


## Protecting Our Oceans: New Challenges, New Solutions An Overview of This Issue

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# PROTECTING OUR OCEANS: NEW CHALLENGES, NEW SOLUTIONS

## AN OVERVIEW OF THIS ISSUE

by David Freestone\*

### INTRODUCTION

Next year it will be a quarter of a century since the conclusion of the Third UN Conference on the Law of the Sea and the signing of the final text of the Convention (“LOSC”) in Montego Bay in December of 1982. These twenty-five years have not been plain sailing. Before the Convention could even come into force in 1994 a major “implementation” agreement had to be signed adjusting key provisions on the seabed régime and in 1995 a further implementation agreement, prompted by the 1992 UN Conference on Environment and Development, was concluded, relating to regulation of straddling and highly migratory fish stocks. Two major formal changes in

such a short time is not an auspicious record, especially to a Convention that had been hailed as the new “Constitution of the oceans.” Both changes however serve to show how quickly the ocean governance agenda has moved on in the intervening years.

For example, in the 1970s the mining of deep seabed manganese nodules was seen as an important new economic opportunity, hence the LOSC contains a complex governance structure under the International Seabed Authority. In 2006 however such mining seems unlikely to be commercially viable, while the more recent discovery of new deep-sea resources both living and non-living, present issues never envisaged by the LOSC drafters. Similarly, the seemingly insatiable demand for fish as well as for fossil fuels have pressed exploration and exploitation into distant and dangerous waters, posing threats to the integrity of ocean ecosystems and biodiversity and unprecedented challenges to the legal regime of the oceans. Innovative provisions in the LOSC recognize that states acting multilaterally or through “competent international organizations” can develop the LOSC regime further. Nevertheless, new solutions for the problems of regulation of our ocean space still need to be devised within the broader system of international law, which will allow us to meet these new challenges.

### CURRENT THREATS TO OUR OCEANS

Twenty-five years ago marine pollution was seen as the main threat to the oceans. Today pollution is still an important concern, but it is the future of the world’s fisheries resources which is center stage as a major concern for the international community. This concern is no longer simply an issue of the economic impact of the decrease of these resources but rising disquiet in scientific circles over the potential long-term significance of such depletion for marine ecosystems and biodiversity generally.

Modern industrial fishing practices often involve a high level of wastage including by-catch of non-commercial species. Despite unequivocal evidence of over-fishing and declining fish stocks, many coastal States continue to tolerate inefficient and destructive fishing practices. Even more disturbing is the level of illegal, unreported, and unregulated (“IUU”) fishing. IUU fishing can undermine even the best-intentioned management regime. Thus, serious efforts are being directed at curtailing IUU fishing, including improved enforcement mechanisms.

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## ILLEGAL, UNREPORTED, AND UNREGULATED FISHING

The Food and Agriculture Organization (“FAO”) has recognized that its declared goal of sustainable utilization of world fishery resources is unobtainable under existing “open access” fishery regimes. Many international and regional fishery management organizations (“RFMOs”) lack the capability to monitor their stocks effectively, the structure to make strong science-based decisions on allowable catches, the powers to police the decisions that they make, or to enforce them against non-parties. However, such management decisions that RFMOs do take are consistently undermined by rogue vessels flagged to states that are not party to the treaty regimes or which simply disobey the rules. In June 2001, the FAO Council endorsed an International Plan of Action against IUU Fishing. It contains an extensive “toolkit” of actions that states can take against such vessels — but progress has been slow. In March this year the OECD Ministerially-led Task Force on IUU Fishing on the High Seas proposed a new action plan to address this “serious global problem” which undermines sustainable fishery efforts and robs the poorest states of more than \$1 billion worth of fish a year. The Action Plan aims to galvanize the political will in the international community necessary to take effective deterrent actions, many of which have already been agreed.

### THREATS TO BIODIVERSITY

Unsustainable bycatches of non-commercial species still pose a major threat to biodiversity, despite technological advances such as turtle excluder devices in shrimping nets and developments in longline-setting to avoid seabird catches. Nevertheless scientists are now warning that the sheer scale of fishing efforts as well as the targeting of high value, mostly pelagic, species is resulting in a reduction in the average size of many commercial species as well as fishing down the trophic levels — targeting smaller and less valuable species. A number of marine species may be close to commercial extinction. The unique litigation brought in 1999 by Australia and New Zealand against Japan over the valuable Southern Bluefin Tuna stocks highlights the important economic as well as ecological interests involved. Such case studies have led to the growing awareness in the international community that ocean fisheries will need to be managed as part of the larger ecosystem rather than, as at present, simply species-by-species.

These developments were not really envisaged by the LOSC. While Article 116 accepts certain limitations on the rights of all states for their nationals to fish on the high seas — they are not clearly articulated. It was the 1995 UN Fish Stocks Agreement that first proclaimed a general norm of ecosystem-based management of highly migratory and straddling fish

stocks accompanied by a requirement (in Article 6) that states take a precautionary approach — a concept that is an established tool of international environmental policy. There is still widespread confusion regarding what the precautionary approach actually entails. Often it involves the reverse of the normal burden of proof. Typically, the burden of proof would fall on those arguing for conservation to prove definitively that stocks are being threatened before conservation measures are put into place. However, with the precautionary approach, a number of stock management parameters are established *ab initio* and if these are exceeded, then conservation measures will automatically become applicable. Despite the well known opposition of the U.S. to the precautionary *principle* in international forums, many U.S. fisheries, such as the Alaskan Pollock Fishery, are in fact already using rigorous precautionary methodologies.

