the ocean's fragile ecosystems are being systematically destroyed and species after species depleted or brought to extinction by irresponsible fishery practices and policies. This situation is further exacerbated by the impact of climate change.

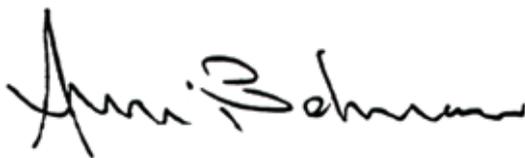
The "management" of fisheries could be easily ranked amongst the most outrageous examples of human mismanagement. In spite of a plethora of ocean governance tools, the exploitation of this sector is driven by avarice and greed with little respect for the conservation of common goods and the right of future generations to enjoy and profit sustainably from these resources. Driven by illegal, unreported and unregulated (IUU) fishing piracy and combined with destructive fishing technology and practices, intensive bottom trawling, wasteful bycatch practices – the fisheries sector and the biodiversity of oceans and coasts are under unprecedented threat.

Today we face a governance deficit that allows vessels flying under flags of convenience to operate with impunity and with disregard for laws, common ethics or morals of decent and sustainable behaviour. It is time for noncompliant flag states vessels to be stopped and to eliminate the subsidies that increase capacity leading to overfishing.

The time has also come to revise outdated concepts such as that of the maximum sustainable yield in fish harvesting and for the industry to work hand in hand with the scientific community where conservation is assimilated with ethics of use.

This publication, while promoting greater enforcement and compliance with international and regional agreements, is about future commitment to conservation, the creation of sustainable fisheries, the protection of high sea areas and sea mount biodiversity and the contribution to global food security that is underpinned by adherence to the principles of common heritage and the peaceful use of the ocean: principles very dear to the IOI and its founder, Professor Elisabeth Mann Borgese.

IOI will continue its advocacy, capacity building, outreach and education efforts in favour of a new paradigm in the sustainable exploitation and management of the living and non-living resources of our oceans and the protection of its biodiversity by promoting a culture of collective and individual responsibility in managing humanity's relations with the ocean.



**Dr. Awni Behnam**

President of International Ocean Institute

Since time began we humans have been living with the oceans and exploiting them in many ways – but at the same time we fear them. We fear the mighty forces at sea and along the coasts. We are interested in new resources, including those on the seabed. Who spares a thought for the future of the oceans? Who is concerned about their health? For many of us the sea is not a daily fact of life. We only react with alarm when exceptional events such as oil tanker accidents occur. However, the most damage to the oceans is done on a normal day-to-day basis.

Any discussion on fish and fisheries makes this fact abundantly clear. That fish have been taken from the sea – sometimes at great risk – has been a fact of life for thousands of years. Fish is still the main source of animal protein in many regions. For generations this occurred in balance with the marine environment. But the increasing use of technology has thrown the interrelationship between human societies and fish populations off balance. Intensive fishing practices worldwide are leading to the overexploitation of many fish stocks. Fish can be easily traced using cutting-edge echo sounding equipment, while the supersized nets and capacity of trawlers, working day and night, are slowly but surely emptying out the oceans. What kind of a future do the fisheries and the oceans have? What kind of a future do we want?

The second volume of the World Ocean Review is dedicated to fishery and throws light on the many different aspects of the topic. It provides facts about the development of fish stocks and fisheries. It shows that fishing is deeply rooted in the fabric of many cultures. It documents the ecological and economic value of fish and points out ways of making fisheries sustainable. This is a global concern. It is not limited to those few areas of the world where rapid changes to fishing practices enjoy wide acceptance in society. It also aims to preserve the livelihoods of fishermen in the newly-industrializing and developing nations.

If we want to leave healthy, productive oceans for our grandchildren, we must take the long view and rethink fishery. The review gives good reasons – both ecological and economic – for modernizing today's fisheries! Any collapse of the stocks would put an end to the traditional trade of the fisherman. The prospect is real. Is that really what we want? What can we do to make sure this does not happen? What can be done at a regional level, and what must be negotiated in the national and international policy arenas?

We give our best possible answers to all these questions, sharing our knowledge and assessing the situation, while at the same time identifying options for change.

The future of the oceans is closely linked to the future of the fisheries and thus to the future of many – if not all – the world's peoples. With this in mind, I hope you find this gripping and enlightening reading.



**Prof. Dr. Martin Visbeck**

Spokesman for the Cluster of Excellence "The Future Ocean"

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