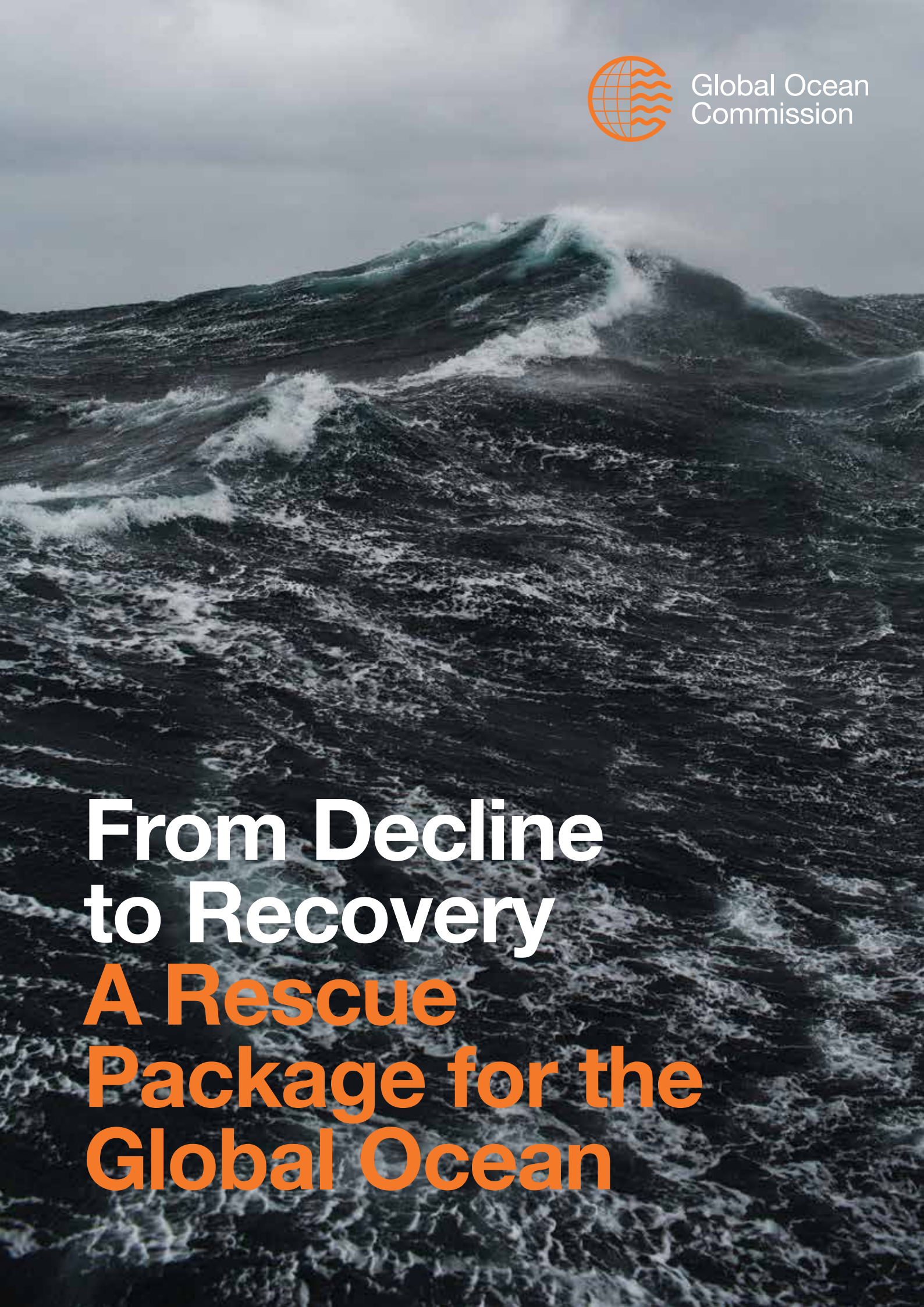

Global Ocean Commission

From Decline to Recovery
A Rescue Package for the Global Ocean

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Global Ocean Commission

Letter from the Co-chairs
24 June 2014

Dear Friends

It is no exaggeration that all life on Earth, including our own survival, depends on a healthy, vibrant ocean. Containing an almost unfathomable diversity of life, billions of us rely on it for food, clean air, a stable climate, rain and fresh water, transport and energy, recreation and livelihoods.

Our ocean is in decline. Habitat destruction, biodiversity loss, overfishing, pollution, climate change and ocean acidification are pushing the ocean system to the point of collapse. Governance is woefully inadequate, and on the high seas, anarchy rules the waves. Technological advance, combined with a lack of regulation, is widening the gap between rich and poor as those countries that can, exploit dwindling resources while those that can't experience the consequences of those actions. Regional stability, food security, climate resilience, and our children's future are all under threat.

Yet we are also inspired by the opportunity that exists for the high seas to play a regenerative role in restoring whole ocean health, and by the potential of a small number of bold proposals to stimulate a cycle of recovery. We believe that ocean degradation can be reversed and the current cycle of decline can be transformed into a cycle of recovery.

The independent Global Ocean Commission was launched in February 2013. It had one particular ambition: to bring the debate about the future of the high seas and the value of this immense area of our planet out from the margins of political debate and much closer to the mainstream. The Commission comprised a mix of public and private sector figures including former Heads of State, government ministers and business people, whose experience spans foreign affairs, finance, defence, education, development and the environment. Though not all were ocean experts, all were united in their commitment to helping reverse ocean degradation and address the failures of high seas governance. Over the last 18 months, supported by respected scientific and economic expertise, the commissioners have undertaken a journey of discovery about both the value and the abuse of the global ocean.

Conceived by The Pew Charitable Trusts, and supported in partnership by Pew, Adessium Foundation, Oceans 5 and the Swire Group Charitable Trust, as a fresh, dynamic and energising force to put forward bold, pragmatic, cost-effective, and politically feasible proposals, the Commission is independent of all while being hosted by Somerville College at the University of Oxford. McKinsey Global Center for Sustainability provided facts and analytic support.

At the heart of the Commission's endeavour through its four meetings since February 2013, in Cape Town, New York, Oxford, and Hong Kong, has been rigorous consideration of the latest science and analysis from ocean experts, combined with broad stakeholder engagement. Members of the public were also invited to participate via a worldwide survey comprising over 13,000 online questionnaires, revealing strong support for more effective governance of the global ocean.

What we found was cause for alarm. The ocean is under threat, and humanity's approach to it is uncontrolled. Benign neglect by the majority, and active abuse by the minority, have fuelled a cycle of decline. No single body shoulders responsibility for ocean health, and an absence of accountability is characterised by blind exploitation of resources and a wilful lack of care. We call this the cycle of decline.

Through consideration of the latest scientific and political analysis, we have identified proposals for action. These both sound a warning and indicate what needs to be done. While some are not new, all are pragmatic and possible, and should incentivise public and private sectors alike to take responsibility. We must now begin to turn the tide.

The task of saving the global ocean is one that no government or company or individual can achieve alone. Stopping the abusive and unsustainable exploitation of natural resources and freedoms, and restoring ocean health, requires a coalition for change with a clear mission. We are convinced that if the package of eight proposals that we now put forward is expeditiously acted upon, it is possible, within the next decade, to reverse the degradation of the global ocean.

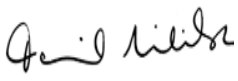
The proposals here sound a warning, but they also offer a politically feasible way forward. As leaders and global citizens, as mothers and fathers, and as humble champions for the global ocean, we appeal to each and every one of you to join us. The riches of the global ocean are our common inheritance. The time to act is now, for ourselves and for future generations.

Mission Ocean is the name we have given our call for action. Join Mission Ocean and work with us to prove to the world that positive change is possible and that we can leave the legacy of a healthy, vibrant ocean system to future generations.

With deepest gratitude to our fellow commissioners and our secretariat, we commend these proposals to you.

José María Figueres

Trevor Manuel



David Miliband

Understanding the Global Ocean

The ocean covers nearly three-quarters of the surface area of our planet. Comprising 1.3 billion km^3 of water, it is the world's single largest ecosystem and plays a central role in supporting all life on Earth. It is also the provider of a wide range of services and resources that directly support human health, societies and economies.

The first image taken by humans of the whole Earth. Photographed by the crew of Apollo 8 and showing the Earth at a distance of about 30,000 km. South is at the top. © NASA

Introduction

The ocean covers nearly three-quarters of the surface area of our planet and can extend thousands of metres below. Comprising 1.3 billion km^3 of water, it is the world's single largest ecosystem and plays a central role in supporting all life on Earth. It is also the provider of a wide range of services and resources that directly support human health, societies and economies.

The vastness of the ocean came sharply into focus nearly 50 years ago, when the Apollo missions produced the first images of our overwhelmingly blue planet from space. More recently, a number of United Nations reports and peer-reviewed scientific studies have underlined the interconnectedness between the planetary climate and ocean systems, and the central role that the ocean is playing in protecting us from the impacts of climate change. Yet, despite this heightened awareness, the ocean remains chronically undervalued, poorly managed and inadequately governed.

This is particularly true of the high seas, the 64% of the total surface area of the ocean that is beyond the jurisdiction of any State. In fact, the divide between the exclusive economic zones (EEZs) of coastal States and the high seas beyond is only a legal construct with little bearing on the ecological reality; fish, coral reefs, pollution and the detrimental impacts of climate change do not respect the 200 nautical mile frontier of State jurisdiction. Nevertheless, the high seas provides a critical life support function for EEZs and what happens on the high seas can and does have a significant impact on the ecological health and productivity of EEZs. It is for this reason that the Commission decided to focus its attention on the high seas.

The ecosystems of the high seas do not exist in isolation; they are the ecological hub of the entire marine ecosystem. The health of the high seas affects the whole global ocean, and the health of the global ocean affects us all. Scientific understanding and evidence regarding both the crucial role of the high seas within the entire Earth system, and the immense threats it faces, is growing. We are also, slowly but surely, becoming more conscious of the value of the resources and services provided by the high seas, resulting in a rise in public concern around the world. The weak link is continued fragmented management and inadequate governance that leaves the high seas unattended and overexploited.

This section of the report aims to highlight the enormous value of the high seas to humanity, and to draw attention to the fundamental mismatch between this value and the inadequate and anachronistic way in which the high seas is currently governed. The consequences of this increasingly inexcusable mismatch are brought starkly home in the following section, which covers the alarming cycle of decline gripping the high seas; then, the need for urgent action to move forward towards a cycle of recovery and regeneration is the focus of our Proposals for Action.

The Commission's set of eight proposals has been specifically designed to provide a global blueprint for this action; together they make up an integrated rescue package, which, if effectively implemented within the next decade, can save the high seas.

Hydrothermal vent covered with Vent Mussels (*Bathymodiolus* sp.) and white galatheid crabs. © Photo Researchers / FLPA

The Value of the High Seas

Not all ecosystem services in the high seas can be accurately valued, although gaps in our understanding are closing with the advance of natural resources accounting. Because the high seas ecosystem is almost inconceivably large and remote, making monitoring, control and surveillance of activities there difficult and potentially expensive, and because we lack concrete knowledge of the economic value that people derive from many high seas ecosystems, it is likely that its broader role as an earth system is chronically undervalued.

People have lived near the ocean for millennia and maritime communities have always recognised the importance of the ocean and made it the centre of their economies and cultures. While it was living ocean resources that first drew people to the sea – and ocean fisheries and aquaculture today provide food for billions of people as well as livelihoods for millions – today we are increasingly aware of the less visible yet even more vital role the ocean plays in regulating the life-giving systems of our planet. It is the great physical and biological pump at the heart of global atmospheric and thermal regulation and the driver of the water and nutrient cycles. High seas ecosystems are estimated to be responsible for nearly half of the biological productivity of the entire ocean. The high seas supports economically important organisms that may swim, migrate or drift well beyond its physical boundaries. This makes it difficult to disentangle the contribution of high seas ecosystems from the services that are produced in the high seas but are enjoyed elsewhere – sometimes thousands of kilometres away.

The global ocean produces almost half of all the oxygen we breathe and absorbs more than a quarter of the carbon dioxide we emit into the atmosphere. More than 90% of the heat trapped in the Earth system by greenhouse gas emissions is stored in the ocean, providing a buffer against the full impacts of climate change on land;[1] however, this is having alarming consequences on ocean life and is perhaps the largest unseen environmental disaster of our time.[2]

The ocean is, in essence, the kidney of our planet, keeping its systems healthy and productive. But the ability of the ocean to continue to provide these essential ecosystem services is being compromised as rising temperatures reduce its oxygen-carrying capacity. The increasing uptake of carbon dioxide is causing ocean acidification,[a] and unprecedented changes in chemical and physical conditions are already impacting the distribution and abundance of marine organisms and ecosystems.[3] The very life of the global ocean, from the smallest phytoplankton to the largest of the great whales, is being impacted.

Nevertheless, despite irrefutable evidence that both the physical and biological components of the ocean play key roles in maintaining the conditions necessary for life on Earth, these regulating services are rarely factored into decisions about how to manage human activities that affect ocean health. Until very recently – notably with the welcome publication of the 5th IPCC Assessment Report – the ocean has been largely ignored in climate change discussions.

The ocean also yields significant non-living resources including oil and gas, minerals, sand and gravel, and even drinking water in places where sources of freshwater prove scarce. Ocean currents, tides and waves are now being harnessed to produce much-needed renewable energy. The ocean has long served as the principal medium for trade and migration, today carrying 90% of the world's trade, and keeping us connected via a global network of thousands of kilometres of fibre optic cables laid along the ocean floor.

One of the first questions asked by the commissioners was: can we place an economic value on what the high seas provides for our planet? While the science of 'natural resources accounting' is still relatively new, work we commissioned made clear that the high seas generates a wide variety of benefits to people and the planet,[4] all of which must be considered before recommendations for action can be made.

The high seas supports major categories of vital ecosystem services, including: air purification, waste treatment and lifecycle maintenance; high seas carbon capture and storage; high seas 'provisioning' of fish and other seafood; genetic and ornamental resources; and tourism, leisure and recreation. While not all of them can be valued using current data, these ecosystem services do all have demonstrable economic value. Research carried out for the Commission has produced estimates of the economic value of two key high seas ecosystem services – carbon storage and fisheries – showing that they each generate tens of billions of dollars of value to society annually.[5]

The ocean has been responsible for the capture and storage of more than half of the carbon dioxide produced by the burning of fossil fuels and a third of the total produced by humankind. This ability of the ocean to capture and store carbon reduces the rates of increase of atmospheric carbon dioxide and can slow changes in global temperature and other consequences associated with climate change. It is estimated that nearly half a billion tonnes of carbon, the equivalent of over 2 billion tonnes of carbon dioxide, are captured and stored by the living components of high seas ecosystems every year. Based on current calculations of the economic cost of additional carbon in the atmosphere, the value of the carbon storage by high seas ecosystems is estimated at US$148 billion a year (with a range of US$74 to US$222 billion for mid-estimates).[6] By comparison, the entire global Official Development Aid outlay for 2013 was US$134.8 billion.

With respect to high seas fisheries, nearly 10 million tonnes of fish are caught annually on the high seas, constituting just over 12% of the global annual average marine fisheries catch of 80 million tonnes. The landed value of this catch is estimated at about US$16 billion annually, which makes up about 15% of the total global marine landed value of around US$109 billion.[7]

a There is high confidence that the current rate of ocean acidification is at least 10 times faster than any event within the past 65 million years. The IPCC Fifth Assessment Report concluded that, "evidence that human activities are fundamentally changing the ocean is virtually certain" (Chapter 3, p. 54).

High seas fishing on this scale is a relatively recent phenomenon. Because of overfishing in the coastal waters of the EEZs of more-developed countries, over the past 50 years vessels have moved further out and fished deeper than ever before, targeting the waters of developing country coastal States and the high seas, and therefore impacting the food security of poorer coastal and island states. Before about the 1950s, the technology to fish the high seas simply did not exist. There are, of course, examples of industrial-scale overexploitation of ocean life that go back to the days of whaling and sealing. But it was only with the advent of freezer-trawlers and factory fishing vessels that the scale and extent of commercial fishing as we know it today began.

For most of history, the high seas was in effect a very large, fully protected marine reserve, providing the array of ecosystem services that we now seek to recover with little human interference. The sudden access granted by new technologies fuelled by consumer demand has changed all of that in a very short period of time. The high seas fishing industry is a dominant source of ecological pressure in high seas ecosystems with impacts that may affect the supply of other ecosystem services (e.g. carbon capture and storage). Furthermore, as many fish spend part of their life in the high seas but are caught elsewhere, overfishing on the high seas reduces the availability of fish stocks within EEZs and diminishes their ability to rebuild. This has disastrous effects on social welfare, including sustainable livelihoods, food security and distributional equity.

In the context of marine systems, it has been widely recognised that the diversity of life, reflected in the ecological characteristics of living organisms of the seabed and water column, plays a fundamental role in the maintenance of regulating services. This is because a diversity of living organisms helps to control essential processes such as sedimentation, nutrient and gas cycling, and the formation of habitats. Human pressures that disrupt these processes will, in turn, affect the supply of regulating services. For example, phytoplankton contribute to the biological carbon pump, so events and activities that alter the composition of phytoplankton communities are likely to affect the climate regulation service provided by marine ecosystems.

The production and value of ecosystem services within the high seas is also the result of many, complex interactions between the living and non-living parts of marine ecosystems – the nature of the seafloor (bathymetry), for instance, impacts on the species that inhabit an area, as does the flow of currents, and hence nutrients that glide by. Provisioning services are also crucial in determining the value of an ecosystem. Given the physical nature of provisioning services, their supply will strongly depend on the abundance and numbers of species of living organisms within high seas ecosystems and the structure of the communities and food webs they form. For example, if the abundance of phytoplankton declines, organisms higher up the food chain will also decline and many of these, like the forage fish that are consumed by larger predator species, may be important to people.[8]

Governance of the High Seas

The legally binding 1982 UN Convention on the Law of the Sea (UNCLOS)[9] provides a solid jurisdictional framework for the management of the ocean and defines the rights, duties and responsibilities of States with respect to the use of ocean space and ocean resources. It has since been signed and ratified by 166 States and the European Union.[10] UNCLOS reserved the high seas as an area for peaceful purposes not subject to the sovereignty of any State. The high seas provisions of UNCLOS apply to all parts of the sea that are not included in the EEZ, the territorial sea or the archipelagic waters of an archipelagic State. These provisions secure for all States freedom of navigation, overflight, and the ability to lay submarine cables and pipelines. They also recognise the freedom to fish and undertake scientific research in the high seas, but particularly qualify these two freedoms with specific duties requiring States to cooperate to conserve and protect the living resources of the high seas, using the best available science including recognition of the interdependence of fish stocks and dependent and associated species, and the special requirements of developing States.

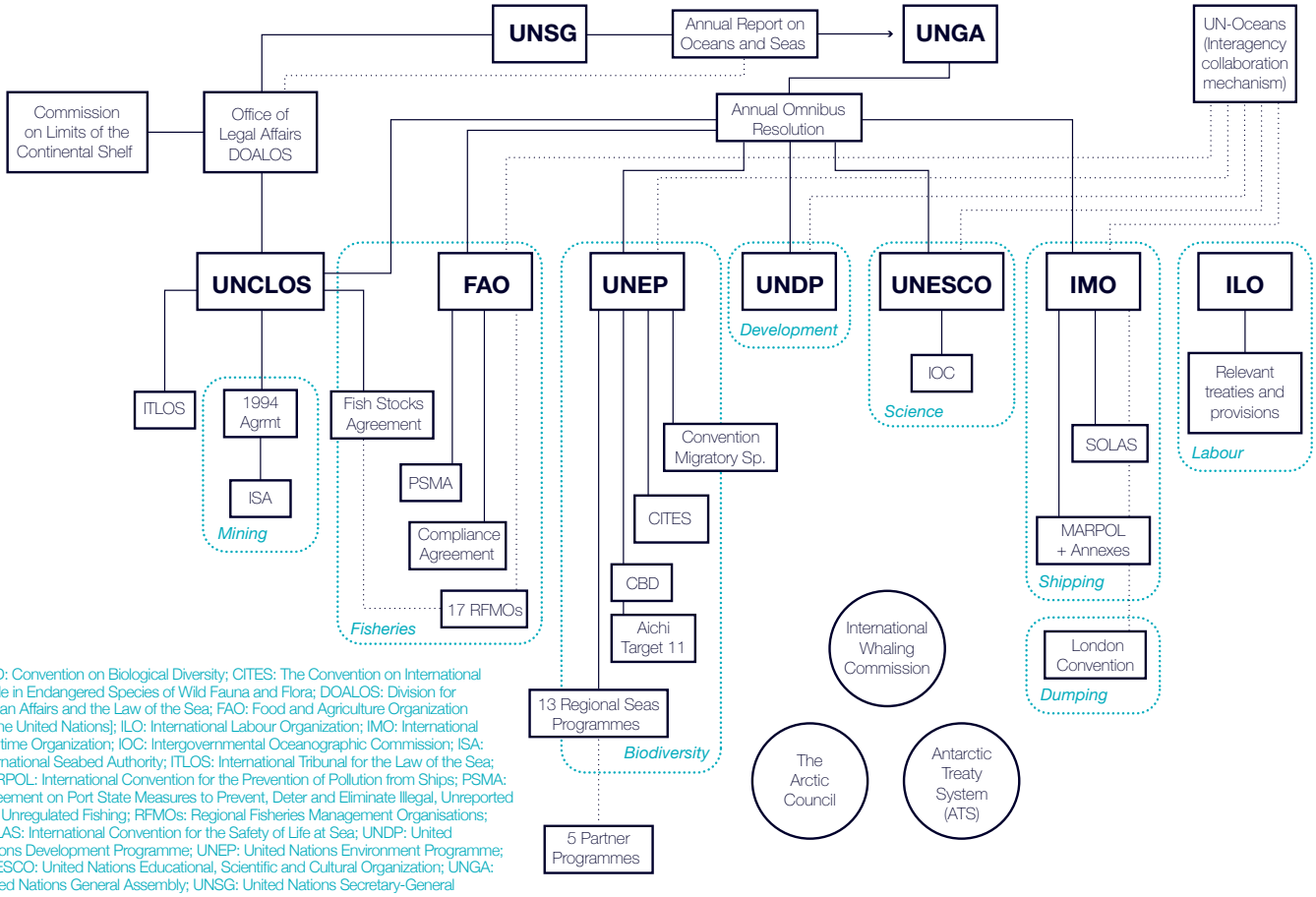
When UNCLOS was negotiated, the high seas was protected by its inaccessibility. Today, there is virtually nowhere that industrial fishing vessels cannot reach, offshore oil and gas drilling is extending further and deeper every year, and deep sea mineral extraction is fast becoming a reality. The concept of the 'freedom of the high seas' guaranteed in the Convention once conjured up images of adventure and opportunity, but it is now driving a relentless 'tragedy of the commons', characterised by the depletion of fish stocks and other precious marine resources. The freedom is being exploited by those with the money and ability to do so, with little sense of responsibility or social justice. What regulations do exist rely heavily on the implementation of measures by States that have agreed to them, but do not apply to those who have not; and there is very little capacity for enforcement or for applying sanctions when infringements occur.

It is clear that the threats facing the high seas today are global and, even more so than in 1982, international cooperation is essential if they are to be tackled effectively. The conclusion we have come to is that the current governance system for the management of human activities impacting the high seas is no longer fit for purpose to ensure long-term sustainability or equity in resource allocation, nor to create the conditions for maximising economic benefits from the high seas.

Essentially, the problems with the international governance regime for the high seas are threefold.

First, even though UNCLOS enshrines in its *Preamble* the notion that all "problems of ocean space are closely interrelated and need to be addressed as a whole", the regime is essentially sectoral in nature, based around the siloed regulation of industries and activities such as fisheries, shipping and seabed mining. A large number of agreements and institutions are mandated to regulate these sectoral activities, but there is little interplay between the various sectors.

SUMMARISED SCHEMATIC DIAGRAM OF INTERNATIONAL OCEAN GOVERNANCE STRUCTURE, SHOWING SECTORAL APPROACH AND PLETHORA OF ORGANISATIONS



CBD: Convention on Biological Diversity; CITES: The Convention on International Trade in Endangered Species of Wild Fauna and Flora; DOALOS: Division for Ocean Affairs and the Law of the Sea; FAO: Food and Agriculture Organization [of the United Nations]; ILO: International Labour Organization; IMO: International Maritime Organization; IOC: Intergovernmental Oceanographic Commission; ISA: International Seabed Authority; ITLOS: International Tribunal for the Law of the Sea; MARPOL: International Convention for the Prevention of Pollution from Ships; PSMA: Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing; RFMOs: Regional Fisheries Management Organisations; SOLAS: International Convention for the Safety of Life at Sea; UNDP: United Nations Development Programme; UNEP: United Nations Environment Programme; UNESCO: United Nations Educational, Scientific and Cultural Organization; UNGA: United Nations General Assembly; UNSG: United Nations Secretary-General

Conservation of species, habitats and ecosystems – the core components of biological diversity – too often slip through the cracks. Transparency, accountability and compliance-reporting are especially weak, and few mechanisms exist to assess or manage the cumulative effects of multiple industrial activities on the same ocean environment.

Unlike many other global conventions adopted in the past 20 years – for example the UN Framework Convention on Climate Change (UNFCCC) or the Convention on Biological Diversity (CBD) – UNCLOS did not establish a separate secretariat tasked with monitoring its implementation. Nor did it establish any built-in compliance mechanisms to monitor the performance of States and issue sanctions where necessary. Instead UNCLOS created three entirely separate institutions tasked with implementing certain specific parts of the Convention[b] while leaving many other provisions to be implemented either by States or through 'competent international organisations', agencies and bodies, at regional or global levels. The result is a bewildering proliferation of authorities, often with competing and overlapping mandates but for the most part lacking any real regulatory or enforcement power. States are free to opt out of measures they do not agree with and there is very little accountability at the global level.

b The International Tribunal on the Law of the Sea, the Commission on the Limits of the Continental Shelf (CLCS), and the International Seabed Authority.

Where regulatory mechanisms do exist for specific sectors, they vary widely in their effectiveness and there is inconsistency in the rules set in each sector and how they are applied. In some areas regulation is relatively effective. In the case of high seas fishing, however, which is managed primarily through regional arrangements under the auspices of Regional Fisheries Management Organisations (RFMOs), there are severe challenges as a result of a lack of cooperation between States; conflicting interests in resource utilisation and conservation; fragmented responsibilities; lack of political will; lack of enforcement; and perverse economic incentives for 'free riders' to cheat the system.

Existing multilateral agreements concerning the conservation of biodiversity – such as the CBD and the Convention on Migratory Species (CMS) – that deal primarily with areas under the national jurisdiction of States, have little regulatory authority over the high seas and generally rely on voluntary measures. Some matters, for example the expanding exploitation of marine genetic resources, are not regulated at all in areas beyond national jurisdiction. Deep seabed mining is the one area for which UNCLOS created a truly global regime beyond national jurisdiction, but it remains a unique, highly limited and so far unproven experiment in international relations, separate and siloed from the structures that govern the exploitation of living marine resources in the water columns above the seabed.