### EXPLOITING DEEP SEA FISHERIES

All these concerns come together when we look at the exploitation of deep sea living resources. Another lacuna in the LOSC is its inability to date to be able to regulate deep sea trawl fishing over deep ocean floor habitats designed to exploit species such as orange roughy and tooth fish. Orange roughy (*hoplostethus atlanticus*), for example, was originally named “Slimehead.” Discovered in the deep waters off New Zealand in the 1970s, it was quickly renamed “orange roughy” to become more commercially appealing. This species was heavily fished before it became known that it has characteristics that make it innately vulnerable to overexploitation: it does not reach sexual maturity until about

30 years old, it can live to 150, and does not breed every year. Scientists know little about them except that catches have dropped vertiginously after sustained exploitation, raising fears that they face extinction without some form of strict regulatory regime.

Another example of the dangers of overexploiting the deep seas can be found in the unique ecosystems surrounding deep-sea hydrothermal vents, known as black smokers. Black smokers support extraordinary ecosystems that are the only communities currently known on earth whose immediate energy source is not sunlight. These vents teem with a fascinating array of life that can withstand extremely high temperatures. Studying the biodiversity of these vents has other promising technological applications, such as improving heat resistant clothing for firefighters. These unique ecosystems exist outside national waters, and to date there is no agreement on ways in which they and other important high seas ocean areas, such as seamounts on which deep-sea species often spawn, can be legally protected. Without some form of effective international legal protection we face the possibility that these unique ecosystems could be destroyed before we have had the chance to study them.

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## EXOTIC SPECIES: THE BALLAST WATER CONVENTION

Invasive aquatic species can have devastating economic, environmental, and public health impacts. Although all the world oceans are linked, many species function in localized ecosystems that have evolved natural controls. The transfer of species to a different marine environment can have disastrous outcomes. A vivid example can be found in the Black Sea where the accumulated biomass of a jellyfish-like species (*mnemiopsis leidyi*), introduced from North America through tanker ballast water, was in 2000 reported to be ten times the world's annual global fish catch. This form of impact of shipping was never envisaged in 1982, and has required a customized response through the 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediments. Yet to enter into force, it envisages the introduction of mandatory ballast water management from 2009, but no later than 2016, in order to eliminate the common practice of vessels loading and discharging untreated ballast water.

### NEW SOLUTIONS: A CALL FOR A HOLISTIC MARINE AGREEMENT

The current need is for the international community to develop an *effective* regime for the conservation and management of international fish stocks, particularly in areas beyond national jurisdiction. The 1995 UN Fish Stocks Agreement, which introduced important new concepts into the Law of the Sea regime, was the result of a two year negotiating process stimulated by the 1992 UN Conference on Environment and Development. It is styled as an "Implementation Agreement."

Members of the international community are now proposing a new Implementation Agreement. In July 2006, Joe Borg, the European Commissioner for Fisheries and Maritime Affairs, addressing the 30th Virginia Law of the Sea Conference in Dublin, outlined the aim of the June 2006 EU Green Paper. The publication of the Green Paper launched a one-year consultation on the European Union's relations with the oceans and seas. The underlying idea is to develop a comprehensive maritime policy aimed at enhancing Europe's maritime economy in a sustainable manner. However, as Mr. Borg stressed, the EU will press in the UN for a new "implementation agreement . . . regarding the protection of marine biodiversity in areas beyond national jurisdiction."

One issue directly related to a holistic approach to the conservation of marine diversity is the specific issue of compliance and enforcement. Under LOSC mechanisms, enforcement of obligations is predicated on two fundamental forms of jurisdic-

tion—flag State and coastal State jurisdiction. However the LOSC does in certain situations recognize the jurisdiction of port states. Another approach to improved compliance and enforcement of fishery and other natural resource regimes is to harness more centrally the potential of port State control ("PSC"). PSC is the logical choice for verifying whether visiting ships comply with certain types of international or national standards, or if they have engaged in certain types of behavior in the port State's own maritime zones and in the maritime zones of other States or in the high seas. Although it is a sensitive issue, we are witnessing a gradual broadening of the scope and rights of port State jurisdiction: initially to further the interests of the international community by ensuring safety at sea, but increasingly for wider environmental and natural resource conservation and management issues.

### CONCLUSION: OVERVIEW OF THIS ISSUE

Many of the current controversies raised above are addressed in more detail in this issue of *Sustainable Development Law & Policy*. David Balton and Holly Koehler explore the

impacts and effectiveness of the UN Fish Stocks Agreement particularly in relation to the need to impose increasingly strict obligations on States to prevent damage to sea areas outside national jurisdiction. Recognizing the importance of ecosystem-based management is vital as many aquatic species near extinction: Virginia Gascón and Rodolfo Werner explain the status of the ecosystem-based management of Antarctic krill under the Commission for the Conservation of Antarctic Marine Living Resources. The absence of

coherent regulations to steward fishery resources and the intensified global attention to the pivotal role of the port State in combating IUU fishing is explored by Judith Swan. Ray Purdy discusses the legal implications of carbon capture and storage under the seas. Magdalena Muir discusses oceans and climate change science and policy issues at a global and Arctic level. A criticism of aquaculture as an answer to resources management is presented by Daniel Pauly, who argues that fishing subsidies need to be cut and that we must essentially withdraw from the ocean to rebuild overexploited ecosystems. Eric Bilsky looks to the Magnuson-Stevens Act as a means to direct regional fishery management councils to protect essential fish habitat. Jeremy Firestone and James Corbett present ecological and economic problems related to ballast water's introduction of non-native invasive species into ecosystems. Industry-driven sustainability initiatives are explored by John Connelly and Daniel Lee, who present an overview of sustainable fisheries management guidelines and certification practices. Additionally, various other pressing topics are explored within this issue.

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Many international and regional fishery management organization lack the capability to monitor their stocks effectively.

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