Second, as far as enforcement is concerned, the regime continues to rely almost exclusively on the doctrine of flag State responsibility as the default position. This presents a major barrier when flag States are unable or unwilling to take responsibility for the vessels under their flag, or where States are actively complicit in providing cover for vessels by issuing 'flags of convenience'.[c] Since the adoption of UNCLOS, most States have become increasingly concerned about the proliferation of several illicit activities conducted wholly or partly on the high seas. In addition to illegal fishing, these include the smuggling of weapons and drugs, human trafficking, piracy, and the use of vessels for terrorism. The problem is that UNCLOS confirmed the fundamental rule of the freedom of the high seas that prohibits any interference with ships flying a foreign flag except in very limited circumstances. As a result, all efforts to develop international cooperation in fighting these activities ultimately come up against the need for flag State authorisation to enforce action.[d]

There are, nevertheless, viable solutions to these problems, starting with the strengthening and implementation of flag State responsibilities, and sanctioning flag States that do not comply. Improved surveillance, better cooperation between navies, fisheries enforcement agencies, police forces and regional organisations, and sharing of information regarding non-military threats, can all contribute to improving the situation. One possibility being tested in several countries is to combine satellite-based vessel detection with standard Automatic Identification System (AIS) information from both terrestrial and space systems.[e] However, while satellites can contribute to monitoring the ocean for illegal activity, the real challenge is that no single country can afford to set up a system for maritime surveillance on a global scale. An approach that fosters international collaboration to exchange and access satellite information is needed.

The third component of the governance problem is the fact that the context of modern ocean governance has changed markedly since UNCLOS was negotiated. Apart from the aforementioned technological advances that have precipitated the large-scale exploitation of high seas resources for the first time, the cast of politically influential States has changed with the decline of Cold War naval priorities and with the emergence of developing economies with major maritime interests such as China, Brazil and India. The role of Small Island States, or more appropriately, large ocean States, whose waters contain rich fisheries resources, has also heretofore been ignored. In addition, many problems are now beyond the scope of governments to address by themselves. The influence of the private sector and civil society, which went almost unnoticed when UNCLOS was negotiated, has increased greatly in the last 30 years, meaning that broader engagement with a wider range of partners is essential if solutions are to be implemented. It is crucial that any attempt at driving real and appropriate ocean governance reforms for this century considers the complex economic factors related to ocean services and resources and the role that States, markets, civil society and private industry can play in contributing to sustainable solutions.

High Seas Fisheries

The threefold problem detailed above is particularly egregious in the case of high seas fisheries. Over the past two decades, a range of international legal measures have been adopted to try to deal with the problems of high seas fisheries and in particular the problems caused by illegal, unreported and unregulated (IUU) fishing. These measures include an implementing agreement under UNCLOS – the UN Fish Stocks Agreement (UNFSA)[11] – which contains innovative and far-reaching provisions that add substantially to international law to try to help manage the highly lucrative global fisheries for migratory and straddling fish stocks such as tunas; and sector-specific measures taken by the UN Food and Agriculture Organization (FAO), including the FAO Code of Conduct for Responsible Fisheries,[12] an International Plan of Action (IPOA) to combat IUU fishing,[13] and the Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing (PSMA).[14]

While the cumulative effect of these instruments has undoubtedly been to change the nature and location of unsustainable high seas fisheries, they certainly have not stopped it. The good intentions of the measures adopted are not being matched by strong implementation and enough results in the water. Each new intervention potentially moves the problem to a new location, and the pace of change based on multilateral intervention through bodies such as the FAO is simply too slow and unwieldy to keep up with changes in fisheries practice.

Fishing States which are members of RFMOs but not party to UNFSA

Algeria
Angola
Argentina
Cape Verde
Chile
China
Comoros
Côte d'Ivoire
Cuba
Ecuador
Egypt
Equatorial Guinea
Gabon
Ghana
Guatemala
Honduras
Lebanon
Madagascar
Malaysia
Mexico
Nicaragua
Pakistan
Philippines
São Tomé and Príncipe
Sierra Leone
Sudan
Tanzania
Thailand
Tunisia
Vanuatu

c A flag of a country under which a ship is registered in order to avoid financial charges or restrictive regulations in the beneficial owner's country.
d The UN Fish Stocks Agreement is one of the very few treaties that extended the right of boarding and inspection on the high seas, but even here the right to intervene is tightly circumscribed.
e NATO and the US Department of Defence have run a Maritime Safety and Security Information System (MSSIS) for about six years, which attempts to collect AIS and radar ship data off the US coast and in the Mediterranean. However, transmitting this data to other government users and interpreting and utilising the vast amounts of data is proving very difficult, and it is not easy to see the value because its remit is so large and so vague.

RFMOs, the institutional paradigm for the conservation and management of high seas fish stocks at the regional level, vary widely in their effectiveness but, in general terms, have failed to live up to expectations. This is notwithstanding the fact that the UNFSA explicitly recognises RFMOs as the appropriate institutional mechanism through which States must cooperate on management regimes and agree on problems of allocation and effort limitation in areas both within and beyond national jurisdiction. Concern with RFMOs is not just a conceptual matter, relating to their sectoral basis. It is also a practical matter, to do with documented underperformance. The issue is not that all RFMOs have failed to perform; in fact the evidence is that all RFMOs do at least some things very well. It is that the few that have performed very well are a stinging rebuke to the rest. They show what is possible and remove excuses from the others.[f]

Another big challenge to regional governance arrangements, already touched on above, is the non-party problem, or free riding, where States carry out activities on the high seas but fail to participate in regional governance arrangements, or do not participate constructively. The UNFSA provides a good illustration of this. As of April 2014 – nearly 20 years after its adoption – there are only 81 Parties to the Agreement, compared with 166 Parties to UNCLOS. This is problematic as the UNFSA cannot reach its full potential unless, and until, the most important coastal, fishing and flag States all become Parties to it and actively comply with its obligations.

The UNFSA requires flag States to be members of an RFMO, cooperate with an existing RFMO or establish a RFMO, and to act within the rules set by the RFMO, as a condition for allowing their vessels to engage in high seas fishing. However, some States participate in RFMOs not to promote the objectives of the RFMO but rather their own short-term fishery interests, and in so doing block the adoption of decisions that overwhelmingly require consensus. Others remain outside the regime because incentives exist for them to act as havens for IUU fishing, free riders or providers of flags of convenience. A handful of non-complying States can effectively scupper global efforts to address the problem, helping to perpetuate a situation where IUU fishing is a high-reward, low-risk activity that costs the global economy between US$10 and US$23.5 billion a year.[15]

Although healthy high seas fisheries are a global public good, the most up-to-date information available to the Commission indicates that while the high seas fishing industry's share of global marine catch makes up only about 12% of the global marine fish catch, the majority of high seas fishing is carried out by only 10 nations,[g] most of them developed nations, that rely heavily on subsidies to remain profitable. The perverse result is that consumers are paying twice for every fish they eat: once through their taxes and the second time at the market.

f Later in the report we consider in more depth some of the shortcomings of RFMOs as revealed by independent performance reviews.

g Japan, South Korea, Chinese Taipei (fishing entity), Spain, US, Chile, China, Indonesia, Philippines, France.

EU bottom trawler the *Playa de Menduina* active in the North Atlantic. Bottom-trawling boats, the majority from EU countries, drag fishing gear weighing several tonnes across the sea bed, destroying marine wildlife and devastating life on underwater mountains – or seamounts. © Kate Davison / Greenpeace

Conserving High Seas Biodiversity

UNCLOS has proven itself slow to respond to new challenges, not least when it comes to improving the management of growing threats and risks to biodiversity, ecosystems and fishery resources in the high seas, a need which has been widely recognised since at least 2002. This collective concern spurred the formation by the UN General Assembly of an Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (referred to colloquially as BBNJ).[16] Although the discussions within the BBNJ working group are still ongoing, over the past several years an emerging consensus has evolved around the need for a new UNCLOS implementing agreement to implement and update the environmental protection and conservation provisions of UNCLOS in relation to marine areas beyond national jurisdiction.

This consensus is reflected in paragraph 162 of the Rio+20 outcome document 'The Future We Want' in which States committed "before the end of the 69th Session of the UN General Assembly […] to address, on an urgent basis, the issue of the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction including by taking a decision on the development of an international instrument under UNCLOS".[h] In light of this Rio+20 outcome, the most recent (April 2014) meeting of BBNJ began to prepare its recommendations to the General Assembly through a process of discussion of the possible scope, parameters and feasibility of an international instrument under UNCLOS.

A new implementing agreement would aim to address new threats and intensifying or emerging uses that are undermining the health, productivity and resilience of the ocean and marine biodiversity beyond national jurisdiction. In particular, it could allow the designation of marine protected areas (MPAs) on the high seas; establish common principles, targets and objectives; provide an overarching mandate for the conservation and management of biodiversity in areas beyond national jurisdiction; and require the application of the ecosystem approach to the management of activities on the high seas, including environmental impact assessments. Most importantly, an ambitious approach to an implementing agreement could establish the institutional mechanisms necessary to improve implementation and compliance, clarify rights and duties of flag States, and provide incentives and assistance at the regional and national levels. An implementing agreement could also provide for the equitable sharing of benefits derived from the exploitation of marine genetic resources, a matter of particular importance to the Group of 77. The Commission strongly supports such an implementing agreement, as is explained more fully in the Proposals for Action section of this report.

Based on current experience, the Commission observes that even if a comprehensive new international agreement can be agreed, it will require effective regional implementation. Within the framework of an implementing agreement, regional organisations could possibly function as implementing agencies, as they do in the case of the UNFSA. This would entail reviewing the mandates and strengthening the capacities of organisations or arrangements in regions where they already exist, and creating new mechanisms in regions where none exist. Effective cooperation and coordination amongst different competent authorities is likely to be another key factor in the success of regional initiatives. A key issue for the Commission in developing its proposals, therefore, was how best to strengthen regional bodies, cut through the sectoral dissonance that characterises the current management regime, and ensure effective regional governance.

h. The 69th Session of the UN General Assembly will take place between September 2014 and August 2015.

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Closing the Implementation Gap

The international community has expended a tremendous amount of political capital and diplomatic effort on establishing policy commitments aimed at reversing ocean degradation. Unfortunately, there remains a huge gap between the commitments expressed in various policy documents and the willingness or ability of States to implement them. For example, the Heads of State and Government at the 2002 World Summit on Sustainable Development said that they would establish a representative network of MPAs by 2012, but by the time of the 2012 Rio+20 Summit it was evident that little progress had been made towards meeting this target, especially beyond coastal areas. Today, MPAs cover less than 1% of the high seas.

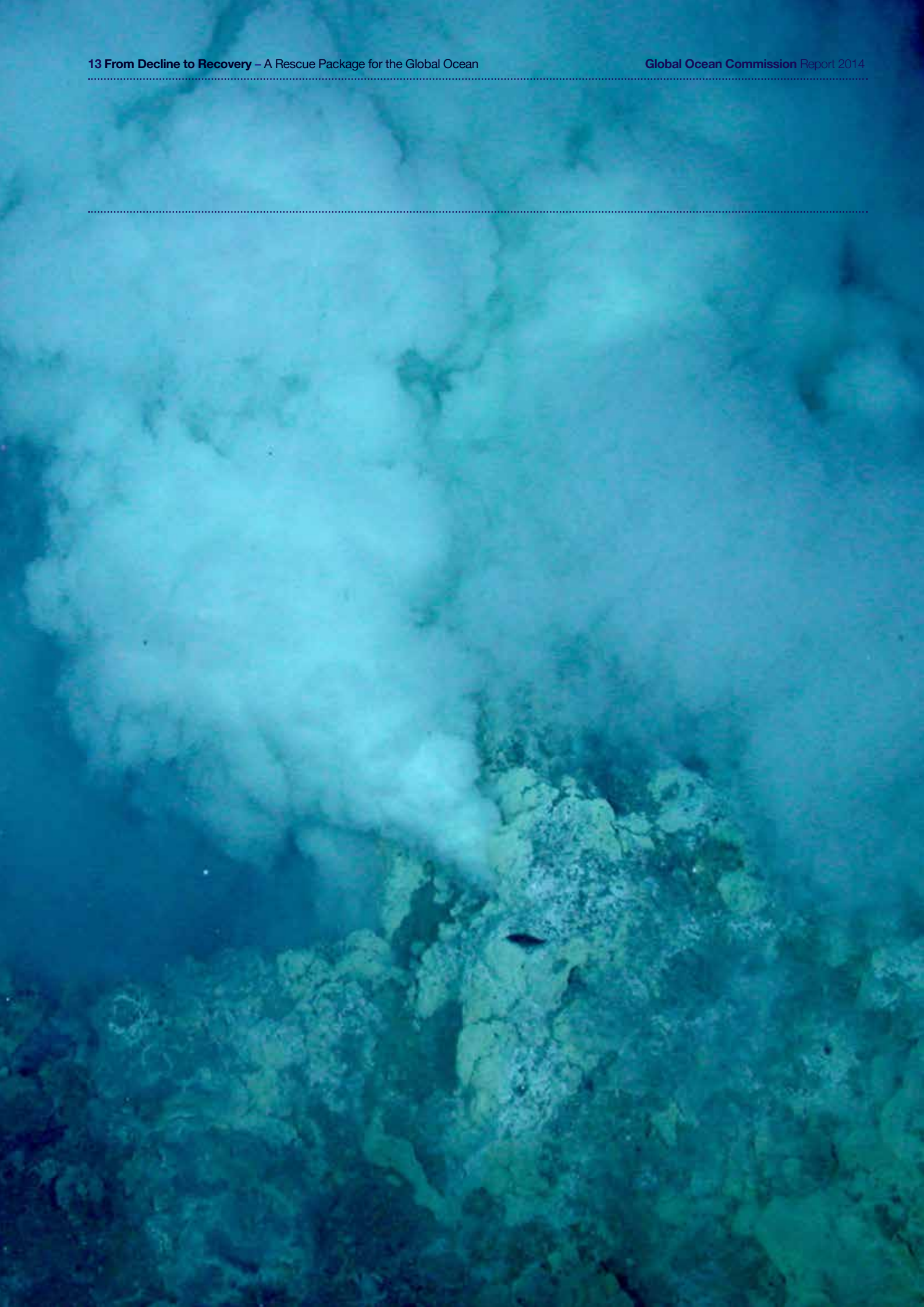
In some cases, political will appears to be lacking. In others, the political will exists but practical implementation still lags far behind. In yet other cases, for example with respect to the impact of climate change on the global ocean and the conservation of marine biodiversity, the policy debate is fragmented and there is as yet no clear agreement on the appropriate forum in which to address the issues, let alone on the policy goals to be achieved. It is clear that more needs to be done to catalyse change.

The global community must remain committed to comprehensively addressing and solving the problem of climate change, and work far more expeditiously to address its impacts, in particular by significantly reducing carbon emissions. We are concerned that the Intergovernmental Panel on Climate Change (IPCC) and the UNFCCC, as well as individual States, have not yet given sufficient attention to the global ocean, the impacts that climate change is having on it, and the necessary action required to mitigate those impacts.

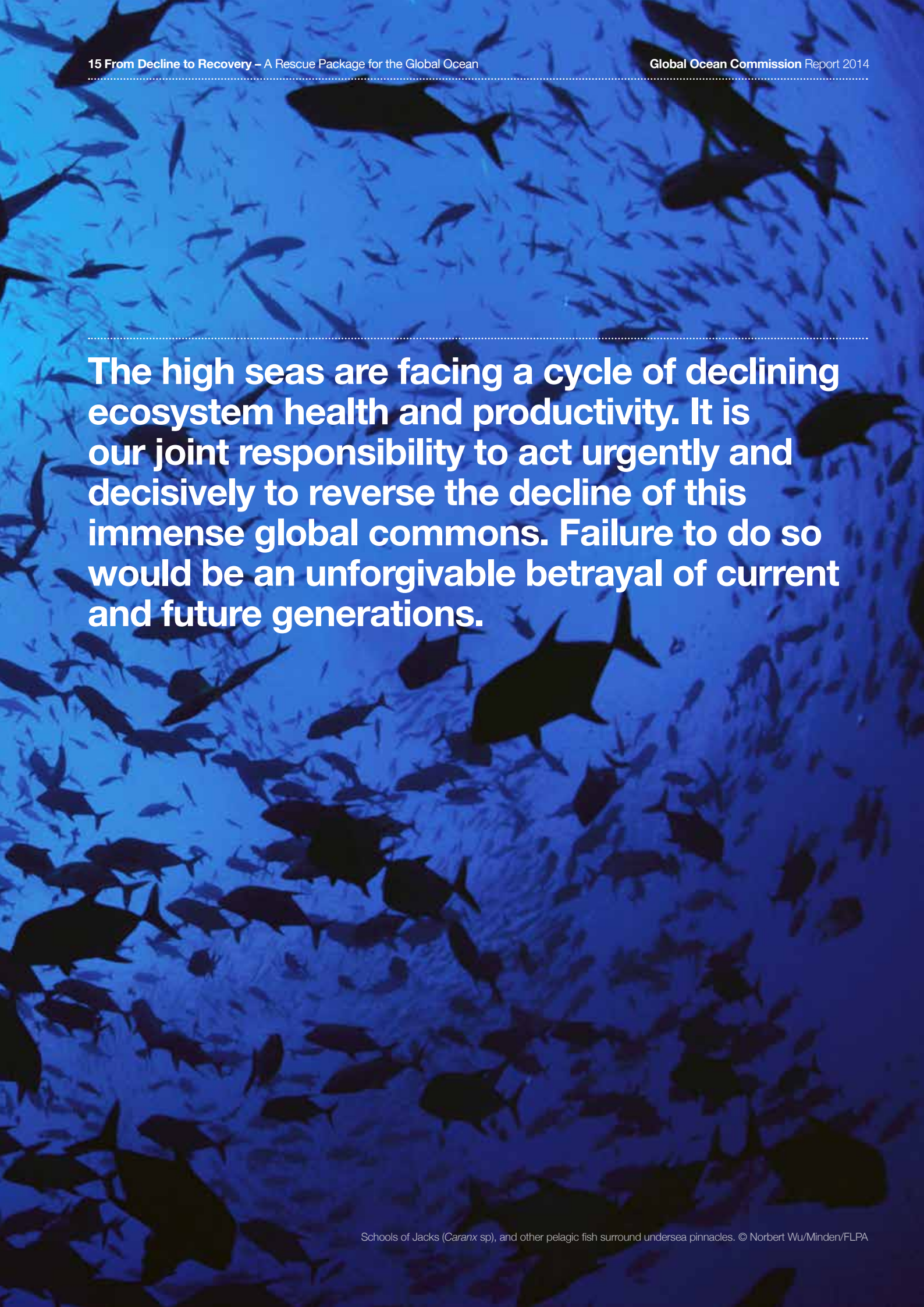
The central message we wish to reinforce is that the global ocean is a key and constituent part of the life-support system of our planet, providing immense, and in some cases incalculable, value and benefits for humanity. We must accept it as our collective shared obligation and responsibility to ensure that we leave to future generations a planet that is productive and plentiful. With the global ocean covering some 70% of the Earth's surface, the negative consequences of what is taking place beneath the waves must be brought to the forefront of international decision-making on sustainability, governance and development.

Through our eight practical proposals for action, the Commission hopes to break the political impasse, bring about the reforms desperately needed to address the weaknesses and gaps in high seas governance, and trigger the changes required to drive the recovery of this vital life system.

Hydrothermal vents spewing white clouds of hydrothermal fluids and bubbles of CO_2 in sulphur encrusted area, near Northwest Eifuku Volcano, Marianas Trench Marine National Monument, Mariana Archipelago © Photo Researchers/FLPA



Shifting from Continued Decline to a Cycle of Recovery



The high seas are facing a cycle of declining ecosystem health and productivity. It is our joint responsibility to act urgently and decisively to reverse the decline of this immense global commons. Failure to do so would be an unforgivable betrayal of current and future generations.

Schools of Jacks (*Caranx* sp), and other pelagic fish surround undersea pinnacles. © Norbert Wu/Minden/FLPA

1
Rising Demand for Resources

The Drivers of Ocean Decline

The high seas are facing a cycle of declining ecosystem health and productivity. It is our joint responsibility to act urgently and decisively to reverse the decline of this immense global commons. Failure to do so would be an unforgivable betrayal of current and future generations.

For this reason the Commission has analysed closely the multiple, interconnected drivers of ocean – and in particular high seas – decline, and developed a suite of ambitious yet entirely feasible proposals aimed at addressing these pressures and threats, boosting ocean resilience and ushering in a new cycle of regeneration and recovery. By understanding the drivers of decline individually and together, we have come to understand that what is needed is an integrated rescue package which can deliver ocean restoration when undertaken as a whole. We have considered equity, development, sustainability and economic as well as intrinsic values. We have thought about the roles of consumers, intermediaries and markets, politicians, direct users and indirect beneficiaries.

Achieving our goal: to reverse the degradation of the global ocean, will require action and partnerships among and between governments, the private sector, multilateral institutions, civil society and science. The end result will be a healthy, productive high seas ecosystem able to support Earth's life systems, providing valuable services vital for human wellbeing and security, and which is more resilient to the impacts of climate change. The alternative is the spectre of continued inequitable, uncontrolled plunder of high seas resources and a degraded, unproductive and overexploited high seas.

This alternative is not an option that we wish to consider. There is no Planet B. The one planet we have needs a healthy ocean to survive.

The Commission has identified five key drivers of ocean decline.

In November 2011, the world's population reached 7 billion people – of which some 2.5 billion live in countries with booming economies and rapidly growing middle classes. As the global population increases, and the middle classes expand worldwide, pressure on living and non-living resources will continue to mount.

Demand for marine fish as a protein source has reached the farthest corners of the global ocean and its deepest recesses. According to the FAO,[17] the amount of wild-caught marine fish increased from 3 million tonnes in 1900 to 16.8 million in 1950, reaching a peak of 86.4 million tonnes in 1996, and since then has remained fairly constant at 80 million tonnes, while 87% of the world's marine fish stocks are fully exploited, overexploited or depleted. Of the 17 largest fisheries around the world, 15 are either at maximum exploitation levels or are depleting the level of their fish resource base. According to reliable estimates, up to 100 million sharks are killed each year, predominantly for their fins.[18] Forage fish like herring, mackerel, anchovies and sardines are also under pressure. The decline in these species is critical for the species higher up the food chain that feed on them, and for coastal residents around the world, particularly in developing countries that rely on these fish as their primary source of animal protein.

Global demand for energy is inexhaustible. Since the 1960s, global demand for oil and natural gas has dramatically increased. In developed countries, populations continue to rise, putting pressure on water, sanitation and other requirements. A growing taste for comfort and convenience demands air conditioning and heating systems, transport solutions, entertainment activities and a range of other, related, energy-hungry luxuries. The less developed world is also becoming more sophisticated and more populous and demand is growing from the BRIC (Brazil, Russia, India and China) nations and other areas to place even more pressure on natural resources.[i]

Demand for minerals is also predicted to increase, both to sustain economic growth and to support green and emerging technologies. Demand for copper, for example, has quadrupled since the 1960s,[19] while rare earth elements such as tellurium, neodymium and niobium – barely used before 1950 – are highly sought after today for new technologies including solar cells, batteries, smartphones and tablets as well as for use in super alloys and superconductors. As ore grades from conventional mineral deposits on land decline over time, high-grade marine mineral deposits become increasingly attractive to investors.

i Renewables such as solar, wind and tidal options present an alternative to conventional fossil and other energy sources, but governments are still failing to provide adequate incentives.

2 Technological Advances

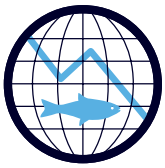
Over the past few decades, technological developments have transformed deep sea access and allowed a range of industries to exploit resources from places never before considered viable. A third of all oil is now extracted from under the seabed[20] with some wells deeper than 3km below the surface. As Arctic summer sea ice disappears, the expansion of the fossil fuel industry and shipping into the fragile Arctic environment appears imminent. We are currently witnessing the birth of a new ocean in the high Arctic, covering an area as large as the Mediterranean Sea.[21] We have no idea what kind of life it contains or the fragile interconnections between the species that have thrived deep below the ice, which has sheltered them for millennia.

Deep sea mineral extraction is also now technically feasible, and is likely to become a reality very soon.[22] Thirteen exploration contracts for deep sea minerals, covering a total area of more than 1 million km^2, have been issued by the International Seabed Authority (ISA), and four more are in preparation (as of April 2014).[23] The impact of this mining on vulnerable deep sea ecosystems is uncertain.

Fishing vessels have been expanding their reach since the 1950s, with more powerful engines, better refrigeration and more sophisticated – and in some cases more destructive – gear. Longlines up to 60km long are now deployed across the high seas, fish are detected using sonar and fish aggregation devices (FADs), and bottom trawl fishing extends below 2,200 metres across all the ocean.[24] These trawlers cause extensive damage to vulnerable deep sea ecosystems, through, for example, the indiscriminate crushing and ploughing of cold water corals on seamounts with huge nets and giant steel plates, and because of the large quantities of bycatch of highly vulnerable deep sea species. Estimates of the area damaged by deep sea trawling exceeds 25 million hectares.[25]

Developments in molecular biology, including high-throughput genome sequencing, metagenomics and bioinformatics, have increased our capacity to investigate and make use of marine genetic material. Since 1999, the number of patents of genetic material from marine species has increased at the rate of 12% per year. Marine species are about twice as likely to yield at least one gene in a patent than their terrestrial counterparts. Even this is likely to be an underestimate, because cloning and sequencing techniques allow description and patenting of genes of species yet to be named or even discovered. The applications of genes of marine organisms cover a wide range of activities, including pharmacology and human health, agriculture, food, cosmetics and industrial applications. Living marine organisms are already components in some 18,000 products and this can be expected to increase in the future.[26] At the same time, deep sea species such as corals and sponges are being studied for their potential uses in medicines for cancer, arthritis and other conditions.

3 Decline of Fish stocks



One of the most significant, well-known and advanced causes of high seas ecosystem decline is overfishing as a result of vessel overcapacity. Overcapacity is largely caused by the distorting subsidies granted by countries to their fishing industries. Despite overfishing and vessel overcapacity, countries grant at least US$30 billion a year in fishing subsidies, 60% of which directly encourages unsustainable practices. Fuel subsidies are the biggest component at 15–30%.[27] Developed countries grant 70% of fishing subsidies, with Japan, China, the EU and the US the highest spenders.[28] The combined engine power of the global fleet has grown ten-fold since the 1950s. Although stock declines have led to smaller catches in recent years, this capacity continues to rise; boats need twice as much energy to catch a tonne of fish today as they did 60 years ago.[29] Overall, too many vessels, using too much engine power, are competing for increasingly exploited stocks, creating a 'race to the bottom' and increasing the imperative to fish illegally.

As noted above, decades of overfishing throughout the global ocean means that, according to FAO estimates, 87% of the world's marine fish stocks are fully exploited, overexploited or depleted. Many stocks of the largest fish (such as tunas and swordfish) are below 10% of their historical levels and may soon, if they have not already, reach tipping points beyond which they cannot recover.[30] The impacts of commercial fishing on associated and dependent species are incalculable. Fishing vessels catch large amounts of the fish they target, but they also catch other species as bycatch (unwanted fish and other marine life). Each year tens of millions of tonnes of unwanted sea life is thrown back into the ocean, dead or dying. Longline and purse seine fishing results in significant collateral habitat and ecosystem damage, killing important marine life such as seabirds, juvenile fish, turtles and sharks, as bycatch. Deep sea bottom trawling destroys cold water coral forests, sponge beds and other ecological hotspots and denudes mud and sand habitats.

4
Climate Change, Biodiversity and Habitat Loss

Climate change and pollution are wreaking havoc on the natural wealth of ocean ecosystems and jeopardising the services they provide to humanity. Climate change is having the most profound, lasting effect on the ocean, and the impacts extend everywhere with no respect for boundaries between EEZs and the high seas. Today's rate of acidification is unparalleled in the last 300 million years.[31] The 'deadly trio' of accelerating acidification, warming and deoxygenation are already damaging highly valuable coral reefs and other vulnerable ecosystems.[32] Scientists are observing changes that are progressive, relentless, and unprecedented. It has been projected that up to 60% of ocean species could be extinct by 2050 if climate change is not urgently addressed.[33] The clear implication for the Commission is that we need to redouble efforts to make the ocean more resilient in the face of the growing threat of climate change to the ocean and the entire planet; the only way to achieve this is by reducing the pressure of other, more directly manageable threats, such as overfishing and pollution.[34]

We have already discussed the impacts of destructive fishing practices on habitats and ecosystems, seabirds, marine mammals, turtles and countless other marine species. Another major concern is the insidious creep and effect of pollution from land-based sources, as well as from activities at sea. Marine debris causes the death by drowning, suffocation or starvation of some 1 million seabirds and around 100,000 marine mammals (seals, whales, dolphins) every year.[35] In terms of activities at sea, ghost fishing from abandoned, lost or otherwise discarded fishing gear entangles and kills target and non-target species alike.[36]

However, over 80% of marine pollution comes from land-based activities, including fertilisers, pesticides, sewage, garbage, plastics, radioactive and other hazardous substances, and oil.[37] Although the deliberate dumping at sea of the industrial and radioactive wastes was banned in 1993 by amendments to the 1972 London Convention, with more restrictions added in 1996,[38] the toxins already present, combined with the discharge, emission and losses from land and sea, and ubiquitous plastics pollution, remain major challenges. The Commission has focused attention on the growing problem of plastics pollution, including plastic pellets and microplastics that so easily enter food webs and can endanger human health. From the great floating 'garbage patches' to the presence of plastic wastes in deep sea trenches, coral reefs, and on remote beaches – brought to global attention by the recent tragic accident of Malaysian Airlines MH370 when search efforts were hampered by the prevalence of marine debris in the South Indian Ocean – plastic is everywhere in the ocean.

5
Weak High Seas Governance

The existing high seas governance framework is weak, fragmented and poorly implemented. Different bodies regulate different industries and sectors, and in many cases, modern principles of ecosystem-based management, precaution and the application of the polluter-pays principle have yet to be brought to bear. There is even differentiation within sectors. Concerning fisheries, some RFMOs, for instance, are only competent to manage fisheries for tuna species but do not at the same time manage the shark fisheries that take place by vessels fishing for tunas. Others focus on deep sea species without focusing on highly migratory species. Consensus decision-making is the rule, with the result that a vocal minority can bar a decision supported by a significant majority from moving forward.

For high seas fishing, there is little capacity for the enforcement of regulations or sanctions for non-compliance. RFMO rules apply only to their own member States and authorities have very limited power to intercept vessels suspected of illegal activity. Because much high seas fishing is unregulated, which by definition implies that there are no rules in place to govern it, this is not even officially defined as a criminal activity. Industrial-scale fishing vessels have been exempt from the requirement to carry an International Maritime Organization (IMO) number and use tracking equipment, which by contrast is mandatory on passenger and large merchant ships. Thus, identified only by their name, radio call sign and flag, they are able to change their identity when suspected of illicit activities, and so evade prosecution. Even more seriously, the true owners of such vessels often hide behind shell-companies, weaving webs of deception to escape the law.

Perhaps even more worrying, there is no governance framework in place for new and emerging high seas industries such as energy production and geo-engineering. And there is no equity framework for exploitation of genetic resources. Without such frameworks it is likely that these industries will follow a pattern of exploitation where the powerless lose out as the powerful prevail. This is particularly concerning given that the high seas is a global commons ostensibly for the benefit of all. In our proposals, we identify as a key pre-requisite the urgent need to update UNCLOS by, amongst other things, adopting a new implementing agreement on the conservation and sustainable use of marine biological diversity beyond national jurisdiction.

Moving Towards a Cycle of Ocean Recovery

The evidence is clear: poor management of increasingly intensive human activities on the high seas has eroded the natural wealth and productivity of its ecosystems, with negative economic and social consequences. To further complicate matters, both the industrial uses and ecosystem service benefits of the ocean are changing rapidly. Ships are getting bigger and faster and plying new routes. Deep seabed mining may open a new era of high seas industrialisation. Ecotourism to high seas areas is in its infancy and bioprospecting promises to uncover new uses for marine genetic resources.

Human activities drive changes in ecosystem health, measured by their impact on the key ecological characteristics that underpin the production and sustainability of ecosystem services in the high seas. Pollution, the transmission of invasive species, and direct habitat destruction (in the case of seafloor extraction) are all detrimental to the ecological health and ecosystem service values of the high seas. The effects of climate change, especially increasing ocean temperatures, decreasing oxygen, and acidification (from rising carbon dioxide levels in the ocean), all have the potential to alter the health of ecosystems and the value of ecosystem services.

Improved governance could increase the value of high seas ecosystems and the goods and services they yield. At the same time, we recognise that improvements in governance come at a cost. These costs include the direct costs of enforcing new laws, the political and administrative costs of changing governance regimes, and the real financial costs that are imposed on the businesses and people involved in activities that may be more regulated under new governance regimes. We believe, nevertheless, that the net benefit of improved governance more than outweighs the costs. Restoring and maintaining a healthy ocean will, in particular, be a highly cost-effective investment in reducing some of the impacts of climate change. In the face of this well-signposted global threat, industrial overfishing, biodiversity loss, weak monitoring and enforcement, and convoluted, patchy governance are all added stressors to the high seas life system, reducing abundance and placing a strain on overall ocean health.

The compelling evidence of ocean decline, in the high seas and as a result of high seas resource extraction, has fired our conscience and concern. The Commission was determined to identify solutions that will directly and effectively put us on track to shifting from a vicious cycle of decline to a virtuous cycle of high seas recovery. Our drive to turn things around – our imagination and our commitment – has been fired by good and sometimes inspiring examples of sustainable and even rejuvenating practice. We are confident about and encouraged by the availability of viable solutions stemming from the huge advances in marine science and understanding; the growing awareness and engagement of global citizens in ocean issues; and the new focus on the ocean within the global climate change and UN post-2015 global development debates. We believe that the opportunity and time to address the threats facing the global ocean is now.

In the following pages we set out our proposals for reversing the cycle of decline. The package of eight proposals provides a carefully targeted rescue package for the high seas. The proposals form a coherent whole. They specifically address the weaknesses in governance, the lack of equity and sustainability regarding the use of high seas resources, and the new and emerging pressures that need to be pre-empted before undue harm is caused. In each case, we have seen what works and have been inspired by it.

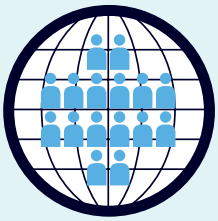
There are clear economic incentives for both the public and private sectors to take more seriously their responsibilities in the high seas. Without stronger governance and regulation, uncertainty will continue to pervade ocean-related industries and reduce profits. Without globally agreed standards and guidelines in the emerging sectors such as offshore oil and gas and deep sea mineral extraction, the risks and liabilities will be hard to assess and control. Most of all, without urgent global action to prevent climate change, and efforts to build resilience against its impacts, the cost to the global economy will rise exponentially. We can continue to lay cables and ship containers across a dead ocean, but without paying attention to sustaining the life within it, we put our own lives and those of every living thing in peril.

We all have a clear responsibility to act, as the current stewards of this planet. We have an obligation to leave future generations a healthy and productive ocean, able to continue to give life and value to all humanity. Implementing the Commission's package of proposals will allow us to meet this obligation head on and turn the tide towards a positive, productive ocean future.

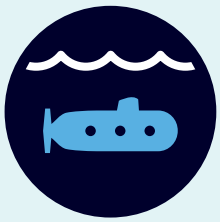
The Global Ocean
From decline to recovery

Drivers of decline

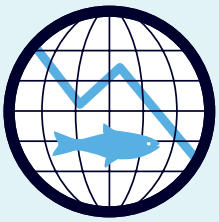
Rising Demand for Resources
- Minerals and energy
- Genetic materials
- Living marine resources



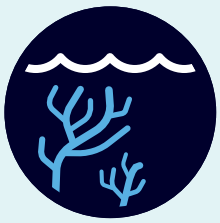
Technological Advances
- Deep sea access and exploitation
- Vessels (distance and depth)
- Increased (over)extraction
- Destructive fishing and other activities



Decline of Fish Stocks (both an effect and driver)
- Overfishing
- Overcapacity
- Subsidies



Climate Change, Biodiversity and Habitat Loss
- Climate change
- Acidification
- Pollution



Weak High Seas Governance
- Patchwork/sectoral/incomplete governance
- Weak compliance and lack of enforcement
- New and emerging uses

Degraded, unproductive and exploited ocean

Sustainable ocean

Drivers of recovery

Creating a High Seas Regeneration Zone

- Free from industrial fishing
- If insufficient action is taken and ocean decline continues within 5 years, according to what the Global Ocean Accountability Board reports
- With the exception of areas where RFMO action is effective
- Could be revoked if Commission's proposals for action are implemented
- Fish stocks replenished and equitably and sustainably shared, for present and future generations

Global Ocean Accountability Board – Monitoring progress toward a healthy ocean

- Independent
- To benchmark progress made towards achieving the Comission's proposals for action
- Sharing of this information with the global public

Offshore Oil and Gas – Establishing binding international safety standards and liability

- Binding safety and environmental standards
- Universal liability provisions
- Response-preparedness and capacity building

Plastics – Keeping them out of the ocean

- Coordination between governments, private sector and civil society:
  - land-based pollution sources
  - sea-based (i.e. fish aggregation devices) pollution sources

Illegal, Unreported and Unregulated Fishing – Closing seas, ports and markets

- IMO mandatory numbers to all high seas fishing vessels
- Banning at-sea transshipment
- Ratification and implementation of international fisheries treaties
- Remove flags, deny port entry, cut market access of catch from illegal vessels
- Collaboration between Port States, RFMOs and industry: a global information-sharing platform
- Retailers to commit to sustainable seafood sourcing and traceability
- Civil society organisations as independent performance watchdogs

No More Overfishing – Ending harmful high seas subsidies

- Full transparency of fisheries subsidies
- Distinguishing fisheries subsidies that are most harmful
- Immediately capping and phasing-out, within 5 years, high seas fuel subsidies

Governing the High Seas – Promoting care and recovery

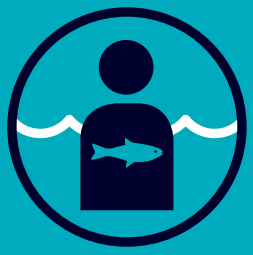
- UNCLOS implementing agreement on high seas marine biological diversity
- Universal ratification and prompt implementation of existing agreements
- Regular independent assessment of RFMOs to improve their performance
- UN Special Representative for the Ocean
- Regional Ocean Management Organisations
- National ocean envoys or ministers

UN Sustainable Development Goal for the Ocean – Putting a healthy living ocean at the heart of development

- Detailed targets
- Specific indicators
- Ocean in the UN post-2015 development agenda

Eight Proposals to Advance High Seas Recovery

1
UN Sustainable Development Goal for the Ocean – Putting a healthy living ocean at the heart of development



2
Governing the High Seas – Promoting care and recovery

3
No More Overfishing – Ending harmful high seas subsidies

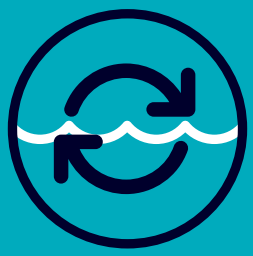
4
Illegal, Unreported and Unregulated Fishing – Closing seas, ports and markets

5
Plastics – Keeping them out of the ocean

6
Offshore Oil and Gas – Establishing binding international safety standards and liability

7
Global Ocean Accountability Board – Monitoring progress toward a healthy ocean

8
Creating a High Seas Regeneration Zone



1 Proposal 1
UN Sustainable Development Goal for the Ocean – Putting a healthy living ocean at the heart of development

To accelerate progress towards reversing ocean degradation and drive the global system for ocean governance, the Commission calls upon UN Member States and all relevant stakeholders to agree a stand-alone SDG for the global ocean

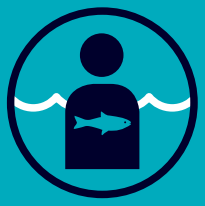
Closing of the High-level Event on the Millennium Development Goals. © Devra Berkowitz / UN Photo


LATVIA
LIBERIA
NICARAGUA
NIGER
PAKISTAN
SLOVENIA

1 Proposal 1 UN Sustainable Development Goal for the Ocean – Putting a healthy living ocean at the heart of development

To accelerate progress towards reversing ocean degradation and drive the global system for ocean governance, the Commission calls upon UN Member States and all relevant stakeholders to agree a stand-alone SDG for the global ocean, thus putting the global ocean front and centre in the post-2015 UN development agenda.

Given the importance of the global ocean to issues of environmental sustainability, social justice, equity and governance, the Commission strongly supports and wishes to add its voice to the proposals made at the UN Open Working Group on SDGs aimed at a stand-alone Ocean SDG.



It is the firm view of the Commission that a stand-alone Sustainable Development Goal (SDG) on the global ocean would be an effective tool to accelerate progress towards reversing ocean degradation. A UN SDG with a singular focus on ocean sustainability would have a strong impact on increasing the visibility of ocean issues and triggering resources for action. It would also help to put the ocean front and centre in the post-2015 development agenda. One of the main outcomes of the SDG process is intended to be a high-level framework for implementation and monitoring of and compliance with existing agreements, by helping to improve capacity, knowledge, cooperation, governance, political will, and allocation of resources. A stand-alone Ocean SDG would also help to provide a framework to orient development of new measures to tackle existing governance gaps in relation to the high seas.

The agreement by UN Member States to develop a set of SDGs that will build upon the Millennium Development Goals (MDGs) and converge with the post-2015 development agenda,[j] was one of the main outcomes of the Rio+20 Conference of 2012. It was decided in Rio to establish an "inclusive and transparent intergovernmental process open to all stakeholders, with a view to developing global sustainable development goals to be agreed by the General Assembly".[39]

Consequently, in January 2013, a 30-member Open Working Group (OWG) of the UN General Assembly, co-chaired by Hungary and Kenya, was established, with the task of preparing a proposal on the SDGs before the 68th session of the General Assembly ends in September 2014. The OWG has held 12 meetings so far and, as of its most recent meeting in June 2014, has consolidated its work around 17 goals.[40] 'Attain conservation and sustainable use of marine resources, oceans and seas' is one of the proposed goals and has 11 associated targets.

During the course of the discussions, various proposals have been made to integrate ocean issues into a SDG framework. The first category of proposals takes the view that the ocean should be given a dedicated stand-alone goal. The second category proposes that the topic be addressed under other priority areas in the form of targets. Supporters of a stand-alone Ocean SDG emphasise the importance of the ocean for sustainable development and humankind as a whole. They argue, among other things, that the ocean requires focused attention due to its complex nature and significant contribution to the three dimensions of sustainable development.

A large number of countries support a stand-alone Ocean SDG,[k] with proposals aimed at: healthy, productive and resilient oceans; conservation of biological diversity; reduction of marine pollution; protection of marine and coastal ecosystems; and elimination of IUU fishing and overfishing.

Other countries have proposed the inclusion of ocean-related aspects within current SDGs. Supporters of this approach argue, among other things, that the ocean should be dealt with in a cross-cutting manner and therefore ocean-related aspects should be part of other SDGs, in the form of targets. The main priority areas identified are: food security and environmental sustainability (including management of natural resources); healthy and productive ecosystems; biodiversity protection; and respect for planetary boundaries.

The Pacific Small Island Developing States, led by the Republic of Palau, announced in December 2013 the launch of their 'campaign' for a stand-alone Ocean SDG. In February 2014 at UN headquarters, together with the President of Palau Tommy Remengesau, Global Ocean Commission Co-Chair David Miliband presented the case for an Ocean SDG.

It is the Commission's view that 2014 presents a unique opportunity to leverage the SDG process to advance the global ocean governance agenda. To help make progress towards a stand-alone Ocean SDG, the Commission, working with like-minded stakeholders, has developed a proposal for consideration, including specific metrics and potential targets which are consistent with its proposals in this report (see below).

Of course an Ocean SDG alone is not enough to guarantee a secure future for the global ocean, but it would send a number of important messages, garner valuable recognition, momentum and resources, as we saw with the MDGs; and represent a recognition that the global ocean is an Earth system that needs to be addressed and managed as a single entity.

The Commission has heard some voices say that if ocean issues are taken up by other SDGs only, the threats facing the global ocean will be taken care of. For the Commission, it is not an either/or proposition. Neither is an artificial choice between an Ocean SDG and a new UNCLOS implementing agreement. Some ocean-relevant issues will of course be touched upon in several of the SDGs. But we cannot perpetuate the fragmented approach that is currently driving ocean decline. A concerted effort is required that should be framed in a specific Ocean SDG, underpinned by key reforms in global ocean governance and implemented by every government, by civil society and by the private sector so that the words on paper become action in the water.

j The SDGs and the post-2015 process began along parallel tracks, but many governments and observers pointed out that continuing with two separate processes was a recipe for confusion, and it now appears virtually certain that the two will merge at some point in 2014, before the 69th session of the UN General Assembly opens.

k By April 2014, 49 countries had gone on record in favour of a stand-alone Ocean SDG, including the US, Canada, Japan, Spain and Belgium. At the time of writing this report, it is too early to say whether consensus will be reached on the development of a stand-alone SDG, but the latest Working Document issued in June 2014 by the Co-chairs of the OWG lists 'Attain conservation and sustainable use of marine resources, oceans and seas' as one of the 17 goals under consideration. It is clear that, at a minimum, the global ocean will feature within the SDGs, and hopes are increasing that this will take the form of a stand-alone SDG, thus positioning ocean issues in the UN post-2015 development agenda.

1 Proposal 1
UN Sustainable Development Goal for the Ocean – Putting a healthy living ocean at the heart of development

High seas elements for a possible Ocean Sustainable Development Goal

Target 1
Ensure that all fish stocks are being fished sustainably

- Percentage of tonnage of fish landed within OSY.
- Percentage of commercial fish stocks. operating under science-based management plans.
- Number of data-deficient stocks being fished.
- Fleet size and capacity of flag States.
- Percentage of total subsidies reduced for distant water/high seas fishing fleets.
- Number of flag States freezing, capping or reducing fleet size.

Target 2
Protect vulnerable marine areas

- Percentage of high seas in protected areas.
- ISA requires environmental impact assessments (EIAs) prior to leasing for exploitation.
- Number of RFMOs effectively implementing the ecosystem approach and the precautionary principle.
- Percentage of bottom fisheries operating pursuant to EIAs.
- Number of national and regional agreements regulating and setting standards to prevent pollution.
- Number of countries having ratified the Minamata Convention on mercury.

Target 3
Reduce biodiversity loss

- Proportion of marine species assessed as threatened on the IUCN Red List.
- Proportion of threatened marine species effectively protected at the national, regional or international levels.

Target 4
Eliminate illegal, unreported and unregulated fishing

- Number of flag States and RFMOs requiring IMO numbers and transponders for all fishing vessels fishing in the high seas.
- Number of RFMOs having established satellite monitoring programmes.
- Number of ratifications of the UN FAO Port State Measures Agreement and number of port State with supporting domestic implementing legislation.
- Percentage of high seas covered by RFMOs.
- Percentage of high seas and straddling stocks under management by RFMOs.

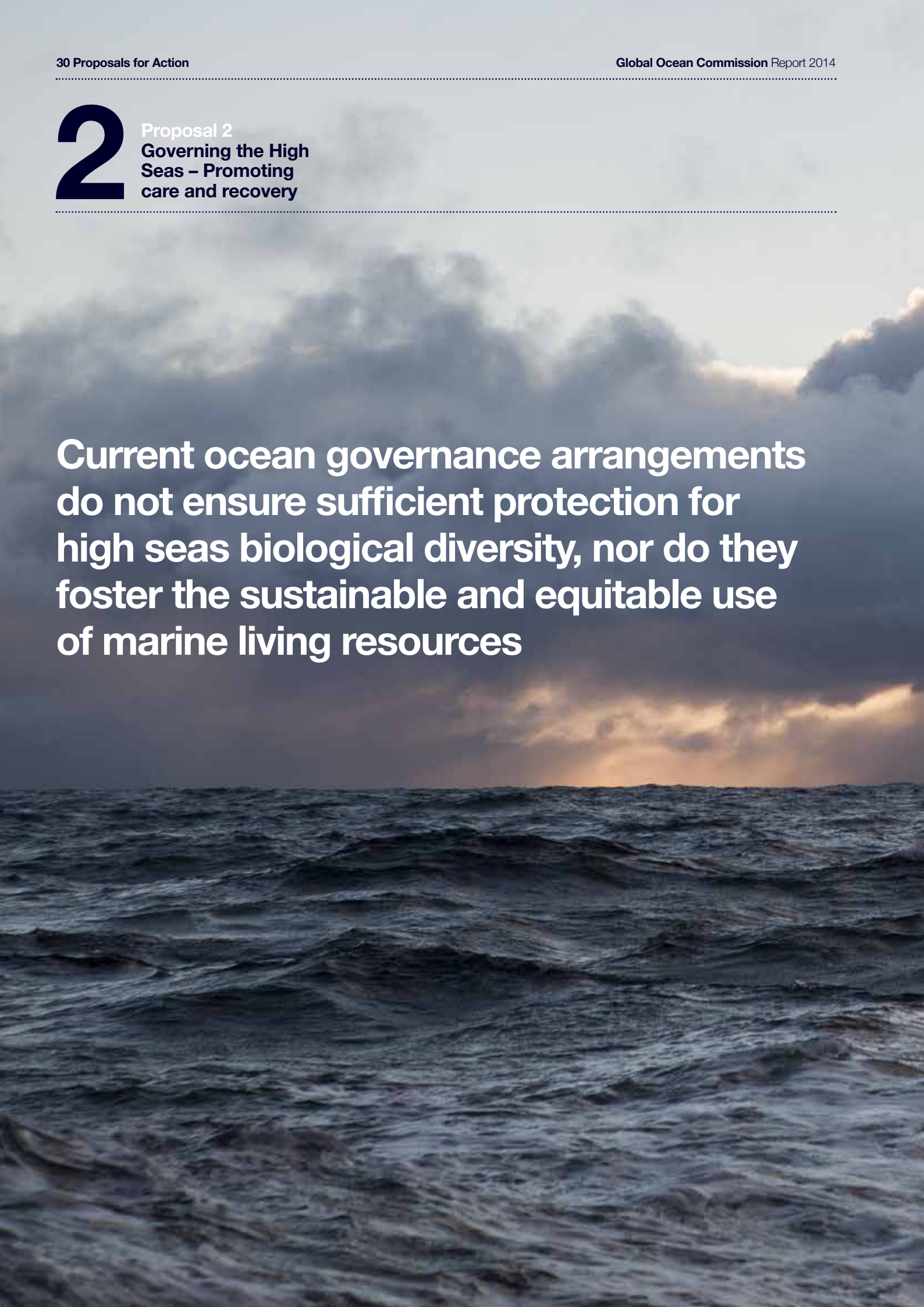
Target 5
Reduce by 50% quantities of plastic debris entering the marine environment

- Number of countries with taxes and restrictions, including bans, on certain plastics uses.
- Number of local, national and other programmes to eliminate single-use plastics and increase circular use.
- Increase in the number of and improvements to ports' waste disposal facilities.

Frozen tuna is seen in the hold of the Chinese ship *Heng Xing 1* in an area of international waters near the exclusive economic zone of Indonesia, 14 November 2012. © Alex Hofford / Greenpeace

Ensure that all fish stocks are being fished sustainably

2 Proposal 2
Governing the High Seas – Promoting care and recovery



Current ocean governance arrangements do not ensure sufficient protection for high seas biological diversity, nor do they foster the sustainable and equitable use of marine living resources

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2 Proposal 2 Governing the High Seas – Promoting care and recovery

Current ocean governance arrangements do not ensure sufficient protection for high seas biological diversity, nor do they foster the sustainable and equitable use of marine living resources. In particular, implementation of agreed instruments and commitments is not good enough. Effective rules and mechanisms to ensure the sustainable use and conservation of high seas biodiversity are missing, and there is no mechanism to achieve effective sectoral coordination. Strong domestic and international political leadership and engagement is needed to drive the necessary governance reforms to enable the global community to break out of this vicious cycle.

The Commission calls for:

- **Strengthening UNCLOS through a new implementing agreement on the conservation and sustainable use of marine biological diversity beyond national jurisdiction in order to make it fit for purpose.**
- **Universal ratification of UNCLOS and the UN Fish Stocks Agreement of 1995, and the establishment of an annual meeting of States Parties to UNFSA to provide a platform for greater accountability.**
- **Regular independent assessment of RFMOs to improve their performance.**
- **Prompt entry into force and implementation of the FAO Port State Measures Agreement of 2009.**
- **The appointment by the Secretary-General of the United Nations of a Special Representative for the Ocean, with a clear mission and sufficient resources to significantly improve ocean governance.**
- **Creating Regional Ocean Management Organisations (ROMOs) to promote ecosystem-based management of the ocean.**
- **The appointment of ocean envoys or ministers by Heads of State or Government.**

The Commission firmly believes that this package of interconnected, tangible measures would serve to strengthen the global system of high seas governance and advance the more sustainable ecosystem-based management of high seas resources.

Current ocean governance arrangements do not ensure sufficient protection for high seas biological diversity, nor do they foster the sustainable and equitable use of marine living resources. Effective rules and agreed mechanisms to ensure the sustainable use and conservation of high seas biodiversity are missing. There is also inadequate implementation of already agreed instruments and commitments and coordination across sectors to ensure efficient, effective and comprehensive governance.

UNCLOS is the 'constitution for the ocean' but it is partly out of date and, in several instances, not well implemented. In such a highly fragmented landscape, policy coherence and effective international cooperation at and between global and regional levels are essential to achieving common objectives. Without policy coherence it will be difficult to ensure that any agreed targets are achieved, including those contained in a possible UN SDG for the ocean. Better coordination is one of the driving forces behind the push for an implementing agreement under UNCLOS for the conservation and sustainable use of marine biodiversity beyond national jurisdiction, but additional measures are also necessary.

Strong domestic and international political leadership and engagement is needed to drive governance reforms that will enable the global community to break out of this vicious cycle. Several proposals have been put forward and considered by the Commission, including the creation of a World Ocean Organisation to function as a global steward for the marine environment and regulate access to its resources.[41] But the Commission is of the view that it is unlikely that such proposals will be achievable in the current political landscape. Instead, we believe it is important that our proposals significantly contribute to the continued evolution of UNCLOS as a living framework and the foundation for the sound international governance of the global ocean.

The Commission is therefore proposing a carefully designed package of measures relating to ocean governance that we believe will significantly improve the present situation. These are elaborated below. It is important to note, however, that these proposals should not be considered in isolation. They must be read in conjunction with our other proposals.

2 Proposal 2 Governing the High Seas – Promoting care and recovery

1 Strengthening UNCLOS through a new implementing agreement on the conservation and sustainable use of marine biological diversity beyond national jurisdiction

The Commission strongly endorses the need for a new UNCLOS implementing agreement to implement and update the environmental protection and conservation provisions of UNCLOS in the high seas.

UNCLOS represents a complex balance of jurisdictions and uses, including military uses, going to the very core of State identity. Adopted in 1982, after a decade of continuous negotiation, UNCLOS entered into force in 1994. It has since been supplemented by two so-called implementing agreements, adopted in 1994 and 1995, designed to elaborate and, in some respects, modify some provisions of UNCLOS that have proved to be ineffective or politically unacceptable. The 1994 implementing agreement dealt with provisions relating to deep seabed mining, while the 1995 agreement sought to resolve problems relating to the conservation and management of straddling and highly migratory fish stocks on the high seas. These agreements demonstrate the adaptability of UNCLOS and its capacity to evolve to meet changing circumstances and demands.

In the view of the Commission, a third implementing agreement is an essential pre-requisite to bring UNCLOS up to date and if we are to successfully address new threats and intensifying uses that are undermining the health, productivity and resilience of the ocean and marine biodiversity beyond national jurisdiction. An implementing agreement should allow the designation of MPAs on the high seas; establish common principles, targets and objectives; provide an overarching mandate for the conservation and management of biodiversity in areas beyond national jurisdiction; and require the application of an ecosystem approach to the management of activities on the high seas, including prior EIAs.

An agreement could also establish, in legally binding form, the institutional mechanisms necessary to improve implementation and compliance, clarify rights and duties of flag states, provide incentives and assistance at regional and national levels, and ensure transparency and accountability. An implementing agreement would also provide for the equitable sharing of benefits derived from the potential exploitation of marine genetic resources in areas beyond national jurisdiction, a matter of particular importance to the Group of 77 developing countries.

There is a need for a comprehensive legal instrument through which the international community can establish high seas protected areas that are universally recognised and respected. Currently just 2.8% of the world's oceans are designated as MPAs[42] and only less than 1% of such areas occur beyond national jurisdiction. Marine reserves help preserve and restore biodiversity.[43] Fisheries may also benefit from reserves when they help replenish nearby habitats through spill over of adult organisms and larvae.

The Commission is encouraged by the commitment to dialogue at the UN BBNJ Working Group with respect to the scope, parameters and feasibility of a new implementing agreement; but now that dialogue needs to be turned into action. We will continue to lend our support to the large majority of States and civil society that wish to see a decision taken at the 69th Session of the UN General Assembly to commence negotiations of an agreement without further delay. Having facilitated an exchange of views on the scope, parameters and feasibility of a new instrument at its April 2014 meeting, the BBNJ Working Group should begin to explore different negotiation formats which could be considered in order to secure a successful outcome of deliberations at the 69th Session of the General Assembly and beyond. Immediately after the 69th Session, UN Member States should move swiftly towards completing negotiation of the agreement and ensuring its entry into force.

2 Universal ratification of UNCLOS and the UN Fish Stocks Agreement of 1995, and the establishment of an annual meeting of States Parties to the UNFSA

We repeat that the point of departure for any assessment of the problems and challenges for high seas governance is UNCLOS. The primacy of UNCLOS and its two implementing agreements as the basic legal framework for ocean governance is well established. Almost every annual resolution of the General Assembly on oceans and the law of the sea, for example, "emphasi[ses] the universal and unified character of [UNCLOS]" and "reaffirms that [UNCLOS] sets out the legal framework within which all activities in the oceans and seas must be carried out".[44]

As of April 2014, 166 States and the European Community had ratified UNCLOS. It is, therefore, almost universal in scope. We urge those remaining States that are not yet party to UNCLOS, and in particular the US, to join the overwhelming majority of States in ratifying this important constitutional treaty.

Of more concern, however, is the fact that, almost 20 years after its adoption, the UNFSA has attracted only 81 ratifications. While this number includes most of the high seas fishing nations (China, Chile and Mexico being notable exceptions), the relatively low number of ratifications is particularly striking when compared to the ratifications that UNCLOS has. Many nations have not ratified the UNFSA because they do not want to be bound by its more prescriptive requirements for fisheries management. The development of the Agreement was in part recognition that the regime established by UNCLOS was inadequate to deal with the continued depletion of the world's fish stocks, particularly straddling and highly migratory fish stocks. Importantly, however, the UNFSA does not seek to impose any additional requirements on parties to UNCLOS. In fact, it is first and foremost an agreement for the purposes of implementing the provisions of UNCLOS. While individual countries may consider it deficient, it cannot reach its full potential unless the most important fishing, coastal and flag States are parties to it, and implement it effectively.

The World Bank estimates that mismanagement of fisheries represents an annual loss of US$50 billion to the global economy, in large part to the detriment of developing countries.[45] The Commission therefore urges all States to ratify the UNFSA and implement its provisions. We would add that we see a clear role for the UN Special Representative for the Ocean to work with UN Member States to encourage those that have not already done so to ratify UNCLOS and the UNFSA, thus ensuring the universality of these two agreements.

The Commission thinks that convening an annual meeting of States Parties to the Agreement would help promote universal participation in the UNFSA. The fact that the Agreement contains no provision mandating an annual meeting of the Parties is in fact a significant flaw, as such a meeting would provide a valuable opportunity to promote the Agreement and ensure its consistent application in State practice. Moreover, it would provide an appropriate forum for the review by States Parties of the performance of RFMOs, the regional bodies tasked with implementing the UNFSA in the first instance (see below).

Secretary-General Ban Ki-moon (right) addresses a reception commemorating the 30th Anniversary of the Opening for Signature of the 1982 United Nations Convention on the Law of the Sea (UNCLOS), often called the 'constitution for the oceans', at UN Headquarters. © Eskinder Debebe / UN Photo

2 Proposal 2
Governing the High Seas – Promoting care and recovery

The Agreement does contain a provision mandating a review conference five years after its entry into force, but some States maintain that this was limited to a single instance. As a result, the review conference was adjourned in 2006[46] and then resumed in 2010 for a week so as to avoid a very literal interpretation that only one review conference could be held.[l] At the initiative of the United States, there has also been a series of informal consultations among the States Parties to the UNFSA convened at the UN. While these initiatives are to be welcomed, the Commission considers that for the Agreement to be effective, a regular annual meeting of States Parties to the UNFSA should be agreed to, which would include the opportunity for all stakeholders to be present, including RFMOs and civil society. The fact that the Agreement does not specifically provide for such a meeting does not, in our view, mean that the possibility of such a meeting is excluded. The mandate for any such meeting could be agreed to by States Parties at the first such meeting.

The Commission considers that a key function of a meeting of States Parties to the UNFSA is to provide a forum for the review and independent evaluation of the performance of RFMOs against a standard set of metrics. In our opinion, a regular performance review is the best way to identify areas of improvement and to motivate RFMOs to modify their behaviour to comply with the key articles contained in UNFSA. RFMOs are a critical component of the global governance architecture and it is simply unacceptable that they are largely unaccountable to the wider international community.

In fact, the international community adopted the idea of RFMO performance reviews in the 2006 UN General Assembly Resolution on Sustainable Fisheries (61/105) and again through the FAO Committee on Fisheries in 2007. Nine RFMOs have conducted performance reviews thus far[m] . Most of these RFMO performance reviews, however, have been conducted by panels that include a number of members employed by the RFMO or one or more States that are Party to the RFMO. As such, they cannot be considered truly independent. Another shortcoming is that there is not an established timeline to review the implementation of corrections to the problems identified by the panels or what sanctions might be considered should such problems not be addressed. Nonetheless, the Commission is encouraged that these nine RFMOs have taken a step, albeit a small one, towards reform.

We believe that performance reviews should be genuinely independent and transparent, so that the results are made known to the general public as well as to the entire global community, which has a stake in the proper management of high seas fisheries resources. Such reviews should also be carried out in a consistent manner, against agreed criteria, so that all RFMOs are encouraged to aspire to the performance of the best RFMOs.

l The review conference was held in 2005. Because of a literal interpretation placed upon the relevant provisions of UNFSA by some States, the review conference was somewhat artificially extended by reconvening it in 2010.

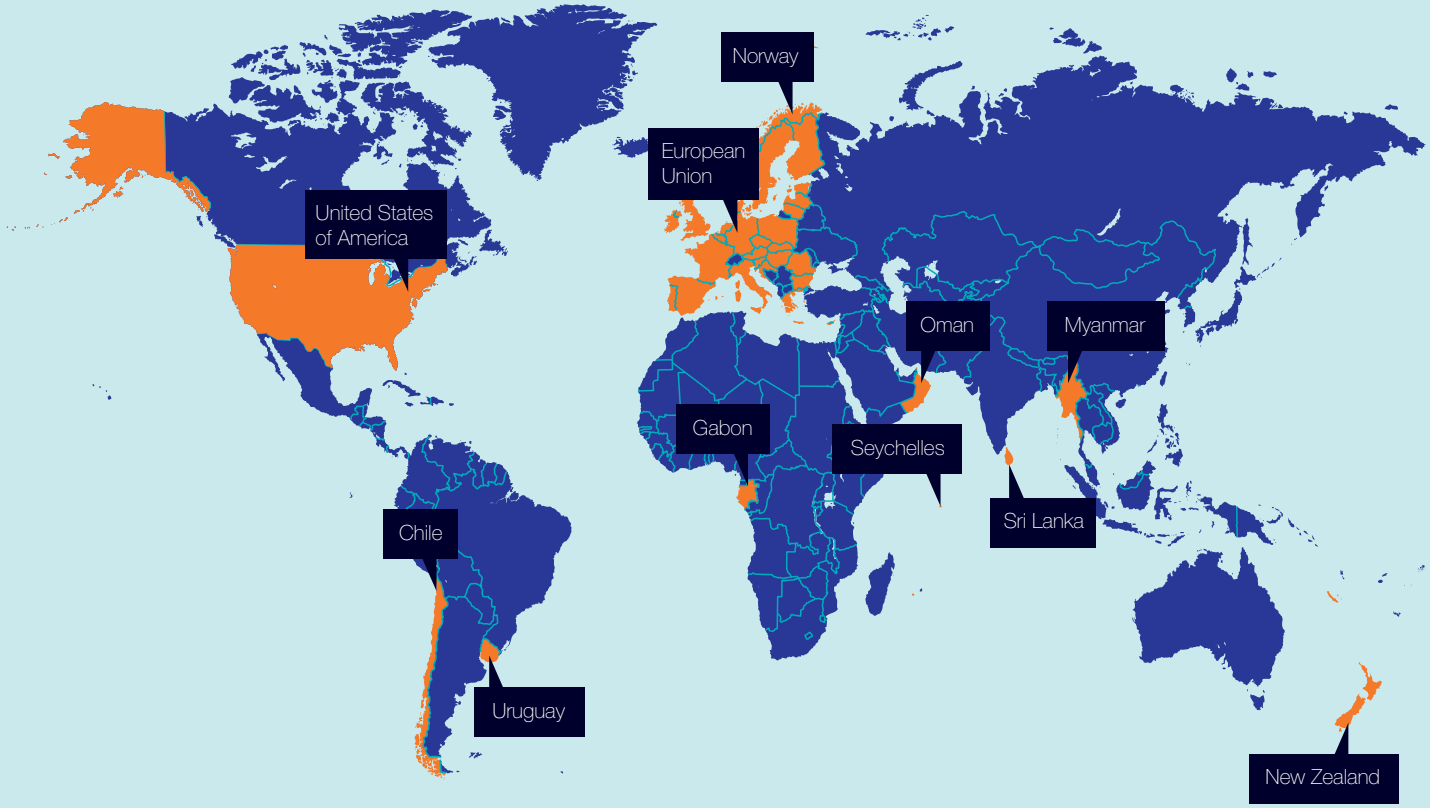
m IOTC, ICCAT, CCSBT, WCPFC, NEAFC, CCAMLR, NAFO, NPAFC and SEAFO. An examination of the performance reviews revealed a variety of problems shared by the RFMOs, including poor data provision, failure to adopt appropriate conservation measures, and inadequate compliance with management measures.

3 Prompt entry into force and implementation of the FAO Port State Measures Agreement of 2009

The ongoing problem of IUU fishing on the high seas concerned the Commission greatly during the course of its work. Many measures have been proposed to combat IUU fishing and we deal with some of these in Proposal 4, below. However, one of the most significant developments to have taken place in the fight against IUU fishing was the adoption by the FAO in November 2009 of a legally binding Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA).

Port State control has a well-established track record in the area of merchant shipping and has had a very significant impact on the problem of substandard shipping. Since all fish caught must be landed at a port at some point, enhanced and coordinated action by port States can act as a disincentive to IUU fishers by increasing the cost of their operations, for example by forcing them to seek out more remote and thus more costly ports. One of the main benefits of tighter port State controls is that they are relatively cost-effective compared to traditional enforcement measures such as inspection at sea.

The Commission considers it vital that, as part of the suite of governance reforms required to reverse the degradation of the global ocean, this important Agreement is brought into force and implemented as soon as possible. We are encouraged that 11 Parties, including the US and the EU, have ratified the PSMA, but it requires ratification by 25 States before it can enter into force. We urge States to sign up without delay. We also strongly support efforts already underway both to implement the PSMA – particularly those by RFMOs – and to provide support to developing countries to enable them to participate effectively in the Agreement. These include the Stop Illegal Fishing Working Group of the New Partnership for Africa's Development (NEPAD), which is working to develop capacity needs assessments and toolkits to assist African countries in implementing the PSMA.



PARTIES TO THE PSMA *as of May 2014*

2 Proposal 2 Governing the High Seas – Promoting care and recovery

4 Appointment of a Special Representative for the Ocean

The Commission considers that a lack of top-level leadership on ocean affairs is one of the principal reasons for the failure of different efforts to improve coordination and coherence of policy between the various agencies and bodies that have, within the UN system, a mandate related to the ocean.

When UNCLOS was adopted in 1982, the UN Secretary-General appointed a Special Representative for the Law of the Sea, at the level of Under-Secretary-General, to coordinate all discussions on the law of the sea within the UN system. This reflected the importance attached to the issue of oceans at that time. The presence of a senior official at such a level provided the necessary strategic leadership and political weight to enable rapid progress in the implementation of UNCLOS in the early years following its adoption (including, for example, the political weight to persuade key Heads of State to agree to address issues relating to seabed mining that were blocking UNCLOS ratification by key States). This office was abolished in 1992 as a result of changing political priorities at the time and the part of the UN Secretariat that serviced UNCLOS was absorbed into the Office of Legal Affairs of the UN at a much lower level, where it has remained in the form of a Division for Ocean Affairs and the Law of the Sea (DOALOS).

UNCLOS gives a number of specific responsibilities to the Secretary-General of the UN. These include the duty to act as depositary for the treaty and to report to States Parties, the ISA, and competent international organisations, on issues arising with respect to the implementation of UNCLOS (Article 319). Following the entry into force of UNCLOS in 1994, the General Assembly expanded this mandate by requesting the Secretary-General to submit an annual report on wider developments relating to ocean affairs and the law of the sea.[47] Since then, this mandate has been reaffirmed and indeed expanded through successive annual resolutions of the General Assembly. As a result, in addition to its depositary functions the UN Secretariat is now responsible for providing services to a number of core processes. These include: an annual meeting of States Parties to UNCLOS; an informal consultative process aimed at comprehensive discussion of issues relating to oceans and law of the sea within the framework of UNCLOS and Agenda 21; the Regular Process for Reporting and Assessment of the State of the Marine Environment; servicing of the meetings of the Commission on the Limits of the Continental Shelf; and supporting the negotiation of annual General Assembly resolutions on ocean affairs and the law of the sea and sustainable fisheries.

Separately, the current mechanism for coordination of policy between agencies and bodies with a mandate related to the ocean is UN-Oceans. This is an informal consultative body that meets at Secretariat level and consists of representatives of the executive heads of each relevant UN organisation. UN-Oceans lacks transparency and its meetings are not open to observers. It has been widely criticised for its ineffectiveness and lack of any clear mandate.

The Commission therefore proposes the immediate appointment of a senior official as a Special Representative of the Secretary-General for the Ocean, with overall responsibility for the coordination of all matters relating to oceans and the law of the sea within the UN system, and with sufficient support staff to do so.[n] This is more than just a symbolic appointment. The Commission believes that this post would help to provide the global ocean with the political profile and visibility it deserves as well as helping to provide the leadership needed to implement our other proposals. The Special Representative could also ensure that the annual meeting of the States Parties to UNCLOS is more robust, discussing core issues of concern and engaging with civil society in a more transparent manner.

5 Creating Regional Ocean Management Organisations to promote ecosystem-based management of the high seas

One of the key issues for the Commission was how best to strengthen the regional bodies that will inevitably be essential to effective implementation of any new implementing agreement. Even with a comprehensive agreement in place, conservation and sustainable use will require effective regional implementation. Precautionary ecosystem-based management is best delivered at a regional scale in order to strike a prudent and pragmatic balance between global-scale commitments and the scale of individual ecosystems or bioregions.

The importance of strengthening and reforming RFMOs, including through regular independent performance reviews, has already been stressed. As presently constituted, however, RFMOs represent a sectoral approach to ocean management that fails to take into account other ocean uses and interests – and several only focus on the management of certain types of fish species. Most RFMOs continue to manage fisheries from a single-species perspective and have largely failed to deliver ecosystem-based management.

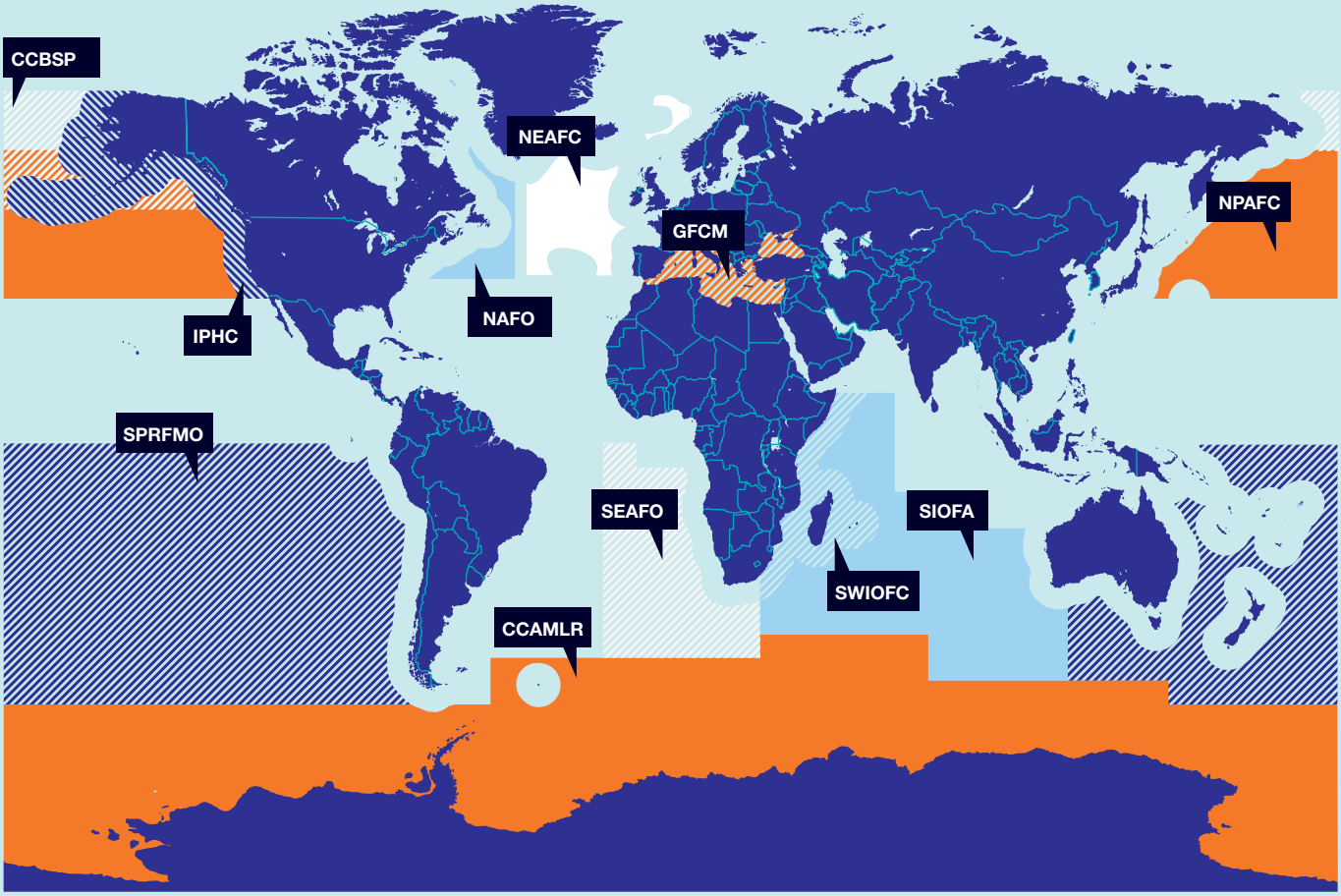
n The current UN Division for Ocean Affairs and the Law of the Sea could provide the necessary bureaucratic and administrative support to the Special Representative.

In the long term, therefore, the Commission recommends a move from RFMOs to Regional Ocean Management Organisations (ROMOs), where more integrated management can take place. A transition from RFMOs to ROMOs would be consistent with an increasing trend in a number of countries to merge the administrations dealing with fisheries and environmental matters with a view to transforming 'fisheries' departments into 'ocean' departments with a broader marine ecosystem-based vision and mandate. In addition, given that the traditional approach to fisheries management focuses strongly on the impacts of fishing, largely or even entirely ignoring the impacts of climate change and pollution and thus the cumulative impacts of various stressors, adapting fisheries management in an age of climate change requires not only a change in the process of management but also a change in the culture around fisheries management. ROMOs could move towards requiring prior 'integrated ecosystems assessments' as part of their remit.

Such bodies would need to have clear conservation mandates that would enable them to control and regulate any and all uses in areas beyond national jurisdiction that are not presently regulated. Their objectives should be defined as maintaining ocean health, protecting ocean ecosystems and ensuring sustainability and compatibility of uses.

ROMOs would break out of the sectoral approach by establishing best-practice ecosystem-based and precautionary management measures that would consider the impacts of all possible types of human impacts on the water column. They would work side-by-side with the ISA to align requirements for prior EIA, liability and coherency, thereby strengthening the capacities of organisations in regions where they already exist and creating new mechanisms in regions where none exist. They would align the objectives of UNCLOS and its implementing agreements (once the third has been agreed) into

REGIONAL FISHERIES MANAGEMENT ORGANISATIONS (NON-TUNA) *as of May 2014*



CCAMLR: Commission for the Conservation of Antarctic Marine Living Resources; CCBSP: Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea; GFCM: General Fisheries Commission for the Mediterranean; IPHC: International Pacific Halibut Commission; NAFO: Northwest Atlantic Fisheries Organization; NEAFC: North East Atlantic Fisheries Commission; NPAFC: North Pacific Anadromous Fish Commission; SEAFO: South East Atlantic Fisheries Organisation; SIOFA: South Indian Ocean Fisheries Agreement; SPRFMO: South Pacific Regional Fisheries Management Organisation; SWIOFC: Southwest Indian Ocean Fisheries Commission

2 Proposal 2 Governing the High Seas – Promoting care and recovery

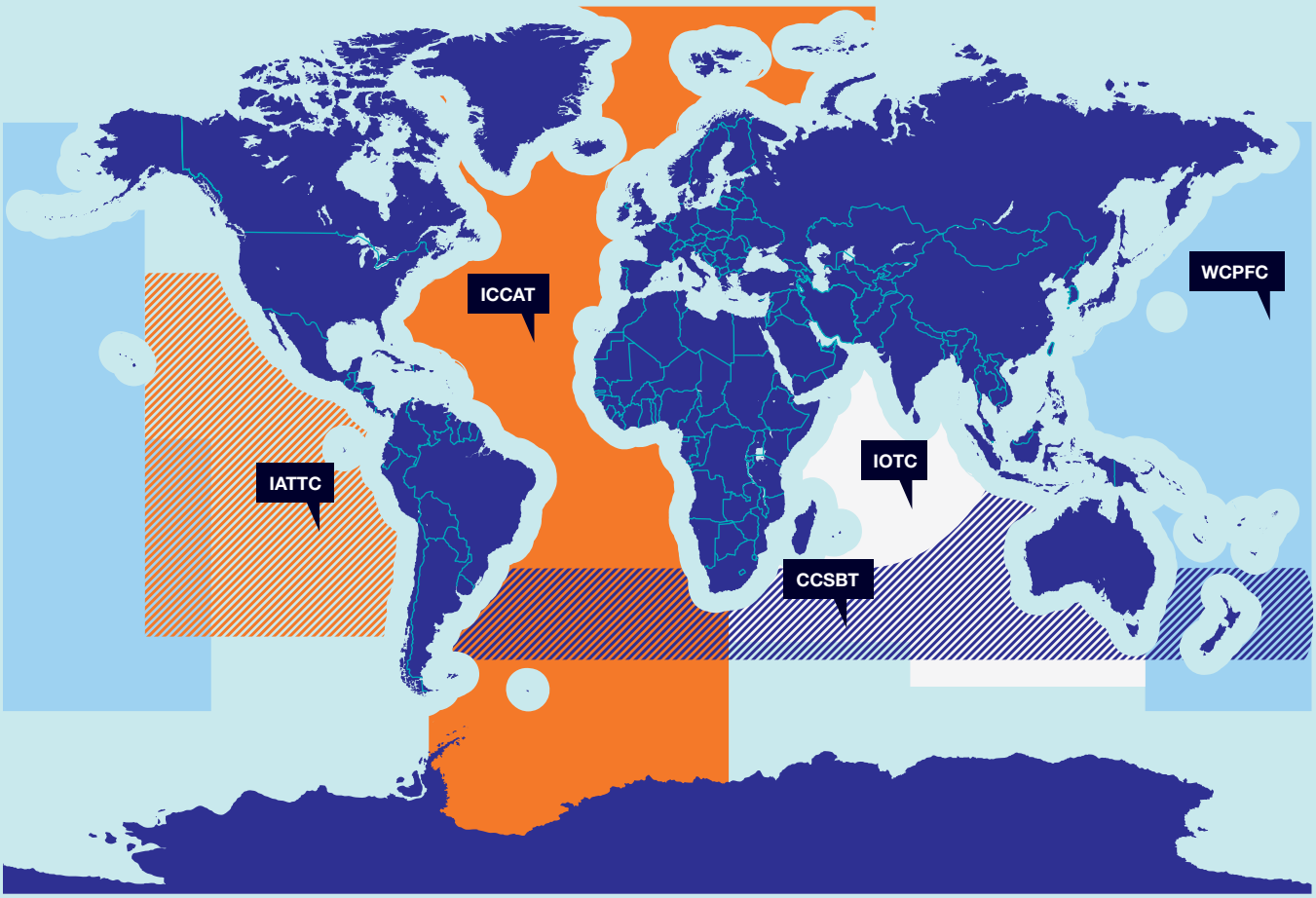
a coherent whole, with specific requirements for accountability, transparency and decision-making to include clear sanctions for rule breakers and free riders.

The critical question is: how can such a transition be made? The fisheries sector is protectively defensive of its sectoral status and other sectors (e.g. shipping and law enforcement) have been content to leave it that way. Recent developments at the IMO and Interpol suggest that this attitude may be changing gradually, but strong resistance to any attempt to further reform the mandates of existing RFMOs can still be expected. On the other hand, governments are profoundly reluctant to negotiate new institutional arrangements if existing ones can be adapted for purpose. From this perspective, if we make the assumption that any new implementing agreement would need a delivery mechanism at the regional level, the conversion of RFMOs into ROMOs by reorganising and broadening their mandates would appear to be a logical step. Certainly, no other existing regional institutions exist that have such broad geographic scope and membership.

There is also the operational reality that many of the most egregious problems with ocean management are fisheries related, which makes reforming RFMOs the obvious place to start, even though we recognise that the role and relationship of the United Nations Environment Programme (UNEP) and other Regional Seas Programmes[48] will need careful attention.

We do not see any incompatibility between this proposal and our proposal to review and evaluate the performance of RFMOs. Indeed, the two are complementary. Even if the UN General Assembly decides in 2015 to launch negotiations for a new UNCLOS high seas implementing agreement, those negotiations are likely to take some years. The problems of the high seas are too pressing to wait for any new agreement to enter into force, which is why we propose not only improving the performance and accountability of existing RFMOs but also at the same time encouraging their transition to organisations capable of delivering sound conservation outcomes, thus restoring the delicate balance between rights and responsibilities envisaged by the UNCLOS drafters.

REGIONAL FISHERIES MANAGEMENT ORGANISATIONS (TUNA) *as of May 2014*



CCSBT: Commission for the Conservation of Southern Bluefin Tuna; IATTC: Inter-American Tropical Tuna Commission; ICCAT: International Commission for the Conservation of Atlantic Tunas; IOTC: Indian Ocean Tuna Commission; WCPFC: Western and Central Pacific Fisheries Commission

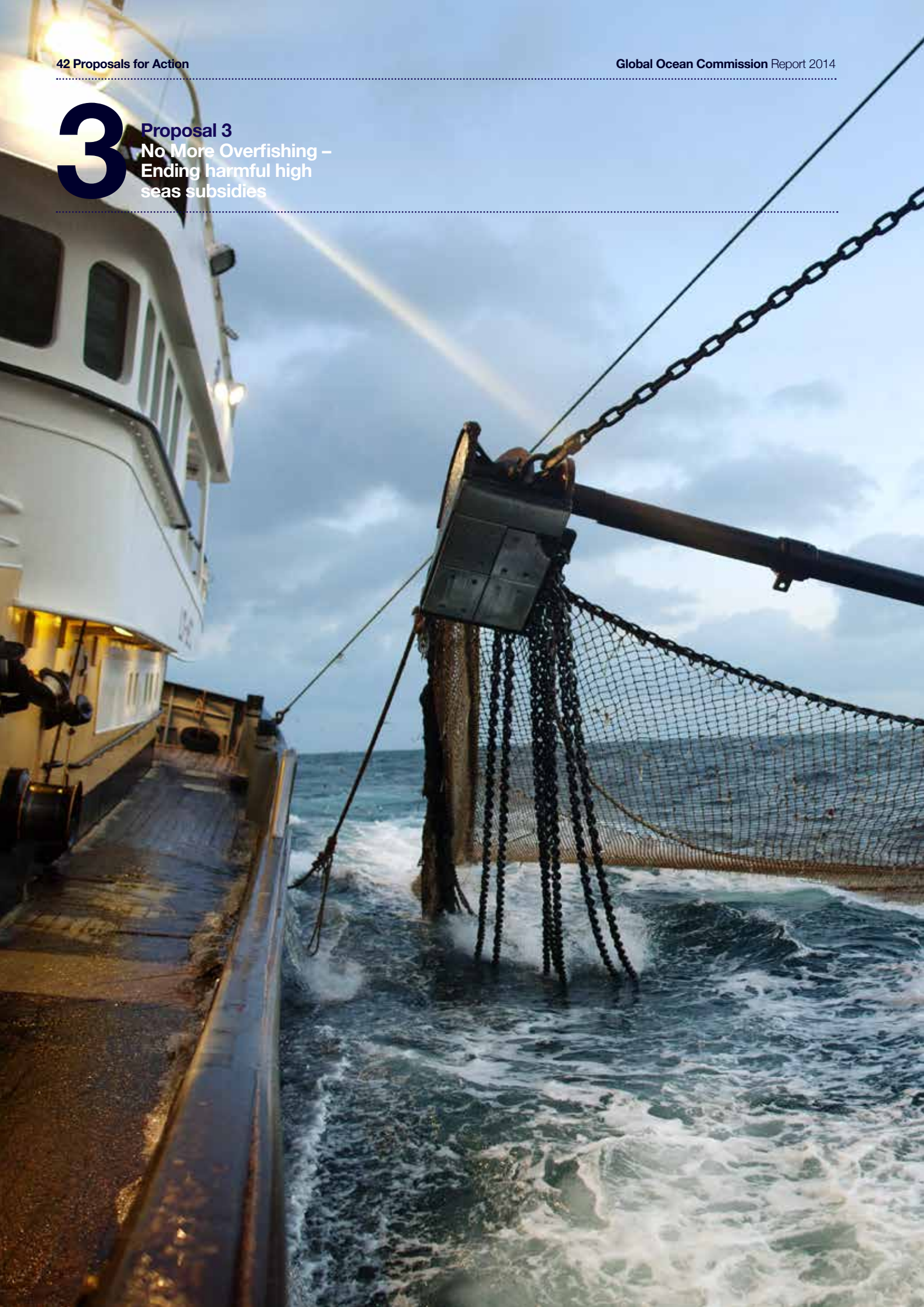
6 Appointment of ocean envoys or ministers by Heads of State or Government

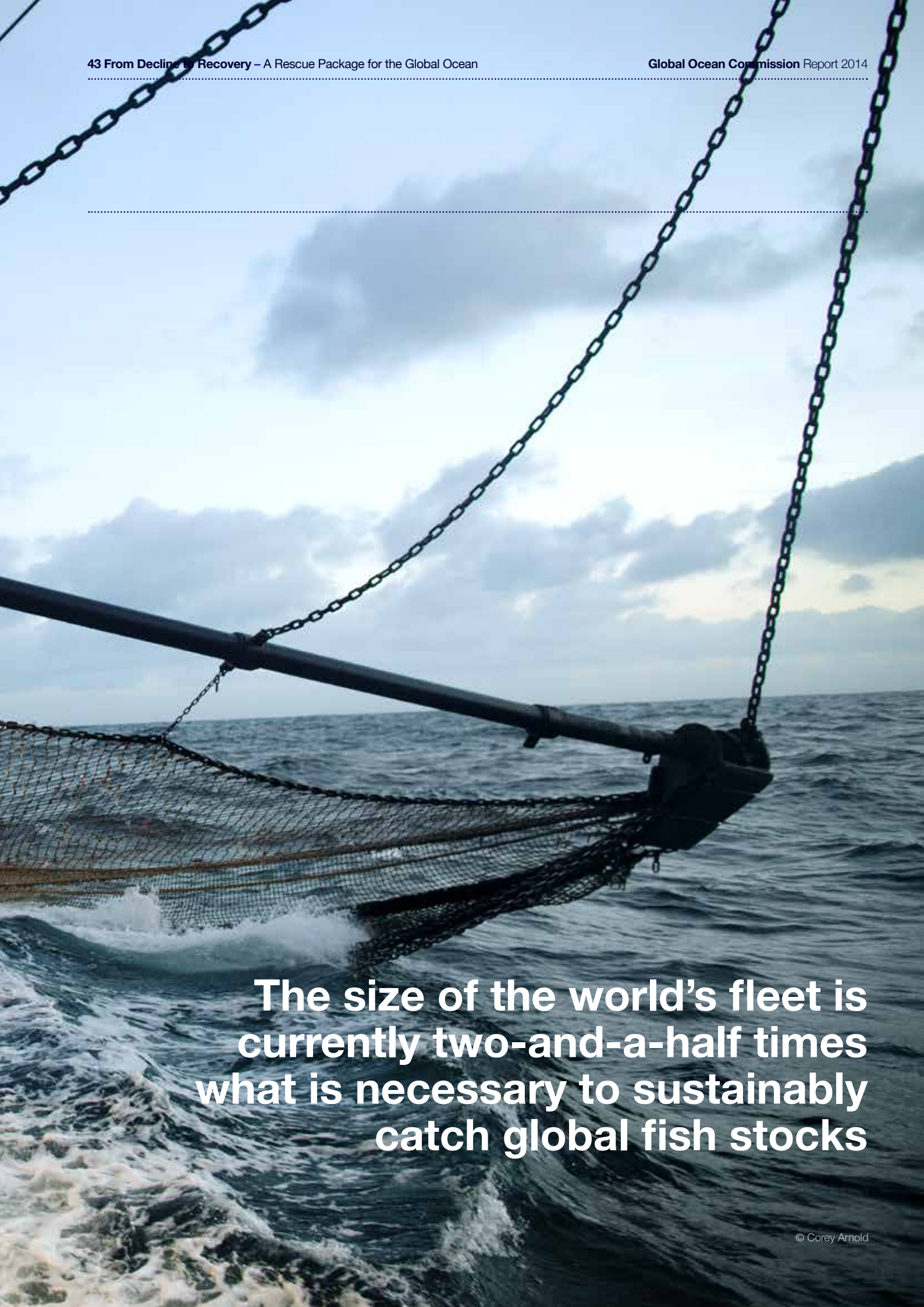
The sectoral approach that characterises international governance arrangements also pervades national arrangements in many countries. Few States have developed, let alone implemented, national ocean policies. The Commission has observed that inter-departmental coordination on global ocean issues is often weak or lacking, with different ministries responsible for fisheries, biodiversity, seabed mining, ocean science or other relevant issues.

For this reason, the Commission proposes the appointment by Heads of State or Government of ocean envoys or ministers (as may be appropriate) to create stronger inter-ministerial linkages within governments. The posts would serve to enhance coordinated and coherent, national 'all of government' positions on the sustainable use and conservation of marine life, and to help foster understanding and leadership among those sectors engaged in ocean-related issues.

A general view of the Conference as it opened its fourth session in New York in 1975. At the presidential rostrum, from left: Secretary-General Kurt Waldheim; H. Shirley Amerasinghe (Sri Lanka), President of the Conference; and David Hall, Secretary of the Conference. © Teddy Chen / UN Photo

3 Proposal 3
No More Overfishing – Ending harmful high seas subsidies





The size of the world's fleet is currently two-and-a-half times what is necessary to sustainably catch global fish stocks

© Corey Arnold

3 Proposal 3 No More Overfishing – Ending harmful high seas subsidies

It is imperative to address the main drivers of fishing vessel overcapacity, in particular, the issue of capacity-enhancing subsidies. The Commission asks WTO member States to urgently adopt a three-step approach to deal with this problem and remove the negative financial incentives that maintain a global fishing fleet that has too many boats chasing an ever diminishing supply of fish.

Step 1: Full transparency (disclosure) of fisheries subsidies.

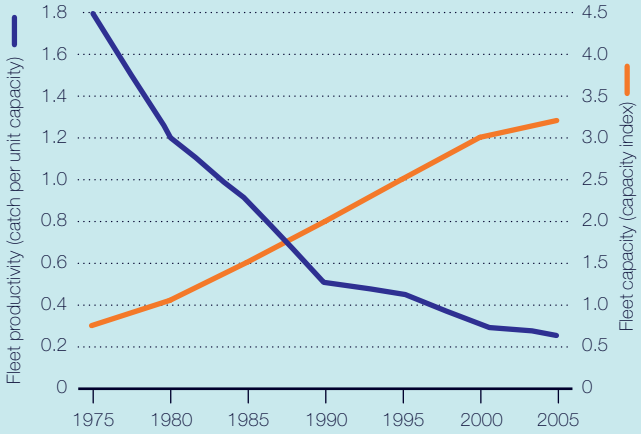
Step 2: Classification of fisheries subsidies in order to identify and distinguish those that are harmful.

Step 3: Immediately capping and then phasing-out high seas fishing fuel subsidies within five years.

The main drivers leading to overfishing on the high seas are vessel overcapacity and mismanagement. However, measures to improve management alone will not succeed without solving the problem of overcapacity caused by subsidies, particularly fuel subsidies.

Overcapacity is often described as "too many boats trying to catch too few fish". Indeed, the size of the world's fleet is currently two-and-a-half times what is necessary to sustainably catch global fish stocks. But it is not only the number of vessels that is of concern, it is also the type of vessel. Many argue that having fewer vessels, when they have larger engines and use more-destructive industrial fishing gear, is of equal weight to the number of vessels fishing as a driver of overcapacity.

A RAPID EXPANSION OF FLEET CAPACITY AND TECHNOLOGY HAS RESULTED IN A DRAMATIC DROP IN PRODUCTIVITY



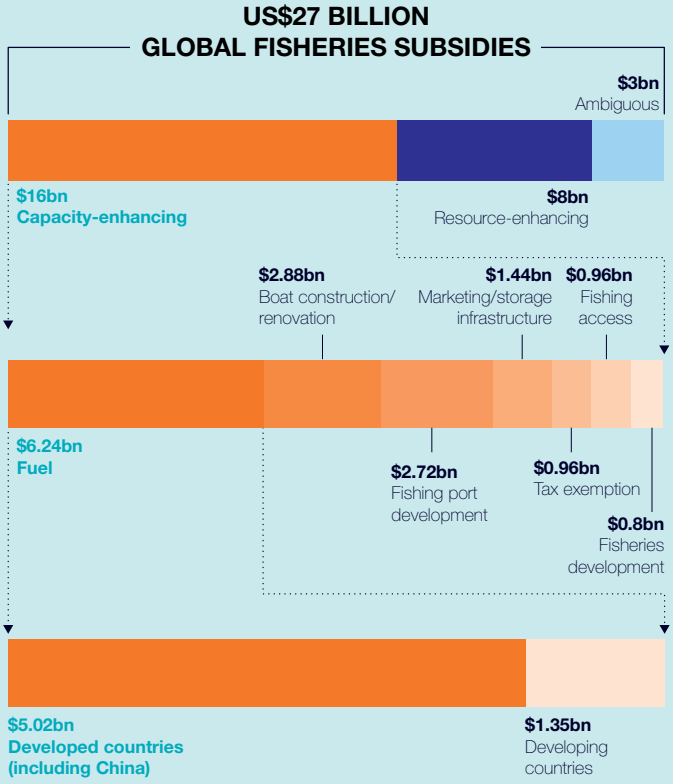
SOURCE: UNEP GREEN ECONOMY REPORT, WORLD BANK – "THE SUNKEN BILLIONS"; FAO SOFIA 2008, RASHID SUMAILA PERSONAL COMMUNICATION, TEAM ANALYSIS

Many high seas fisheries destroy value from a societal perspective as the industry requires significant amounts of subsidies to achieve operating profits. This raises significant equity concerns since, in most cases, only those States that can afford subsidies have the opportunity to fish the high seas.

Economic models show that the introduction of cost-reducing subsidies in a fishery system encourages the increase of fishing effort.[49] Vessel overcapacity can be tied to government subsidies because the reduction of operating costs enables the activity to continue when it might not otherwise be economically viable.[50]

'Capacity-enhancing' subsidies include tax exemption programmes; foreign access agreements; boat construction renewal and modernising programmes; fishing port construction and renovation programmes; fishery development projects and supporting services; and fuel subsidies.[51]

As an example specific to the high seas, subsidies for the high seas bottom trawl fleets of the 12 top high seas bottom trawling nations amount to US$152 million per year, which represents 25% of the total landed value of the fleet.[52] Typically, the profit achieved by this vessel group is not more than 10% of landed value, meaning that this industry effectively operates at a deficit.



ECONOMICS OF HIGH SEAS BOTTOM TRAWL FLEET

SOURCE: PEW, "SUBSIDIZING GLOBAL FISHERIES", SUMAILA ET AL 2010 "A BOTTOM-UP RE-ESTIMATION OF GLOBAL FISHERIES SUBSIDIES"/SUMAILA ET AL., 2009, "SUBSIDIES TO HIGH-SEAS BOTTOM TRAWL FLEETS"

3 Proposal 3
No More Overfishing – Ending harmful high seas subsidies

Equity issues are also a key concern. On the high seas, it is largely only States that can afford to subsidise their fleets with public funds that have the opportunity to fish: high seas fishing is carried out by 10 nations that rely heavily on subsidies to remain profitable. Fuel subsidies account for the greatest share of these capacity-enhancing subsidies, representing up to 30% of government fishing spending.[53]

These types of subsidies also disadvantage small-scale artisanal fishers and consumers. Industrial fishing gets the biggest share of the subsidies; the products of these subsidised high seas industrial fisheries constitute unfair competition distorting the seafood market by artificially lowering the price of the fish caught in the high seas as opposed to those fishing without subsidies. Finally, consumers end up paying twice for every fish they eat: once at the market and again through their taxes.

Academics, governments and intergovernmental bodies, as well as NGOs, have clearly identified and acknowledged the overcapacity–subsidies connection, and have called for international attention on this issue. Moreover, commitments have already been made by governments in numerous fora to phase-out or end environmentally harmful subsidies in a bid to seek cohesiveness in economic, trade and environmental policies. Subsidies that contribute to fishing overcapacity were identified and formally targeted for elimination in the Johannesburg Plan of Implementation (JPOI) adopted by the World Summit on Sustainable Development of 2002, as well as 10 years later in 'The Future We Want', the outcome document from Rio+20 (Paragraph 173).

The Commission recalls that Rio+20 Paragraph 173 was a compromise reached after a two-year process wherein a number of both OECD and non-OECD countries argued that it was time to agree a target date for the phase-out of harmful subsidies. Indeed, a proposal for a phase-out of fisheries subsidies contributing to overfishing remained tabled in square brackets in the draft Rio+20 outcome document until the very end of negotiations in Rio. The compromise nature of the agreement serves as a good reminder of the importance of achieving its implementation, for the credibility of future multilateral negotiations on sustainable development.

World Trade Organisation (WTO) discussions and negotiations regarding fisheries subsidies stem from the agreement reflected in the WTO Doha Declaration of 2001.[o] [54] More than a decade after the adoption of the Declaration, it can be said that the most positive development to date in the WTO fisheries subsidies negotiation is that it is now widely accepted that there is a link between subsidies and overcapacity. Because UNCLOS does not delve into the issue of distinguishing between 'good' and 'bad' subsidies in the fisheries sector, and neither do the various RFMOs, the WTO is in a unique position to tackle fishing subsidies, including distinguishing between the 'good' and the 'bad', and being among the few international institutions with a mechanism to enforce its agreements.[55]

However, despite repeated commitments and ongoing efforts to address environmentally harmful subsidies in the fisheries sector through the WTO, there is clearly a lack of political appetite to tackle this issue. While the prospect of a WTO agreement was and remains attractive given the legally binding nature of the WTO dispute settlement procedure, comprehensive environmental expertise is lacking at the WTO for the implementation and administration of such an agreement.

On the positive side though, whereas it can be said that many of the other 'Doha environmental issues' are at a stand-still, fisheries subsidies have not completely lost momentum in the last decade. Vested interests and complex challenges exist, as they do in all debates about the use or elimination of harmful subsidies. Yet success in addressing harmful subsidies in the relatively small sector of fisheries could be a litmus test of the political will to address wider subsidies issues in other areas.

The Commission is thus calling upon WTO member States to demonstrate their political commitment to tackling harmful subsidies by expediting their commitments to eliminating them through a three-step approach.

o Paragraph 28 of the Doha Declaration gave the green light to negotiations aimed at clarifying and improving disciplines on Subsidies and Countervailing Measures in general.

Step 1: Transparency

WTO member States are under an obligation to report on specific subsidies. However, they do not all report on the details of their fisheries subsidies.

The Commission believes that this paradox should be urgently resolved. The enforcement of the existing WTO obligation should be expedited without delay for all fisheries subsidies. To do so, WTO members should disclose to the organisation, and to each other, the type and scope of subsidies that they provide to the fisheries sector, without prejudice to the outcome of further negotiations on fisheries subsidies within the WTO.

Step 2: Classification (scope of WTO fisheries subsidies prohibition)

Classifying fisheries subsidies in order to identify and distinguish those that are harmful is an essential step in the phase-out of negative incentives. The following categories of prohibition have been considered within the WTO:[56]

- **Subsidies for vessel construction, repair and modification.**
- **Subsidies for operating costs of vessels and in- or near-port processing.**
- **Fuel subsidies.**
- **Subsidies for certain infrastructures, e.g. fish landing and storage facilities.**
- **Subsidies for fishers' income support.**
- **Price supports for products from marine wild-capture fishing.**
- **Subsidies that support destructive fishing practices e.g. trawling, driftnets, FADs, etc.**
- **Subsidies for fisheries that are overfished.**
- **As well as:**
  - **subsidies for transfer of vessels i.e. subsidies for the transfer of fishing or service vessels to third countries, through for example joint ventures with third countries;**
  - **subsidies for vessels conducting IUU fishing; and**
  - **subsidies for foreign access rights under fisheries access agreements.**

Exemptions:

- **Exception for 'small-scale artisanal fishers' or the establishment of a *de minimis* threshold of subsidies to help poor communities.**
- **Exception in the event of 'natural disaster relief,' to be defined.**

Step 3: Capping, reducing and prohibiting fuel subsidies

The Commission also calls upon WTO member States to reach a speedy agreement for the elimination of fuel subsidies for high seas fisheries, starting immediately with a cap and followed by a phase-out within five years.

The Commission believes that this proposal is feasible and liable to break the current deadlock, which has impeded the WTO from making progress on this issue, because while the proposal would directly address the industrial fishing fleets of developed countries presently benefiting from fuel subsidies, it would not constrain developing countries' interests within their EEZs. Our proposal has the added advantage of contributing to the recovery of high seas fisheries resources with direct benefits on productivity within EEZs, let alone synergies with the climate and pollution agendas.

4 Proposal 4
Illegal, Unreported and Unregulated Fishing – Closing seas, ports and markets

Illegal, unreported and unregulated fishing on the high seas has significant negative ecological, economic and social impacts, and disproportionately affects developing countries.

Polestar c/s 3EWP7 and Carmen c/s 4LSK © Icelandic Coastguard

4 Proposal 4 Illegal, Unreported and Unregulated Fishing – Closing seas, ports and markets

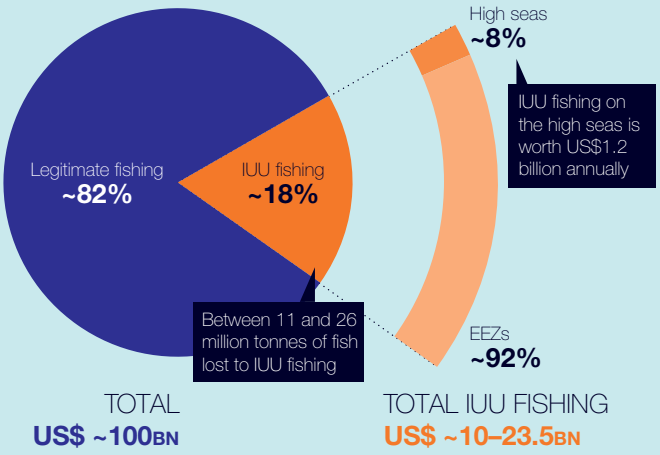
Illegal, unreported and unregulated (IUU) fishing on the high seas has significant negative ecological, economic and social impacts, and disproportionately affects developing countries. To effectively combat IUU fishing, the illegality of the practice needs to be uniformly established, the likelihood of being caught needs to be increased and market access for IUU fish needs to be cut off.

In order to combat, and end, IUU fishing:

- The Commission calls on members of the IMO to require that the mandatory requirements for IMO numbers and tracking already in place for merchant vessels are extended to all fishing vessels fishing in the high seas.
- The Commission furthermore calls upon States and RFMOs to ban the at-sea transshipment of fish.
- All commissioners are committed to using their influence and to act in order to help fast-track the entry into force of the PSMA by urging all States who are not yet Party to the Agreement to expedite their instruments of adherence or ratification.
- The Commission calls on all stakeholders to work together to build a global information-sharing platform for real-time sharing of data on high seas fishing vessels and their activities so as to deter IUU fishing and promote traceability.
- Seafood retailers and processors must commit to sourcing sustainable seafood, including by adopting effective traceability systems.
- In order to support these goals, the Commission encourages civil society organisations to step up their role as independent RFMOs, flag States and Port States performance watchdogs, and calls upon local, national and international authorities to cooperate with such independent watchdogs.

One of the biggest obstacles to the effective management of high seas fish stocks is the prevalence of IUU fishing. The term covers a wide range of behaviours; only some are 'illegal' in the sense that they contravene national or international law and regulations, but all tend to undermine any conservation and management measures that are in place for a given fish stock. Unregulated high seas fishing, for example, may not be strictly illegal simply because there are no laws in place to make it so. Yet it has a marked impact on habitats and ecosystems, and undermines attempts at sustainable fisheries management.

DISTRIBUTION OF FISHING REVENUES



SOURCE: D.J. AGNEW ET AL., ESTIMATING THE WORLDWIDE EXTENT OF ILLEGAL FISHING, PLOS ONE 4(2), E4570 (2009)

The widespread occurrence of IUU fishing is caused by economic incentives enabled through a lack of regulation and enforcement, which result from global governance deficiencies. Each year that it is allowed to thrive, illegal fishing on the high seas is stripping oceans of fish stocks and threatening the food security of over a billion people, mostly in the developing world. The overall extent of IUU fishing on the high seas is very difficult to estimate, largely because much of it is unreported or illegal. The most reputable estimate suggests that IUU fishing on the high seas is worth US$1.25 billion annually.[57] However, IUU fishing also affects areas within national jurisdiction. If EEZs are included, the estimate increases to a sum between US$10 and US$23.5 billion annually.[58] This represents somewhere between 11 and 26 million tonnes of fish lost to IUU fishing – a mean loss of 18% across all fisheries.

Linkages between IUU fishing activities and other forms of criminality are widely recognised,[59] including fishing vessels used for smuggling migrants, drugs and weapons, as well as for committing acts of terrorism. It was also reported that some fishing vessels are used as base stations from which criminal activities take place, as supply vessels for other vessels engaged in criminal activities, or simply as cover for clandestine activities at sea and in port. In particular, attention is increasingly being paid to the relationship between IUU fishing vessel operations, human trafficking and human rights violations.

IUU fishing, as a means of characterising a range of existing behaviours, came to prominence in the 1990s, particularly in the context of efforts by RFMOs to manage fisheries in international waters. The international community invested considerable time and effort in developing a suite of measures to tackle the problem, culminating in a FAO-sponsored International Plan of Action to Prevent, Deter and Eliminate IUU Fishing (IPOA-IUU). Among the specific measures adopted to tackle IUU fishing on the high seas are the creation of a global record of authorised high seas fishing vessels maintained by the FAO; a binding global treaty on measures that should be taken by port States to prevent IUU fish from entering the market; efforts to improve cooperation between fisheries surveillance and law enforcement authorities; and initiatives to ensure the traceability of seafood 'from bait to plate'.

At the regional level, RFMOs have adopted measures to eliminate IUU fishing, including regional registers of authorised fishing vessels; 'blacklisting' of proven IUU vessels; the use of improved monitoring, control and surveillance (MCS) systems, including mandatory satellite vessel monitoring systems; and catch documentation systems. Recognising that, like any commodity, IUU-caught fish have value only if they can be brought to market, major market States and trading blocs, such as the US and the EU, have in the past few years adopted legislative and administrative measures designed to make it more difficult for IUU fish to reach the market. Because fish know no boundaries, it is important to note that many measures taken to curb IUU fishing on the high seas would also have a positive impact within EEZs. IUU fishing disproportionally affects developing countries that have no means of adequately policing their waters, few regulations in place to protect workers, and a large population share whose livelihoods depend on artisanal/small-scale fishing. The high seas are often used as an entry point and escape route for exploiting the coastal waters of these countries.

4 Proposal 4
Illegal, Unreported and Unregulated Fishing – Closing seas, ports and markets

To eliminate IUU fishing, all high seas fishing vessels should be registered with a unique identification number, making them readily identifiable and providing a common reference point from which to tell whether they have been duly authorised to fish by their flag States. Their beneficial (real) owners should also be made transparent. All flag States should be party to UNCLOS and the UNFSA and comply with their treaty obligations to participate in regional management arrangements for high seas fish stocks and to monitor the activities of their nationals and fishing vessels. RFMOs should share information on potential illegal activity with law enforcement agencies and with other RFMOs, maintaining coordinated lists of suspected IUU fishing vessels. Information on the location and activities of all vessels fishing on the high seas should be monitored and shared with fisheries management, law enforcement and security agencies. Those engaging in illicit activity should have their flags removed, be refused access to ports and not be allowed access to markets for the fish that they have caught. Port States should cooperate with RFMOs, monitor all fishing vessels entering their ports and deny entry to suspected illegal operators and their catch. Lastly, retailers should refuse to accept fish and seafood products that cannot be traced to their point of origin, and consumers should demand that retailers provide them with legal, 'ethically caught' seafood.

High seas fishing is a global business, relatively unconstrained by national borders, and IUU fishers are nimble and adept at finding and exploiting gaps in the regulatory frameworks that are designed to prevent IUU fishing. As soon as one loophole is closed off, another one opens. It is not enough to attack the supply of IUU fish by improving enforcement 'on the water' unless measures can be taken at the same time to control market demand.

Tackling IUU fishing on the high seas thus requires large-scale international cooperation and commitment, both in terms of providing resources to implement agreed measures and coordinating efforts between relevant national and international authorities.

None of the proposals being made by the Commission in relation to IUU fishing are new. But they have either not been implemented or have been implemented in a piecemeal fashion. There is overwhelming evidence that if they were implemented together, these measures could make a significant difference on the water by effectively closing down the pathways for IUU-caught fish to enter the market and reducing the incentives for vessel operators to engage in this activity in the first place. This is one issue around which different sectors should not have a problem coalescing.

It is in the interest of coastal States to protect their marine resources, to prevent the use of the high seas as a convenient 'getaway' for vessels and allow the convenience of porous maritime borders to rob them of their fish and other marine life. It is in the interests of legal operators to collaborate to combat IUU fishing so as to ensure that the return on their investment in this sector is not undermined by free riders exploiting the system. It is in the interest of purveyors of seafood and consumers around the world to be able to trace their fish back to where it has been caught, for health, safety and sustainability reasons. It is in the interests of all governments for national security and resource security reasons to know what fish is entering their markets and from where it has come. Working together, these sectors could put illegal fishers out of business, whether it be for national security, food security, health and safety or environmental sustainability.

Ending IUU fishing is possible, and through concerted action we would remove one of the key drivers of ocean decline over the next decade.

ENDING IUU FISHING

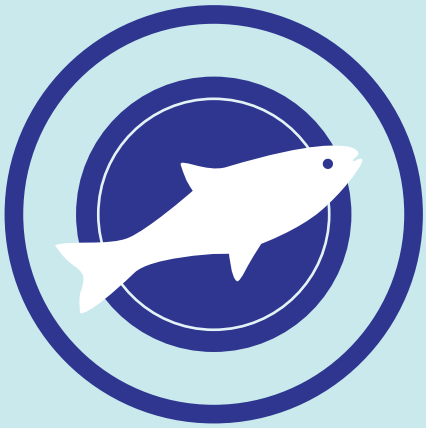
In order to combat and end IUU fishing, the Global Ocean Commission recommends the following actions.

At sea

- Mandatory IMO numbers and tracking already in place for merchant vessels to be extended to all fishing vessels fishing in the high seas.
- Ban at-sea transshipment.
- All flag States should be party to UNCLOS and the UNFSA and participate in their mandatory regional management arrangements for high seas fish stocks and to monitor the activities of their nationals and fishing vessels.
- RFMOs to maintain coordinated lists of suspected IUU fishing vessels and share with law enforcement agencies and with other RFMOs.

In port

- Ratify and implement the Port State Measures Agreement.
- Illegal fishing vessels should have their flags removed, be refused access to ports and not be allowed access to markets for the fish caught.
- Port States should cooperate with RFMOs, monitor all fishing vessels entering their ports and deny entry to suspected illegal operators and their catch.



Fish to table

- Stakeholders to work together to build a real-time global information-sharing platform on high seas fishing vessels and their activities, so as to deter IUU fishing and promote traceability.
- Seafood retailers and processors to commit to sourcing sustainable seafood, including by adopting effective traceability systems e.g. seafood processors and retailers could require that all fish purchased comes only from vessels that have IMO numbers and AIS (automatic identification system) tracking in place.
- Civil society organisations to step up their role as independent performance watchdogs for RFMOs, flag States and Port States. Local, national and international authorities to cooperate with such independent watchdogs.

5 Proposal 5
Plastics – Keeping them out of the ocean

Plastics are a major source of pollution on the high seas and a health threat to humans and the environment. This reflects poor handling and waste management practices on land and requires a combination of political and regulatory action supported by an increase in consumer awareness.

© Gavin Parsons / Greenpeace

5 Proposal 5 Plastics – Keeping them out of the ocean

Plastics are a major source of pollution on the high seas and a health threat to humans and the environment. This reflects poor handling and waste management practices on land and requires a combination of political and regulatory action supported by an increase in consumer awareness.

It is important to increase efforts to address the variety of sources of marine pollution (persistent organic pollutants, hydrocarbons, heavy metals, nitrates, radioactive substances, marine debris, etc.). In particular, the Commission calls for coordinated action by governments, the private sector and civil society to eliminate plastics entering the global ocean including by:

- Minimising single-use plastics by direct government intervention and consumer incentives.
- Creating incentives to promote recycling, including single polymer products and extended producer responsibility.
- Establishing time-bound quantitative reduction targets.
- Achieving improved waste management.
- Promoting consumer awareness.
- Replicating local initiatives to restrict or ban certain unsustainable uses of plastic materials (i.e. bans on disposable plastic bags, polyurethane packaging, etc.) and clean-up programmes.
- Addressing lost and discarded fishing gear, in particular FADs, to avoid abandonment.
- Encouraging XPRIZE-like innovation around substitution, waste avoidance, recycling and clean-ups.
- Exploring taxation and other levies to establish a Global Marine Responsibility Fund to build waste management capacity, coordinate action to combat marine plastics, grow sustainability initiatives, and change the behaviour of industry and consumers.

Given its mandate and its focus on the high seas, the Commission debated long and hard as to whether we should seek to address the problem of marine pollution at all, bearing in mind that it is estimated that 80% of all inputs of marine pollution come from land-based activities.

Major sources of marine pollution include hazardous substances (substances that are toxic to humans and animals and which are persistent in the environment and liable to bio-accumulate in living organisms), endocrine disruptors, and solid wastes with an adverse effect on marine fauna (seabirds, marine mammals and large fish) through both physical (entanglement) and poisonous (absorption of broken down particles) mechanisms. These contaminants can reach the high seas through deliberate or accidental discharges at sea from ships, aircraft or platforms, or from land-based sources (discharges and run-off from rivers, estuaries or coasts, and deposition from atmospheric inputs). They can originate from point sources (e.g. a discharge pipe or a chimney in an industrial installation, or a municipal sewage pipe) or diffuse sources (e.g. agricultural run-off containing pesticides or fertilisers). Serious concern has also been expressed about the potential effects of certain geo-engineering schemes aimed at mitigating climate change (such as fertilisation of the ocean with iron or other nutrients), which could adversely impact the marine environment including the high seas.

The Commission could not ignore that plastics are by far the most abundant and problematic type of marine debris in terms of the number of items and can account for up to 80% of marine litter on shorelines, on the sea surface and on the seabed.[60] The amount of plastic in the ocean has risen sharply since the 1950s, with a tenfold increase every decade in some places. Scientists expect this trend to continue, given the increasing use of disposable plastic packaging and containers. In addition, the projected massive growth in plastic production is enhanced by the falling cost of plastic resin, which has become cheaper with the expansion of natural gas production.

Plastic production in 2012 was 0.28 billion tonnes worldwide. Based on current trends, it is expected that plastics produced by 2050 will amount to 33 billion tonnes in total.[61] [62]

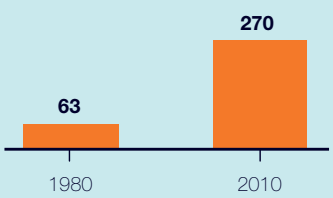
Plastic pellets are small granules of plastic only a few millimetres in diameter that are the starter materials for many plastic products (e.g. toys, car parts, garbage cans, etc.). Due to their small size, they pose an immense problem as marine debris because they are difficult to clean-up and are easily consumed by many different species. About 113 million tonnes of pellets are produced every year.[63] Some of these are lost before they can be turned into a final product. For example, about 3,500 plastic pellets per km^2 have been reported floating on the surface of the Sargasso Sea, while near industrial centres in New Zealand, 100,000 pellets per km^2 were observed on the beach.[64]

Most plastics are extremely durable materials and persist in the marine environment for a considerable period – probably as long as hundreds of years. However, plastics do deteriorate and fragment as a consequence of exposure to sunlight (photo-degradation), and this has resulted in the accumulation of 'microplastic' particles in the ocean. In one study, ocean water samples contained six times more plastic than plankton.[65] Strong evidence, recently published, shows that heavy metals (cadmium, nickel, zinc and lead) can attach to plastic particles, which if ingested by bony fish impact their physiology and health, and by extension represent a health threat to the humans that consume them.[66]

PLASTICS POLLUTION HAS DIRECT IMPACTS ON MARINE WILDLIFE, AND POTENTIALLY ENDANGERS HUMAN HEALTH

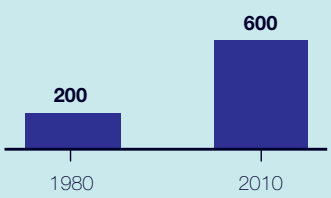
A significant share of the growing amount of plastics used by humans…

WORLD PLASTICS PRODUCTION



… ends up in the ocean, and breaks up into particulates (microplastics) over time…

SIZE OF PACIFIC GARBAGE PATCH



… posing a threat to both wildlife and humans

Ingestion of plastics and entanglement causes **death of wildlife**

Bio-accumulation of toxic chemicals up the food chain into human diets

SOURCE: BIOLOGICALDIVERSITY.ORG, SEA AROUND US, ENVIRONMENT OREGON; HOTS DATA SET, UNEP YEAR BOOK 2011, UNEP YEAR BOOK 2011, GREGORY (2009), DERRAIK (2002), COLE ET AL. (2011), NKWACHUKU ET AL. (2013), ARABPLAST

5 Proposal 5
Plastics – Keeping them out of the ocean

Addressing Land-based Sources of Plastics Pollution

Given that the vast majority of plastic entering the ocean is from land-based sources, which reflects poor handling and waste management practices on land, tackling these problems requires a combination of political and regulatory action supported by an increase in consumer awareness. The Commission is therefore calling for more-coordinated action by governments, the private sector and civil society to stop plastics from entering the global ocean in the first place.

Research indicates that cleaning-up existing marine debris is insufficient at best and impossible overall – the volume is too great and the plastic too small and pervasive. The Commission, therefore, emphasises the need to focus on significantly reducing future inputs.

One option is to change the materials that are used to construct plastics and, specifically, the pellets. Industry could turn to the use of single polymers, which are more easily recyclable.[67] Biodegradable materials are another potential strategy but not a real solution – they cause damage to marine life prior to their degradation, and seawater is not a favourable environment for degradation as biodegradable plastics only break down in controlled environments and under defined conditions. Impacts on marine species do not improve with biodegradable plastic use. For example, sea turtles do not digest biodegradable plastics rapidly enough to prevent morbidity.[68] Additionally, the creation of bio-plastics is energy intensive and competes with food and energy for feedstock. It has also been shown that people litter more when they know or believe that the material is biodegradable. As a result, bio-plastics are not a solution and efforts are better directed at other endeavours.

A second option is to directly reduce the amount of material that enters the ocean. This can be achieved through a variety of means. Consumers can reduce the amount of plastic they use, for example by opting to refrain from using single-use bags and other packaging materials. Governments can help accelerate this cultural shift by instituting bans on single-use bags, as has already been done at local scales in cities across the world[69] and at the national level e.g. Rwanda's law banning plastic bags.[70]

While reducing their production is key, the proper disposal of plastics can be improved through better waste management practices. This means that plastic is consistently placed in appropriate disposal containers and 'processed' at designated waste management facilities to ensure that it does not make its way to the ocean via the beach, storm drains, rivers, atmospheric emissions pursuant to burning, or by other means.

The shores of the Maug Lagoon are covered in derelict fishing gear, plastic bottles and other marine debris. Maug is an island within the Mariana Trench Marine National Monument, approximately 330 miles from the nearest port. Although one of the most remote places on the planet, the shores of the island's three islets, especially on the inner lagoon, are covered in marine debris. © Angelo Villagomez/MarinePhotobank

This requires action by regulators with support from producers and consumers. National and local governments need to ensure that environmentally sound waste management and recycling infrastructure and capacity are in place. Producers need to ensure that plastic is not lost from any stage of production, from pellets to final product, and consumers need to properly dispose of all plastic items and avoid unnecessary usage. Ideally, all plastic would then be recycled, however, the use of additives and multi-polymer resins in certain products currently prevents this from happening. Consequently, government regulations should incentivise the production and use of single polymer products. Implementation timetables should be put in place, while in the interim it is important that non-recyclable plastics are isolated in permanent disposal facilities that do not allow 'spillage' of plastics – either by wind or storms – into the ocean.[p]

One strategy to improve recycling rates is extended producer responsibility, whereby manufacturers take greater responsibility for the full lifecycle of their products by using reduced volumes of plastic and increasing recycling rates through redemption fees.

The Commission believes that innovation on waste recycling and the creation of 'circular' or reused materials should also be encouraged through initiatives like the XPRIZE. Circular materials systems are inherently more efficient and hence profitable so are likely to become increasingly palatable to industry.

While believing that emphasis must be placed on waste avoidance and clean production methods, the Commission does not want to discourage efforts to clean-up existing waste found on shorelines or in coastal waters. Not only can such efforts help prevent additional debris from reaching the ocean, they can also play an important political outreach and educational function for concerned citizens across the planet.

To support all of these measures against marine plastic and other pollution, the Commission proposes that States explore the options for taxation and other levies to establish a 'Global Marine Responsibility Fund' to build substitution policies and global waste management capacity, coordinate action to combat marine plastics, grow safe technologies and clean production initiatives, and carry out campaigns aimed at changing the behaviour of industry and consumers. Plastic pollution does not respect borders or boundaries, it affects everyone and needs to be addressed collectively.

p Presently, recycling rates are woefully low in many countries, including the US. Other countries, such as Germany, have been very successful in promoting high recycling rates.

Addressing Sea-based Sources of Plastic Pollution: Lost or Abandoned Fishing Gear

While the Commission recognises that emphasis needs to be given to land-based sources of marine pollution, we have also paid particular attention to the problem of lost and abandoned fishing gear, in particular the many thousands of FADs used by the tuna fishing industry, many of them made up of plastic parts.

The exact number of FADs deployed each year is not well documented but it is in the tens of thousands. One study estimated that between 47,000 and 105,000 FADs were in use globally for tuna fishing alone.[71] These FADs are often lost at sea or not retrieved by their deployers. As such they present two problems: one is ghost fishing whereby the gear continues to attract and potentially entangle target and non-target species; the other is marine debris. Neither of these impacts is unique to FADs but rather characterises all abandoned, lost or otherwise discarded fishing gear (ALDFG). As a general estimation, ALDFG comprises less than 10% of global marine litter.[72]

Primary solutions for pollution from lost and abandoned FADs include regulating construction materials, limiting numbers, making FAD tracking on the water mandatory, and encouraging port disposal.

Plastic rubbish washed up on beach strandline, Chesil Beach, England
© Steve Trewhella/FLPA

5 Proposal 5
Plastics – Keeping them out of the ocean

Disposal of Fish Aggregating Devices (FADs)

To date, FADs have been relatively unregulated. Intentional abandonment of FADs at sea is prohibited under the IMO's MARPOL Convention, whose Annex V Guidelines call for fisheries managers to utilise fishing gear identification systems as well as to ensure that ports are able to accept garbage, including fishing nets. The FAO Code of Conduct on responsible fisheries also calls for each State to manage the use of FADs sustainably, which includes notification of placement and removal. Some States have put measures in place restricting the number of deployments or including guidelines for reporting, but this is not a universal or uniform practice as yet. Current regulations do not include accountability measures for gear loss, and fishers and fisheries management organisations have few incentives and several disincentives to take responsibility for the impacts of abandoned gear and for clean-up.

Management by tuna RFMOs varies, with some better than others. For example IATTC, ICCAT and WCPFC have put measures in place to better track FAD use through reporting schemes, and in some cases manage it.

Many FADs already feature transmitter beacons, which are equipped with sonar gear that can indicate the amount of fish aggregated beneath the FAD.[73] These could also be used to track and remove derelict gear, rather than leaving it to ghost fish at the end of its lifespan. These transponder beacons and the buoys they are attached to are by far the most expensive element of FAD construction (as much as 99% of the total cost of the FAD at US$800 to US$1,800) so it would make a lot of sense to retrieve and re-use them.[74]

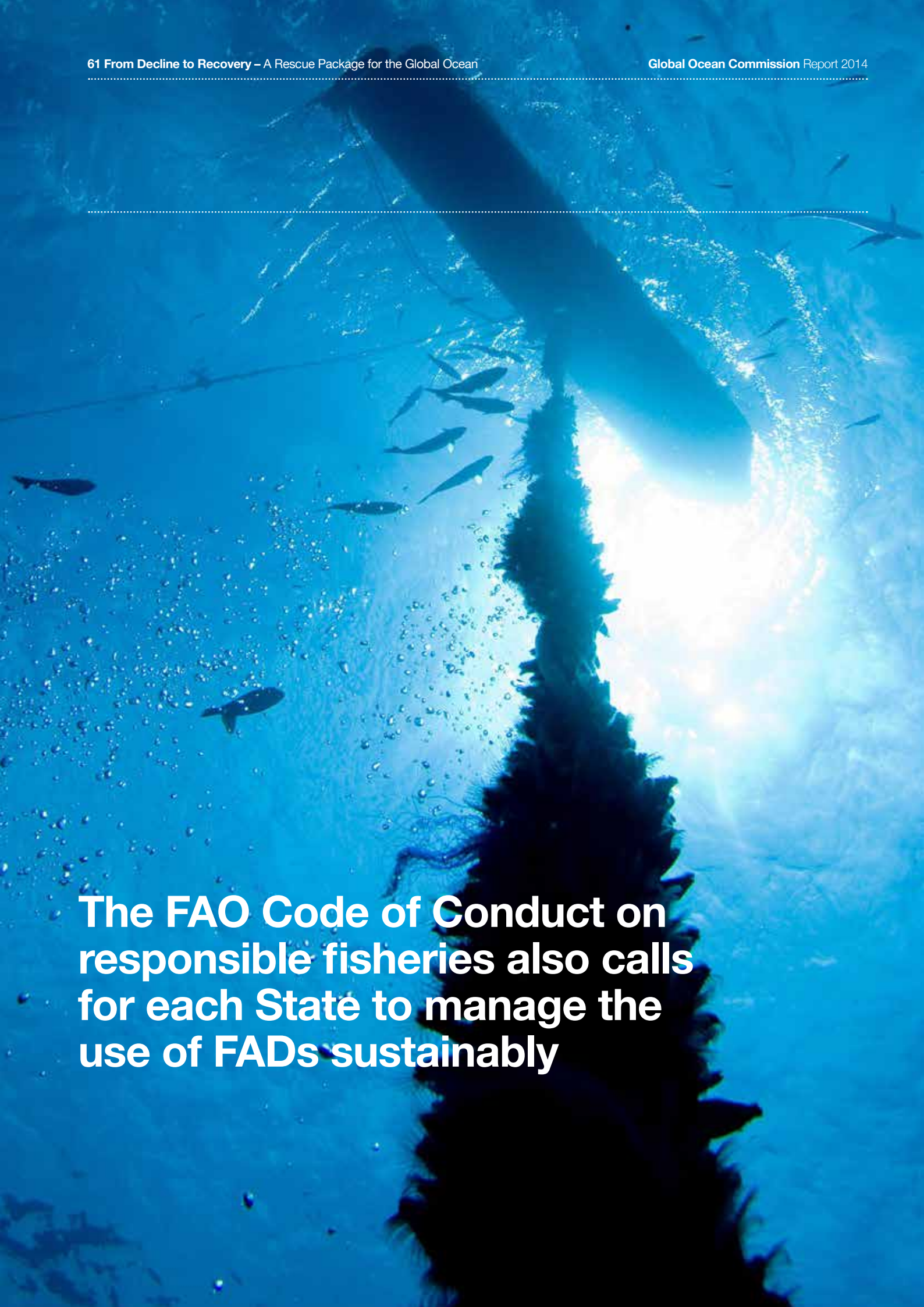
With some exceptions, ports and harbours charge for waste disposal brought in by vessels. This hinders fishing vessels from bringing their old nets and FADs to shore for land-based disposal. If ports and harbours were to apply a flat rate or no additional special fee for waste disposal, rather than a fee that increases in proportion to the amount of waste discharged by vessels, the incentive for disposing of or abandoning damaged or used fishing gear at sea could diminish significantly.

Land-based disposal could be further incentivised through reward programmes whereby fishers receive some sort of compensation if they return their derelict or damaged gear as well as abandoned gear and other floating debris found at sea. An example of successful implementation of such a programme comes from the Republic of Korea. There, fishers are paid by the bag when they return fishing gear and other marine debris. The fishers receive US$5 per 40-litre bag, whereas it is estimated that marine debris collected at sea by public administrations would cost roughly US$48 per 40-litre bag.[75] Other countries and regions that have gear buy-back programmes or incentives for disposal in port include the US, the Baltic Sea and Greece.

The Commission suggests the following solutions to the problem of FADs:

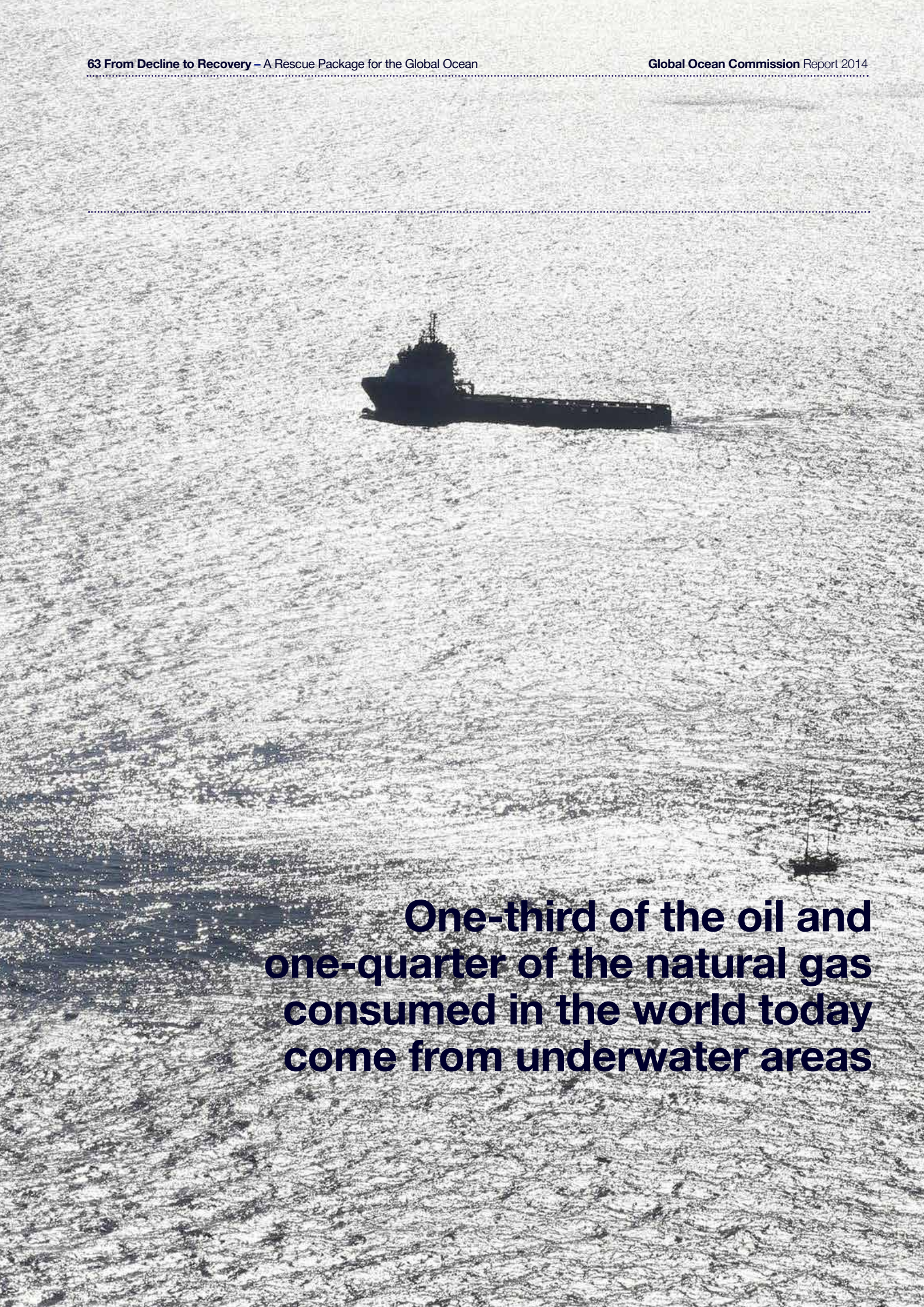
- **Require that States and RFMOs adopt or implement, as appropriate, regulations that require that FADs be constructed in a manner that minimises bycatch and ghost fishing by setting a maximum mesh size in netting used and requires that no subsurface netting enters in the composition of FADs (i.e. only ropes).**
- **Incentivise the use of natural biodegradable materials in the construction of FADs through subsidisation of these materials and/or taxation of non-biodegradable materials.**
- **Promote research into alternative construction materials for FAD floats, perhaps through programmes that encourage the development of less destructive fishing gear.**
- **Amend MARPOL Annex V to include specific quantitative and qualitative standards for port reception facilities. This could include port disposal programmes that allow for free safe disposal of used fishing gear.**
- **Require documentation of all deployed FADs, and require each new FAD to be equipped with a tracking device.**
- **Ensure the enforcement of mandatory reporting of accidentally lost gear, as required under MARPOL Annex V.**

An illegal fish aggregation device (FAD) anchored in the waters of Palau's Exclusive Economic Zone © Alex Hofford / Greenpeace



The FAO Code of Conduct on responsible fisheries also calls for each State to manage the use of FADs sustainably

6 Proposal 6
Offshore Oil and Gas – Establishing binding international safety standards and liability



One-third of the oil and one-quarter of the natural gas consumed in the world today come from underwater areas

6 Proposal 6
Offshore Oil and Gas – Establishing binding international safety standards and liability

One-third of the oil and one-quarter of the natural gas consumed in the world today come from underwater areas. Oil and gas exploration and exploitation is moving further and deeper offshore. The water column above the continental shelf beyond 200 nautical miles from the baseline is part of the high seas, even if that outer shelf area has been claimed by a coastal state. Fixing a problem in the midst of an accident in deep waters is complex and expensive and can cause significant ecological harm. There is a lack of universally agreed environmental and safety standards for offshore drilling on the continental shelf.

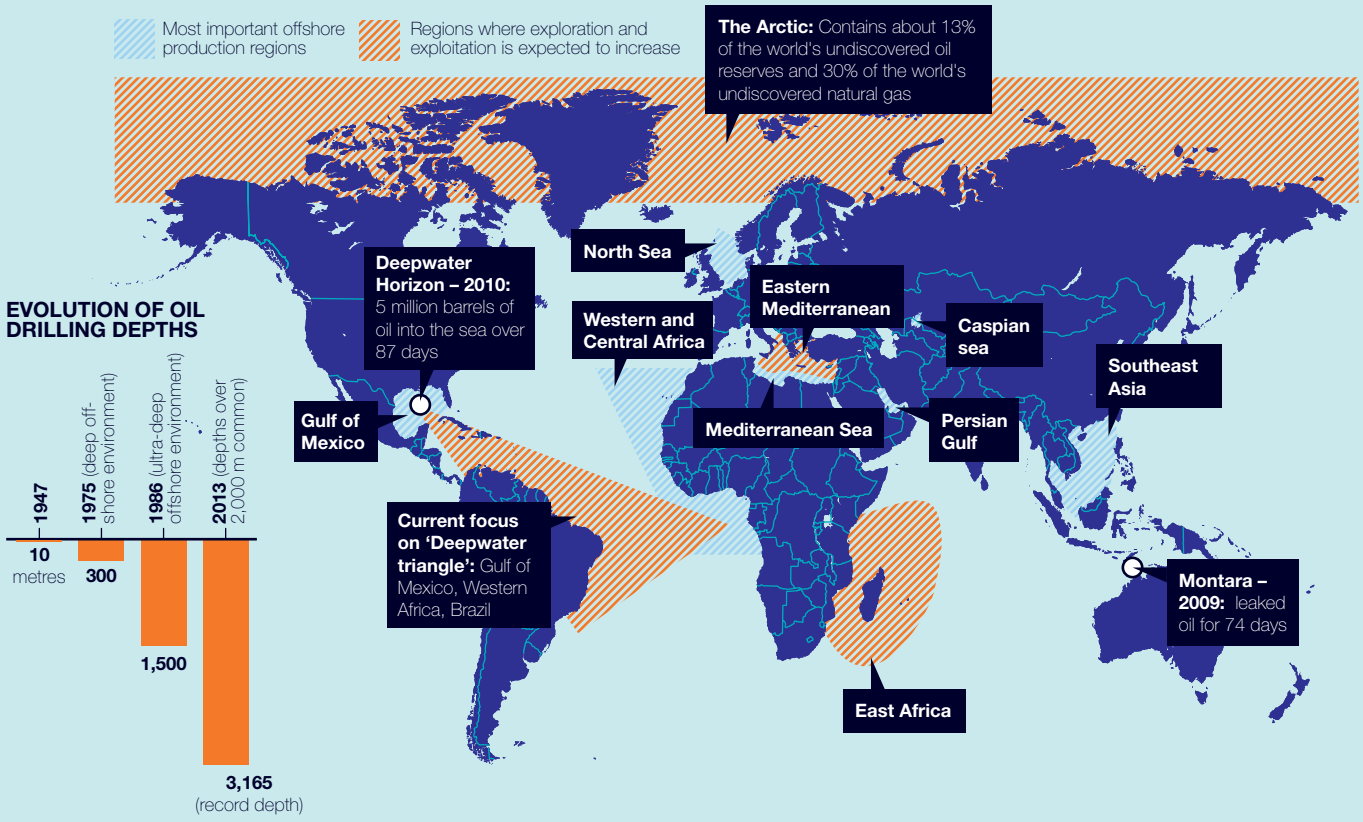
The Commission supports efforts to adopt and improve international safety and environmental standards for offshore drilling on the continental shelf, including regional protocols to establish and implement such standards, with provisions for response-preparedness and capacity building in developing countries. In line with the polluter-pays principle, the Commission also supports the development of an international liability convention to cover damage to the marine environment from offshore oil and gas installations.

Offshore drilling took off in the 1970s, and by 1986 industry had already reached the ultra-deep offshore (depths of 1,500 metres). The latest world record offshore drilling depth was established in January 2013 off the coast of India at a depth of 3,165 metres. The most important current offshore production regions include the North Sea, the Persian Gulf, Western and Central Africa, the Gulf of Mexico, the Mediterranean, the Caspian Sea and Southeast Asia.[76]

Offshore oil and gas production is expected to increase in the coming years. Activities remain high in traditional offshore regions but operators are also moving exploration and development into new areas. New regions currently attracting investors include East Africa, where exploration is underway in Kenyan, Tanzanian, Mozambican, Madagascan and Seychelles waters; the Mediterranean, where there have recently been important offshore gas discoveries; and of course the Arctic, which could hold about 13% of the world's undiscovered oil reserves and as much as 30% of the world's undiscovered natural gas.[77] [78]

Drilling more and deeper increases the threats to the environment and natural resources. The potential impacts of offshore drilling on the environment are numerous, including the disturbance of fish stocks and marine mammals during seismic surveys; carbon dioxide and methane emissions through gas flaring and venting; and pollution of the marine environment through the loss and discharge of various substances, drilling fluids, and cuttings in particular. The worst-case scenario occurs in the event of well blowouts. Fixing a problem in the midst of an accident in deep waters is particularly complex. This was evident during recent accidents, for instance in 2009 when the Montara rig in Australia leaked for 74 days[79] or in 2010 in the Gulf of Mexico when the Deepwater Horizon released nearly five million barrels of oil into the sea over 87 days before engineers were able to cap the well.[80] Response-preparedness – in remote and hostile environments such as the Arctic – raises many unanswered questions.

GLOBAL SAFETY STANDARDS FOR OFFSHORE OIL AND GAS: AN ISSUE OF INCREASING RELEVANCE TO HIGH SEAS BIODIVERSITY



SOURCE: IDDRI

Pages 62-63: The Greenpeace sponsored yacht *SV Vega* inside the 500 metre exclusion zone on site with the drillship *Noble Bob Douglas* and support vessels © Nigel Marple / Greenpeace

6 Proposal 6
Offshore Oil and Gas – Establishing binding international safety standards and liability

National legislation regulating offshore oil and gas activities varies greatly from one country to another. Some national legislation addresses every stage of the platform's lifecycle – from the exploration phase to the dismantling of offshore installations – while others are restricted to the production stage. Some aim to address the environmental impacts of offshore exploration and exploitation while others are entirely focused on facilitating the development of offshore activities. Moreover, the effective implementation of national legislation also greatly varies from country to country. In this regard, a lack of capacity in many developing States prevents them from effectively controlling and monitoring the development of offshore activities and enforcing regulations, when they exist. For instance, lack of data on vulnerable ecosystems often makes it difficult to take into account the conservation and sustainable use of marine biodiversity when delivering drilling licences. More broadly, national administrations often have poor knowledge of the offshore industry, which is a very technical and opaque sector. This is a considerable obstacle to the effective control of offshore drilling activities.[81]

A further problem is that there are no universally agreed international standards for offshore drilling on the continental shelf. As far as the high seas are concerned, this is problematic. The water column above the continental shelf beyond 200 nautical miles from the baseline and up to the maximum extent of 350 nautical miles is part of the high seas, even if that outer shelf area has been claimed by a coastal State. Ensuring that marine life in the water column is protected thus falls under the remit of the global community. This means that there have to be agreed rules and regulations governing any conduct that could impact on the high seas water column above the continental shelf. For the seabed beyond national jurisdiction, the ISA has adopted its own mining code, regulations and recommendations, which aim to minimise the environmental impact from seabed activities. The consequences of uneven or even absent regulatory standards were clearly illustrated by the Deepwater Horizon explosion in 2010, and subsequent comparison of regulatory standards in countries such as Norway, Brazil, the UK and the US.

There is thus a strong case for the development of international agreements pertaining to environmental and safety standards for offshore drilling in the continental shelf. International guidelines defining what constitutes an acceptable risk would provide industry with a standard to meet, regardless of where in the world it was drilling. All affected interests would benefit from more-uniform standards dealing with consideration of risk in operations globally. Of course, because the continental shelf is under the jurisdiction of the coastal State, the standard setting might still be only as effective as the country enforcing it. Nevertheless, an international standard could identify a safety goal for all elements of the drilling industry to meet, rather than being lulled into the complacency that often results from purely palliative approaches.

Some UNCLOS provisions provide a basis for the further development of international standards, particularly those contained in Part XII, Protection and Preservation of the Marine Environment. States have the general obligation to protect and preserve the marine environment under Article 192. Article 194 more specifically defines measures to prevent, reduce and control pollution of the marine environment from any source. Furthermore, States are required to use "the best practicable means at their disposal and in accordance with their capabilities" to prevent pollution from any source, clearly covering offshore drilling rigs and installations. Article 197 mandates cooperation "on a global basis, and, as appropriate, on a regional basis, directly or through competent international organisations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention...". States are additionally required to observe, measure, evaluate and analyse the risks or effects of pollution on the marine environment, as far as is practicable. These provisions clearly foresee further, more detailed international rules and regulations, which could easily include a baseline standard for acceptable risk.

Article 208 of UNCLOS stipulates that coastal States adopt laws and regulations that prevent, reduce and control pollution of the marine environment arising from seabed activities subject to their jurisdiction that are no less effective than international rules, standards and recommended practices and procedures. It also provides that States "shall endeavour" to harmonise these policies at the regional level and that States shall establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment. Article 214 stipulates that States must enforce their laws and regulations adopted in accordance with Article 208. During UNCLOS negotiations, States certainly anticipated the further negotiation of safety measures at the regional and international level for increased offshore drilling. A broad international standard as an implementation of Article 208, supported by regional agreements and well-enforced national legislation might effectively serve this purpose.

More-limited international agreements at the regional level might make sense in certain circumstances. Again, while extraction of the resource ultimately is at the discretion of the coastal State, spills may conceivably affect more countries than just the one with jurisdiction over the resource. For example, there are multiple continental shelves in the regions covered by North Sea drilling operations, and both Mexico and Cuba have expressed interest in drilling in the Gulf of Mexico. Given that particular regions face similar drilling challenges and safety concerns, it might be attractive for neighbouring countries to negotiate a common standard or system of oversight for the sake of consistency and efficiency. The Commission is supportive of such regional measures, providing they are based on common principles and standards and include provisions for capacity building in the case of developing countries. The Commission welcomed the March 2014 decision of the Parties to the Abidjan Convention for the protection of the coastal and marine environment of West Africa to negotiate a protocol setting standards for the offshore oil and gas industry throughout the West African region.

The question of liability and compensation for pollution damage resulting from offshore drilling activities is an issue with global ramifications. Establishing global rules would provide many advantages, including providing States and industry with legal certainty and avoiding different levels of compensation between regions. It would also ensure operators' accountability in countries currently developing or licensing offshore industries. Lastly, it would be more difficult for the private sector to resist or ignore an international agreement, as opposed to patchy domestic legislation.

The Commission supports the elaboration of an international convention regulating liability and compensation. Such a convention should, among other things, (i) cover both economic losses and ecological damages; (ii) provide for a strict liability of operators; (iii) include provisions for a shared liability between all licence holders and their subcontractors; (iv) bind States to ensure that operators have adequate financial capacity to pay for possible compensation; (v) set a liability cap at a level that can ensure the recovery of costs associated with environmental remediation and compensation and losses born by public and private entities, as well as a compensation fund to address major disasters that are likely to exceed the liability cap.

The fishing vessel *Demares* fights through heavy waves in stormy weather in the North Sea near the *Beryl* oil rig, 160 miles north east of Aberdeen. © Phillip Stephen / Naturepl.com

7 Proposal 7
Global Ocean Accountability Board – Monitoring progress toward a healthy ocean

The Commission recommends the establishment of an independent Global Ocean Accountability Board to monitor and assess whether sufficient progress is being made towards achieving the proposals recommended by the Commission

Indian Ocean. © Jiri Rezac / Greenpeace

7

Proposal 7
Global Ocean Accountability Board – Monitoring progress toward a healthy ocean

The Commission recommends the establishment of an independent Global Ocean Accountability Board to monitor and assess whether sufficient progress is being made towards achieving the proposals recommended by the Commission through which to reverse the degradation of and then regenerate the global ocean and to secure effective and equitable governance. The Board would benchmark, on a regular basis, the progress being made by the international community towards meeting the specific proposals contained in this report, and make this information public.

Among the key ocean governance problems identified by the Commission are the lack of an integrated, precautionary, ecosystem-based approach to resource management; poor coordination between the many sectoral interests with mandates covering different aspects of high seas governance; and the inability of current governance arrangements to adapt to changing circumstances, including new and emerging uses of the global ocean.

The Commission's recommendations for the reform of existing global ocean governance institutional arrangements all depend, to a greater or lesser extent, on the functioning of multilateral agreements at the global level. Each of these in turn depends on the engagement and commitment of the member States that are Parties to such agreements. Others depend upon action by existing institutions such as the UN or by different sectors of society.

What has become clear to us is that adopting or implementing the suite of proposals for action contained in this report requires immediate attention if we are to shift into a more virtuous circle of regeneration and restoration.

The Global Ocean Accountability Board would assess progress towards the implementation of the suite of proposals made in this report, which we are convinced could make a measurable difference in reversing the degradation of the global ocean over the course of the next decade.

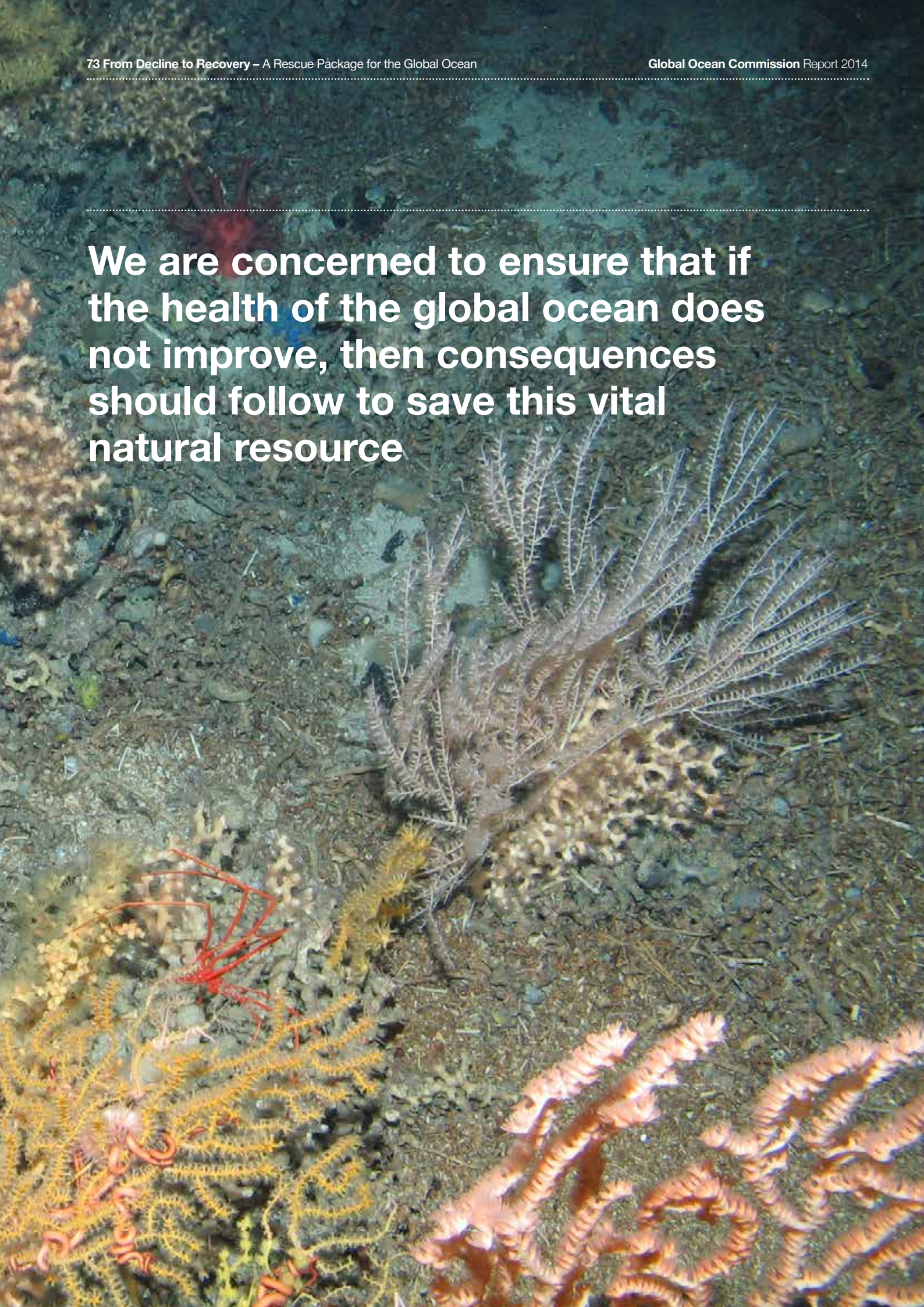
We agree and emphasise that, for it to be successful, a Global Ocean Accountability Board must be independent of existing institutions and have a clear remit and criteria for benchmarking progress towards reversing the degradation. Additionally, to ensure that the Board enhances transparency and accountability, it must be able to consult with all relevant stakeholders including academia, scientists, the private sector, multilateral Development Banks and the financial sector, Multilateral Environmental Agreements and the UN, RFMOs, other relevant intergovernmental fora, governments, national bureaucracies, and civil society organisations, including NGOs, organised labour, and religious leaders.

During our deliberations, the Commission reviewed the structure and mandate of the Financial Stability Board (FSB), which was established by the G20 Leaders in 2009 to respond to the financial crisis in a coordinated way.[q] We believe that the FSB provides a useful point of departure for consideration of an autonomous entity, capable of standing outside of any multilateral, regional or sectoral structure, and with the ability to independently benchmark the progress being made by those towards achieving the action agenda proposed in this report to reverse the degradation of the global ocean.

The Commission asked itself the question: if we reconvened 10 years from now and looked back at what we had proposed, would we be able to measure what had been done and whether it had made a clear difference? Would we be able to see the direct benefits to humankind from increased scientific research and knowledge? The Global Ocean Accountability Board provides a mechanism to do just that, but also to hold those who are currently exploiting the high seas to account, to measure whether their activities meet with the stewardship demanded of the global community for keeping this global commons healthy and vibrant, to assess whether it is equitable, and whether it serves the needs of this generation and of generations yet to come.

q The FSB was established in 2009 by the G20 Leaders' Summit as the successor to the Financial Stability Forum (FSF). The FSF was founded in 1999 by the G7 Finance Ministers and Central Bank Governors following recommendations by Hans Tietmeyer, President of the Deutsche Bundesbank, that were aimed at identifying new structures for enhancing cooperation among the various national and international supervisory bodies and international financial institutions so as to promote stability in the international financial system.

8 Proposal 8
Creating a High Seas Regeneration Zone



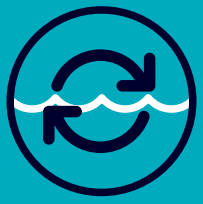
We are concerned to ensure that if the health of the global ocean does not improve, then consequences should follow to save this vital natural resource

8 Proposal 8 Creating a High Seas Regeneration Zone

The Commission recognises that continued scientific research is necessary to evaluate the cumulative impacts of human activities on the high seas so that informed decisions can be made about reversing the degradation of the global ocean. This said, the precautionary principle tells us that a lack of scientific information cannot be a reason for inaction by the international community if we are to ensure the health of the global ocean.

We are convinced that our proposals, if implemented, would reverse the cycle of degradation. But there is a long history of good proposals not being implemented. If this happens, and the result is the continued decline of the high seas, it will impact the whole ocean and people and systems across the planet, because of the specific regenerative capacity of the high seas.

We are concerned to ensure that if the health of the global ocean does not improve, then consequences should follow to save this vital natural resource. The Global Ocean Accountability Board should provide independent monitoring of progress. If it reports continued decline after a period of, say, five years or similarly short period of time, then the world community of States should consider turning the high seas – with the exception of those areas where RFMO action is effective – into a regeneration zone where industrial fishing is prevented. Such action would need to take account of RFMO functions within EEZs, and would need to include provision for the ban to be lifted as effective proposals for resource management are put in place for the conservation and management of living resources in the respective areas. The objective of this trigger mechanism and the associated regeneration zone concept is to make fish stocks sustainable for present and future generations, and to replenish ocean life equitably to secure the wellbeing of this global commons for the health of the planet, its people and its biodiversity.



In this report the Commission is proposing an array of necessary actions essential to reversing the degradation of the global ocean, building resilience to change, and restoring ocean life. It is our hope and expectation that timely implementation of these proposals will neutralise and then eliminate the main drivers of ocean decline, and trigger the drivers of recovery. In so doing, the legacy that we can leave for future generations will be an ocean that is resilient and productive and which no longer suffers untold degradation and overexploitation.

The Commission's deliberations have shown that unsustainable high seas fishing is currently having the most direct negative impact on marine life. If implemented, the key governance changes and measures we are proposing could result in a markedly more sustainable future for high seas fisheries and biological diversity in this vast area of the planet. However, at the same time, the most up-to-date scientific and economic analyses available to the Commission indicate that if the high seas were declared a regeneration zone, free from industrial fishing, it would result in significant benefits to humankind and our planet, including resilience to change, increased species abundance and ecosystem diversity, and meaningful economic benefits for coastal States' fisheries. It would also address the current inequities of high seas fishing.

The work of the Commission coincided with the emergence of new scientific and economic data and analyses on the interaction of high seas fish stocks and fish stocks within EEZs (see The Value of the High Seas on page 5). Based on this new information, closing the high seas to fishing could not only benefit fish stocks, but also make economic sense, improve global equity and build resilience to climate change.

An expert workshop organised by the Commission at Somerville College, Oxford in April 2013 found that no-take marine reserves and fishery closures can help recover not only biodiversity but also other ecosystem services. Indeed, the increase in biodiversity in marine reserves is generally accompanied by more productivity and less variability of fish stocks, which translates into greater revenue (i.e. fish catches around reserves). The workshop concluded that a complete closure of the high seas would return significantly higher fishery and conservation benefits than other scenarios where between 10% and 50% of the area is set aside as a marine reserve. Local fishing fleets operating within EEZs would also be expected to see increased stocks of migratory species entering their EEZs. In terms of establishment and management costs, the experts workshop noted that maximum estimates for protecting 100% of the high seas were far lower than the current spending on capacity-building subsidies.

MOST SPECIES CAUGHT IN THE HIGH SEAS ARE ALSO FOUND WITHIN EEZs

SOURCE: ROGERS, A.D., SUMAILA, U.R., HUSSAIN, S.S. AND BAULCOMB, C. (2014) THE HIGH SEAS AND US - UNDERSTANDING THE VALUE OF HIGH-SEAS ECOSYSTEMS

Closing the high seas to fishing could potentially increase equity. Focusing on the large pelagic species for which we have good data, we find that the 10 leading high seas fishing nations together land 63% of the high seas catch and capture 70% of the landed values.[82] In other words, just 10 countries reap the largest commercial share of this common heritage of humankind.[83]

At the same time, while developing countries do not engage significantly in high seas fishing activities, their EEZ fisheries and ecosystems are disproportionately impacted by the activities of industrial fishing fleets from developed countries. A large proportion of this fishing takes place in areas of the high seas just outside developing country EEZs, so (over)fishing of the high seas reduces the ability of such areas to rebuild biomass and lowers the number of fish available for EEZ replenishment. If the high seas were closed to fishing, then over time, as high seas stocks recover, the yields and economic value from straddling and migratory species in EEZs would increase, adding to food and resource security and economic growth.

COMPLETELY CLOSING THE HIGH SEAS TO FISHING WOULD SIMULTANEOUSLY GIVE RISE TO LARGE GAINS IN...

SOURCE: CLOSE THE HIGH SEAS TO FISHING?; WHITE AND COSTELLO (2014)

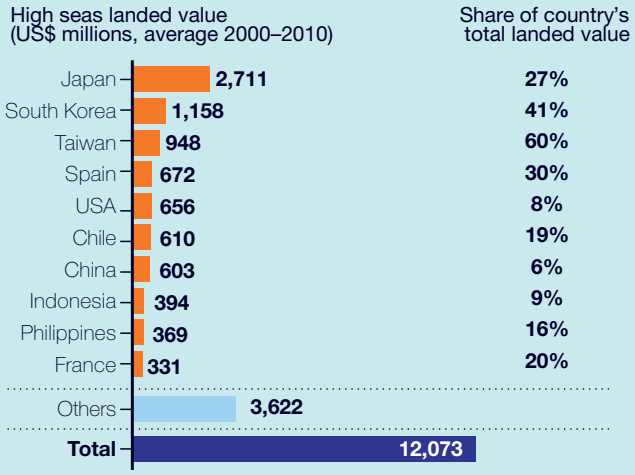
Pages 72-73: The Anton Dohrn Seamount is comprised predominantly of corals, including large gorgonian species, small bamboo coral, soft coral *Anthomastus* sp. and the antipatharian *Leiopathes* sp. © JNCC /2009

8 Proposal 8
Creating a High Seas Regeneration Zone

In March 2014, a peer-reviewed scientific paper by Crow White and Christopher Costello entitled 'Close the High Seas to Fishing?' was published in the journal PLoS Biology. It drew further attention to the environmental and economic opportunities that could result from the protection of the high seas.[84] According to their findings, this policy would not only induce cooperation among countries in the exploitation of migratory stocks (such as tunas, billfish, sharks and swordfish) but also provide a refuge sufficiently large to recover and maintain these stocks at levels close to those that would maximise fisheries returns. They argue that completely closing the high seas to fishing would simultaneously give rise to large gains in fisheries profit (>100%), fisheries yields (>30%) and fish stock conservation (>150%).

ONLY A FEW COUNTRIES FISH ON THE HIGH SEAS

Ten countries capture 70% of the high seas landed value.



*Numbers may not add up due to rounding

SOURCE: ROGERS ET AL., 2014 "THE HIGH SEAS AND US: UNDERSTANDING THE VALUE OF HIGH SEAS ECOSYSTEMS"

Also of note is that the economic cost to the private sector from prohibiting high seas fishing is relatively small. McKinsey & Company has estimated that it would cost US$2 per capita of the global population to close the high seas to fishing: US$1 for retraining and MPA supervision and US$1 recurrently for lost catch.[85] This could be compensated for by higher yields in country EEZs of US$4 per capita. McKinsey estimates a positive net present value of a high seas regeneration zone.

Earlier in this report, we referred to the global ocean as the kidney of our planet. There is no dialysis machine that can rescue our world; no transplant available to replace it. We are concerned to ensure that if the health of the global ocean does not improve, then consequences should follow to save this vital natural resource. The Global Ocean Accountability Board should provide independent monitoring of progress. If it reports continued decline after a period of, say, five years or similar period, then action should be triggered. The most effective such action would be to turn the high seas – with the exception of those areas where RFMO action is effective – into a regeneration zone where industrial fishing is prevented. Such action would need to take account of RFMO functions within EEZs; and would need to include provision for the ban to be lifted as effective proposals for resource management are put in place for the conservation and management of living resources in the respective areas. The objective of this trigger mechanism and the associated regeneration zone concept is to make fish stocks sustainable for present and future generations, and to replenish ocean life equitably to secure the wellbeing of this global commons for the health of the planet, its people and its biodiversity.

Blackfin Barracuda (*Sphyraena qenie*), in a spiraling school. © Chris Newbert / Minden / FLPA

Endnotes

1. Intergovernmental Panel on Climate Change (2013). Fifth Assessment Report. Climate Change 2013: The Physical Science Basis. Available at: http://www.climatechange2013.org
2. Intergovernmental Panel on Climate Change (2014). Fifth Assessment Report. Climate Change 2014: Impacts, Adaptation, and Vulnerability. Available at: http://www.ipcc-wg2.gov/AR5/
3. Intergovernmental Panel on Climate Change (2013). Fifth Assessment Report. Climate Change 2013: The Physical Science Basis. Available at: http://www.climatechange2013.org
4. Rogers, A.D. Sumaila, U.R., Hussain, S.S. & Baulcomb, C. (2014). The High Seas and Us: Understanding the Value of High Seas Ecosystems.
5. *Ibid.*
6. *Ibid.*
7. *Ibid.*
8. *Ibid.*
9. United Nations Convention on the Law of the Sea (1982). Available at: http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf
10. Division for Ocean Affairs and the Law of the Sea, United Nations (2013). Chronological lists of ratifications of accessions and successions to the Convention and the related Agreements as at 29 October 2013. Available at: https://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm
11. Division for Ocean Affairs and the Law of the Sea. The United Nations 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 (in force as from 11 December 2001). Available in May 2014: http://www.un.org/Depts/los/convention_agreements/convention_overview_fish_stocks.htm
12. Food and Agriculture Organization. Code of Conduct for Responsible Fisheries. Available in May 2014 at: http://www.fao.org/docrep/005/v9878e/v9878e00.htm
13. Food and Agriculture Organization. International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing. Available in May 2014 at: http://www.fao.org/fishery/ipoa-iuu/en
14. Food and Agriculture Organization. Port State Measures Agreement. Available in May 2014 at: http://www.fao.org/fishery/topic/166283/en
15. Agnew, D.J. *et al.* (2009). Estimating the Worldwide Extent of Illegal Fishing. *PLoS ONE* 4(2): e4570. doi:10.1371/journal.pone.0004570. Available at http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0004570
16. Division for Ocean Affairs and the Law of the Sea (2014). Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction. Available at: http://www.un.org/depts/los/biodiversityworkinggroup/biodiversityworkinggroup.htm
17. Food and Agriculture Organization (2012). State of World Fisheries and Aquaculture. Available at: http://www.fao.org/docrep/016/i2727e/i2727e00.htm
18. Worm, B. *et al.* (2013). Global catches, exploitation rates, and rebuilding options for sharks. *Marine Policy* 40: 194–204. Available at: http://wormlab.biology.dal.ca/pressmaterial/catches_exploitation/content/Worm_etal_EMBARGOED.pdf
19. AQM Copper. Copper Fundamentals. Available in May 2014 at: http://www.aqmcopper.com/s/copperfundamentals.asp
20. Rochette J., *et al.* (2014). Seeing beyond the horizon for deepwater oil and gas: strengthening the international regulation of offshore exploration and exploitation. IDDRI.
21. The Pew Charitable Trusts (2011). Protecting Fisheries in the High Arctic. Available at: http://oceansnorth.org/resources/protecting-fisheries-high-arctic-0
22. BBC News (2014) "Agreement reached on deep sea mining" Available at: http://www.bbc.com/news/science-environment-27158883
23. International Seabed Authority. Contractors. Available in May 2014 at: http://www.isa.org.jm/en/scientific/exploration/contractors
24. SeaFish Fisheries Development Centre (2005). Basic Fishing Methods. Available at: http://www.seafish.org/media/Publications/Basic_Fishing_Gear_Booklet_May05.pdf
25. Terra Nature (2007). "Agreement to restrict South Pacific high seas bottom trawling – is it enough?" Available in May 2014 at: http://www.terranature.org/bottomTrawling_SouthPacificRFMO.htm
26. Arrieta, J.M. *et al.* (2010). What lies underneath: Conserving the oceans' resources, *PNAS* 107, 18318–18324. Available at: http://www.pnas.org/content/107/43/18318.full
27. Sumaila, U.R. *et al.* (2010). A bottom-up re-estimation of global fisheries subsidies. *Journal of Bioeconomics.* 12:201–225. Available at: http://www.seaaroundus.org/researcher/dpauly/PDF/2010/JournalArticles/BottumUpReestimationOfGlobalFisheriesSubsidies.pdf
28. Directorate-General for Internal Policies, European Parliament (2013). Global Fisheries Subsidies. Available at: http://www.europarl.europa.eu/RegData/etudes/note/join/2013/513978/IPOL-PECH_NT(2013)513978_EN.pdf
29. Watson, R.A. *et al.* (2012). Global marine yield halved as fishing intensity redoubles. *Fish and Fisheries* 14(4). Available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1467-2979.2012.00483.x/abstract
30. International Programme on the State of the Ocean (2013). State of the Ocean Report. Available at: http://www.stateoftheocean.org/research.cfm
31. Hönisch, B. *et al.* (2012). The Geological Record of Ocean Acidification. *Science* 335 (6072): 1058–1063. Available at: http://www.sciencemag.org/content/335/6072/1058.abstract
32. International Programme on the State of the Ocean (2013). State of the Ocean Report. Available at: http://www.stateoftheocean.org/research.cfm
33. Cheung, W.W.L. *et al.* (2009). Projecting global marine biodiversity impacts under climate change scenarios. *Fish and Fisheries*, 10, 235–251. Available at: http://www.seaaroundus.org/climatechange/images/Cheung-climate-biodiversity-FF-2009.pdf
34. International Programme on the State of the Ocean (2013). State of the Ocean Report. Available at: http://www.stateoftheocean.org/research.cfm
35. Australian Marine Conservation Society. Plastic Pollution. Available in May 2014 at: http://www.marineconservation.org.au/pages/plastic-pollution.html
36. United Nations Environment Programme, Food and Agriculture Organization, United Nations (2009). Abandoned, lost or otherwise discarded fishing gear. Available at: http://www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_Abandoned_Lost_Fishing_Gear.pdf
37. Greenpeace. Plastic Debris in the World's Oceans. Available in May 2014 at: http://www.unep.org/regionalseas/marinelitter/publications/docs/plastic_ocean_report.pdf
38. International Maritime Organization. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter. Available in May 2014 at: http://www.imo.org/About/Conventions/ListOfConventions/Pages/Convention-on-the-Prevention-of-Marine-Pollution-by-Dumping-of-Wastes-and-Other-Matter.aspx
39. United Nations Conference on Sustainable Development Rio+20 (2012). The Future We Want. Available at: http://daccess-dds-ny.u n.org/doc/UNDOC/GEN/N11/476/10/PDF/N1147610.pdf?OpenElement
40. Sustainable Development Knowledge Platform (2014). Introduction and Proposed Goals and Targets on Sustainable Development for the Post 2015 Development Agenda. Available at: http://sustainabledevelopment.un.org/content/documents/4044140602workingdocument.pdf
41. German Advisory Council on Global Change, WGBU (2013). Governing the Marine Heritage. Berlin.
42. IUCN (2013). "World nearing 3% of ocean protection" International News Release. Available at: http://www.iucn.org/news_homepage/events/impac3/?13912/World-nearing-3-of-ocean-protection
43. Sala, E. & Knowlton, N. (2006). Global marine biodiversity trends. *Annual Review of Environment and Resources* 31, 93–122
44. UN General Assembly (2014). Resolution A/RES/68/70. Available at: http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N13/443/65/PDF/N1344365.pdf?OpenElement
45. World Bank and UNFAO(2008). "The Sunken Billions – The Economic Justification for Fisheries Reform" Available at: http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTARD/0,,contentMDK:21930578~pagePK:148956~piPK:216618~theSitePK:336682,00.html
46. Division for Ocean Affairs and the Law of the Sea (2010). 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. Available at: http://www.un.org/depts/los/convention_agreements/review_conf_fish_stocks.htm
47. UN General Assembly (1994). Resolution A/RES/49/28. Available at: http://www.un.org/documents/ga/res/49/a49r028.htm
48. United Nations Environment Programme. Regional Seas Programme. Available in May 2014 at: http://www.unep.org/regionalseas/

49. Sumaila, U.R. & Pauly, D. (2006). Catching more bait: a bottom-up re-estimation of global fisheries subsidies. Fisheries Centre Research Reports, 14(6). Fisheries Centre, University of British Columbia, Vancouver (Canada). Available at: http://www.seaaroundus.org/researcher/dpauly/PDF/2006/Books&Chapters/CatchingMoreBait.pdf
50. Directorate-General for Internal Policies, European Parliament (2013). Global Fisheries Subsidies. Available at: http://www.europarl.europa.eu/RegData/etudes/note/join/2013/513978/IPOL-PECH_NT(2013)513978_EN.pdf
51. *Ibid.*
52. Sumaila, U.R. *et al.* (2009). Subsidies to high seas bottom trawl fleets and the sustainability of deep-sea demersal fish stock. *Marine Policy* 34(3): 495–497. Available at: http://www.sciencedirect.com/science/article/pii/S0308597X09001663
53. Sumaila U.R. *et al.* (2010). A bottom-up re-estimation of global fisheries subsidies. *Journal of Bioeconomics*. 12: 201–225. Available at: http://www.seaaroundus.org/researcher/dpauly/PDF/2010/JournalArticles/BottumUpReestimationOfGlobalFisheriesSubsidies.pdf
54. World Trade Organisation (2001). Ministerial Declaration. Available at: http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.pdf
55. Sumaila, U.R. & Pauly, D. (2007). All fishing nations must unite to cut subsidies. *Nature* 450, 945. Available at http://www.nature.com/nature/journal/v450/n7172/full/450945a.html
56. Based on WTO publications and literature. See e.g. TN/RL/W/236, pp. 85–94; TN/RL/W/254, pp. 46–67.
57. High Seas Task Force (2006). Closing the Net: Stopping illegal fishing on the high seas, Final report of the Ministerially-led Task Force on IUU Fishing on the High Seas. Available at: http://www.imcsnet.org/imcs/docs/hstf_final_report.pdf
58. Agnew, D.J. *et al.* (2009). Estimating the Worldwide Extent of Illegal Fishing. *PLoS ONE* 4(2): e4570. doi:10.1371/journal.pone.0004570 . Available at http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0004570
59. United Nations Office on Drugs and Crime (2011). Transnational Organized Crime in the fishing Industry. Vienna. Available at: http://www.unodc.org/documents/human-trafficking/Issue_Paper_-_TOC_in_the_Fishing_Industry.pdf
60. European Commission (2012). Overview of EU policies, legislation and initiatives related to marine litter. Commission Staff Working Document. Available at: http://ec.europa.eu/environment/marine/pdf/SWD_2012_365.pdf
61. Rochman, C.M. *et al.* (2013). Policy: Classify plastic waste as hazardous. *Nature* 494.7436: 169–171. Available at: http://www.nature.com/nature/journal/v494/n7436/full/494169a.html
62. Raavener, V. (2012). Are We "Digging Our Own Grave" Under the Oceans? Biosphere-Level Effects and Global Policy Challenge from Plastic(s) in Oceans. *Environ. Sci. Technol.* 46, 7932–7933
63. Seitz, J.L. & Hite, K.A. (2012). Global Issues: An Introduction, 4th edition. West Sussex, UK: John Wiley and Sons.
64. United Nations Environment Programme. Regional Seas Programme. Distribution of Marine Litter. Available in May 2014 at: http://www.unep.org/regionalseas/marinelitter/about/distribution/
65. Directorate-General for Environment. Descriptor 10: Marine Litter. Available in May 2014 at: http://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/index_en.htm
66. Rochman, C.M. *et al.* (2013). Long-term field measurement of sorption of organic contaminants to five types of plastic pellets: implications for plastic marine debris. *Environmental science & technology* 47:3 Available at: http://pubs.acs.org/doi/abs/10.1021/es303700s?journalCode=esthag
67. Hopewell, J. *et al.* Plastics recycling: challenges and opportunities. *Phil. Trans. R. Soc.* B 364:1526. Available at: http://rstb.royalsocietypublishing.org/content/364/1526/2115.full
68. Müller, C. *et al.* (2011). Experimental degradation of polymer shopping bags (standard and degradable plastic, and biodegradable) in the gastrointestinal fluids of sea turtles. *Science of The Total Environment*. Available at: http://www.plasticmarinelitter.eu/biodegradable-plastic-shopping-bags-no-solution-for-sea-turtles
69. Reusethisbag.com. Plastic Bag Bans: A World Survey. Available in May 2014 at: http://www.reusethisbag.com/reusable-bag-infographics/plastic-bag-bans-world.php
70. Clavel, E. in *The Guardian* (2014). "Think you can't live without plastic bags? Consider this: Rwanda did it!" Available at: http://www.theguardian.com/commentisfree/2014/feb/15/rwanda-banned-plastic-bags-so-can-we
71. The Pew Charitable Trusts (2012). Estimating the Use of Drifting Fish Aggregating Devices (FADs) in the Global Tuna Fishery. Available at: http://www.pewtrusts.org/news_room_detail.aspx?id=85899433975#sthash.1t8EStxv.dpuf
72. United Nations Environment Programme, Food and Agriculture Organization, United Nations (2009). Abandoned, lost or otherwise discarded fishing gear. Available at: http://www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_Abandoned_Lost_Fishing_Gear.pdf
73. The Pew Environment Group (2011). Fish Aggregating Devices (FADs) and Tuna: Impacts and Management Options. Available at: http://www.pewenvironment.org/uploadedFiles/PEG/Publications/Report/PEG_OSD_FADs_English_Final.pdf
74. Franco, J. *et al.* (2009). Design of Ecological FADs. Available at: http://www.iotc.org/sites/default/files/documents/proceedings/2009/wpeb/IOTC-2009-WPEB-16.pdf
75. Cho, D. (2009). The incentive program for fishermen to collect marine debris in Korea. *Marine Pollution Bulletin* 58: 415–417. Available at: http://www.sciencedirect.com/science/article/pii/S0025326X08004918
76. Rochette J., *et al.* (2014). Seeing beyond the horizon for deepwater oil and gas: strengthening the international regulation of offshore exploration and exploitation. *Institute for Sustainable Development and International Relations*. Studies N°01/2014. Available at: http://www.iddri.org/Publications/En-finir-avec-le-bleu-petrole-Pour-une-meilleure-regulation-des-activites-petrolieres-et-gazieres-offshore
77. GBI Research (2012). Offshore Drilling Industry to 2016 – Rapidly Rising Demand for Hydrocarbons Expected to Boost Offshore Drilling in Ultra-Deepwater and Harsh-Weather Environments. Available at: http://www.worldoils.com/marketplace/equipdetails.php?id=952
78. Pike, W.J. (2013). High crude oil prices sustain stable production, spur new discoveries. *World Oil Magazine*, 234, p. 1. Available at: http://www.westpaq.com/wp-content/uploads/2013/04/World-Oil1.pdf
79. Australian Maritime Safety Authority (2010). Response to the Montara Wellhead Platform Incident – Report of the Incident Analysis Team, 32pp. Available at: http://www.amsa.gov.au/forms-and-publications/publications/montara_iat_report.pdf
80. National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling (2010). A Brief History of Offshore Oil Drilling, Staff Working Paper No1, 18pp. Available at: http://www.cs.ucdavis.edu/~rogaway/classes/188/materials/bp.pdf
81. Rochette, J. & Chabason, L. (2014). Towards International Regulation of Offshore Oil and Gas Activities: Pragmatic Directions to be considered by the Global Ocean Commission, Paper prepared for the Global Ocean Commission by IDDRI, Paris, February 2014.
82. Rogers, A.D. Sumaila, U.R., Hussain, S.S. & Baulcomb, C. (2014). The High Seas and Us: Understanding the Value of High Seas Ecosystems.
83. Rogers, A.D. Sumaila, U.R., Hussain, S.S. & Baulcomb, C. (2014). The High Seas and Us: Understanding the Value of High Seas Ecosystems.
84. White, C.P. & Costello, C. (2014). Close the High Seas to Fishing? *PLOS Biology.* Available at: http://www.plosbiology.org/article/info%3Adoi%2F10.1371%2Fjournal.pbio.1001826?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+plosbiology%2FNewArticles+%28PLOS+Biology+-+New+Articles%29
85. Business Insider, AFP (2014). "High Seas Fishing Is A Huge Waste Of Money And Resources That Should Be Banned, McKinsey Director Says" Available at: http://www.businessinsider.com/economist-ban-of-high-seas-fishing-saves-2-per-person-on-the-planet-2014-2#ixzz31aJPDFkO

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Key Global Ocean Commission Documents

Global Ocean Commission Policy Option Papers (2013)[i]

A sustainable development goal for the global ocean

Climate change, ocean acidification and geo-engineering

Elimination of pollution that affects the high seas

Bioprospecting and marine genetic resources in the high seas

Strengthening deep seabed mining regulation

Elimination of harmful fisheries subsidies affecting the high seas

MPAs: Protecting high seas biodiversity

Illegal, unreported and unregulated fishing

Improving accountability and performance in international fisheries management

Modernising ocean governance

Addenda to Policy Option Papers (2014)

Memorandum pursuant to the meeting of the SDG Open Working Group

High seas elements for a possible Ocean SDG[ii]

Supplement to climate change, ocean acidification and geo-engineering

Climate change, ecosystem resilience and marine protected areas

Supplement to pollution: relationship between offshore activities on the continental shelf and pollution of the high seas

Towards international regulation of offshore oil and gas activities: pragmatic directions to be considered by the Global Ocean Commission (Paper prepared for the Global Ocean Commission by IDDRI)

Market-based instruments to address marine debris

State of fish aggregation devices (FADs) disposal options

Examples of international bio-repositories from other sectors that may be applicable to marine genetic resources

Supplement to seabed mining

Outcome of Global Ocean Commission workshop on subsidies

Should high seas areas not covered by RFMOs become closed areas?

State of knowledge of potential high seas marine protected areas – Ecologically and Biologically Significant Areas (EBSAs)

Options to raise IUU fishing as a security issue

Operational aspects of vessel tracking and transponders

Eradicating the market and demand for IUU fish

Status of the Port State Measures Agreement (PSMA) ratification and the resource implications of implementation

Accountability and performance of RFMOs, UNFSA review conference, sanctions

From Regional Fisheries Management Organisations to Regional Ocean Management Organisations?

Convention on Biological Diversity (CBD) jurisdiction in the high seas

A Global Ocean Stability Board: Possible mandate, membership and structure

Appointment of a Special Representative of the Secretary-General for the Ocean and improved UN-system coordination on oceans

Outline of a new governance structure under UNCLOS

Other Global Ocean Commission documents

Lodge, M. (2010). Why some commissions succeed and others fail – lessons and review.

Lodge, M. and Sack, K. (2012). Global ocean governance primer: What we choose to do now will define us for generations.

Global Ocean Commission, (2012). Charting the Right Course for the High Seas in the 21st Century

Rogers, A.D., Sumaila, U.R., Hussain, S.S. & Baulcomb, C. (2014). The High Seas and Us: Understanding the Value of High Seas Ecosystems. (Report commissioned by the Global Ocean Commission)

Other reports and papers relevant to the work of the Global Ocean Commission have been listed in an online 'Reading Room' at www.missionocean.me/learn/readingroom. This is not an exhaustive list.

i. Available at: http://www.globaloceancommission.org/policies/

ii. Available at: http://www.globaloceancommission.org/wp-content/uploads/SDG-Global-Ocean-targets-and-indicators-Global-Ocean-Commission-High-Seas.pdf

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Glossary of Acronyms

AIS	automatic identification system
ALDFG	abandoned, lost or otherwise discarded fishing gear
BBNJ	Ad Hoc, Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction
CBD	Convention on Biological Diversity
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CO_2	carbon dioxide
DOALOS	Division for Ocean Affairs and the Law of the Sea
EEZ	exclusive economic zone
EIA	environmental impact assessment
FAD	fish aggregating device
FAO	Food and Agriculture Organization [of the United Nations]
FSB	Financial Stability Board
ICCAT	International Commission for the Conservation of Atlantic Tunas
IMO	International Maritime Organization
IOTC	Indian Ocean Tuna Commission
IPCC	Intergovernmental Panel on Climate Change
IPOA	International Plan of Action
IPSO	International Programme on the State of the Ocean
ISA	International Seabed Authority
ITLOS	International Tribunal for the Law of the Sea
IUU fishing	illegal, unreported and unregulated fishing
JPOI	Johannesburg Plan of Implementation
MCS	monitoring, control and surveillance
MDG	Millennium Development Goal
MPA	marine protected area
MSSIS	Maritime Safety and Security Information System
NAFO	Northwest Atlantic Fisheries Organization
NEAFC	North East Atlantic Fisheries Commission
NEPAD	New Partnership for Africa's Development
NPFAC	North Pacific Anadramous Fish Commission
OECD	Organisation for Economic Co-operation and Development
OSY	optimum sustainable yield
OWG	Open Working Group
PSMA	Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing
RFMO	Regional Fisheries Management Organisation
ROMO	Regional Ocean Management Organisation
SDG	Sustainable Development Goal
SEAFO	South East Atlantic Fisheries Organisation
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNFSA	United Nations Fish Stocks Agreement
WCPFC	The Western and Central Pacific Fisheries Commission
WTO	World Trade Organization

Global Ocean Commissioners in Hong Kong

The Global Ocean Commission together at a meeting in Hong Kong, March 2014. © Paul Hilton


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Global Ocean Commission Partners

The mission of **The Pew Charitable Trusts**' environment work is to strengthen policies and practices in ways that produce significant and measurable protection for terrestrial and marine ecosystems worldwide. In doing so, they work to advance scientific understanding of the causes and consequences of environmental problems, design policy solutions to these problems and mobilise public support for implementation. Current marine work includes projects to establish large, highly protected marine reserves, create shark sanctuaries and reduce demand for shark fin, ensure sustainable fisheries in US and European waters, secure international science-based rules to regulate some of the world's largest tuna fisheries, prohibit destructive high seas bottom trawling and end illegal fishing.

Somerville College is one of the constituent colleges of the University of Oxford. Founded in 1879 as one of the first women's colleges, it is named after Mary Somerville (1780–1872), the best-known female scientist of her day. Somerville became a mixed college in 1994. Its undergraduates, postgraduates and fellows study and research a wide range of subjects spanning the arts, sciences, medicine, engineering and the humanities. Alumni include former Prime Ministers Margaret Thatcher and Indira Gandhi, and Dorothy Hodgkin, the only British woman scientist to have won a Nobel Prize.

Adessium Foundation aspires to a world in which people live in harmony with each other and with their environments. The Foundation is working to create a balanced society characterised by integrity, justice, and a balance between people and nature. The name Adessium is inspired by the Latin phrase ad esse, literally 'into being'. It signifies help, support and participation that bring about positive change.

Oceans 5 brings together a number of philanthropists committed to ocean conservation. The group collectively targets its investments and support on projects and campaigns aimed at protecting biodiversity and constraining overfishing. It supports focused projects with limited timeframes that have the capacity to produce clear and measurable returns.

The **Swire Group Charitable Trust** was established in 1983 as the philanthropic arm of the Swire group in Hong Kong and is funded by Swire group companies. The Trust envisions a flourishing world of diversity, equal opportunity and sustainable growth. To achieve this vision, the Trust funds non-profit organizations in the environment, education and arts and culture in Hong Kong and Mainland China.

Global Ocean Commission

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