

Black Holes in Deep Ocean Space

Closing the Legal Voids in High
Seas Biodiversity Protection



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JN 119

Cover image: ©Greenpeace / G Newman

Published in March 2008
by Greenpeace International
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‘For too long, the world acted as if the oceans were somehow a realm apart – as areas owned by no-one, free for all, with little need for care or management. The Law of the Sea Convention and other landmark legal instruments have brought important progress over the past two decades in protecting fisheries and marine ecosystems. But this common heritage of all humankind continues to face profound pressures.’

Secretary-General Kofi Annan, at the meeting of the Seychelles and the United Kingdom “Reefs, Island Communities and Protected Areas – Committing to the Future” (2004)



image Close up of a Sea Urchin, Inner Hebrides, North Atlantic. In a joint venture with Scottish Association for Marine Science (SAMS) Greenpeace documented and researched the destructive effects of bottom trawling on the cold water coral reef.



Part 1: Freedom for the Seas in the 21st Century

When Hugo Grotius expressed the notion of Freedom of the Seas – *mare liberum* – in 1609, fishing was done with wooden sailboats and it was presumed that the oceans were limitless and inexhaustible. Most of the world's oceans were too far, too deep, too rough, too cold or too dangerous to fish. In practice, this meant that fishing was only possible in the 10-12% of the world's oceans that are now viewed as coastal waters. In other words, almost 90% of the oceans were no-fishing zones: *de facto* marine reserves. Today, with the increase in technological and industrial efficiency, fishing vessels are able to fish from the Arctic to the Antarctic and to depths of 2.5 km. With the ever-increasing evidence of collapsing fish stocks, it is clear that the oceans' resources are not infinite and, as a result of human activities, are diminishing at an alarming rate. The marine safe-havens of Grotius' day no longer exist, and the oceans are no longer boundless.

The challenges facing our oceans in the 21st Century require that the primacy of the concept of "Freedom for the Seas" (*Libertas Mari*) be restored. The international community must act now on its commitments to protect the marine environment, so that future generations have the freedom to enjoy the benefits of this last remaining global commons sustainably and equitably.

Almost four decades ago, Arvid Pardo, the UN Ambassador for Malta, developed the concept of the common heritage of humankind in relation to ocean resources. In 1967, Pardo limited his explanation of this concept to the seabed, ocean floor and subsoil thereof, which was later encapsulated in Article 136 of the Law of the Sea Convention and led to the creation of the International Seabed Authority. However, Pardo expanded on the notion of the common heritage of humankind in his 1971 'Draft Oceans Space Treaty', acknowledging that while the concept should apply to mineral resources because their exploitation was imminent, it should eventually be expanded to fisheries as they could be similarly exploited in the future. Pardo argued that all ocean space beyond areas of national jurisdiction – through the water column to the seabed – must be managed in such a way as to ensure that its resources are viewed as the common heritage of humankind and its benefits sustainably and equitably shared.

'The law of the sea seemed to unite humanism, the attempt to build a human law and order, and romanticism, the love of nature and of the oceans as part of nature. It offered a starting point for a new philosophy – an "ecological worldview" – and a new economic theory – sustainable development, the economics of the common heritage.'

Elizabeth Mann Borgese, in Freedom for the Seas in the 21st Century (1993)

Scientists and corporations are increasingly interested in the genetic specialisations of marine organisms. Emerging activities like bioprospecting are developing at the cutting edge of science and outside of any regulatory framework. New evidence of the threats to marine life from climate change, invasive species and ocean noise may also have significant impacts on ocean life. A recent report by the Royal Society, the UK's national academy of science, suggests that if global emissions of carbon dioxide from human activities continue to rise at current rates, the average pH of the oceans could fall by 0.5 units - equivalent to a rate of change one hundred times that of past millennia. The magnitude and scale of this change is enormous and biological effects are inevitable. Calcifying organisms such as corals, which rely on calcium carbonate to generate supporting life structures, are thought to be most at risk.¹ Other known consequences of climate change are increased storm surges and wave activity, an increase in sea temperatures and ultimately, a shift in ocean currents.

The crisis facing marine life now looms larger than at any time in the past. If we are serious about food security, particularly for the millions of people dependent on the marine environment in developing countries, then there is no time to lose in revisiting Pardo's proposal by closing the gaps in oceans governance, establishing an international insurance policy for marine life through a global network of no-take marine reserves, and building capacity to ensure that monitoring, control and enforcement of existing and emerging activities are strictly for the benefit of future generations and the planet as a whole.

Part II: The Final Frontier: Filling The Voids in Deep Ocean Space

The United Nations Law of the Sea Convention (UNCLOS) provides the fundamental framework – the constitution – for global oceans governance. To date, the Agreements in Part XI of UNCLOS regarding seabed mining and the United Nations Fish Stocks Agreement (UNFSA) have implemented a number of the key principles contained within UNCLOS. Greenpeace believes that the time is ripe for a third UNCLOS implementing agreement – a comprehensive, legally binding agreement which will implement the UNCLOS provisions relating to the duties of States to cooperate in the protection of the marine environment of the high seas. In addition to harmonising institutional mandates and improving coordination, this implementing agreement would facilitate the establishment of a global network of high seas marine reserves. It would further establish an “Interpol for the oceans” – a centralised monitoring, control and enforcement agency. These components are essential to ensure that the living resources of the high seas global commons are sustainably and equitably managed for now and for the future.

The existing international oceans regulatory system does not cover biodiversity protection on the high seas explicitly and comprehensively:

- Even where a patchwork of commitments exist, there is often a lack of political will to secure the long-term well-being of ocean life over short-term self-interest;
- there is little sanction against non-compliance;
- the membership of States to international agreements is limited and non-members are not required to comply with conservation and management measures;
- there is insufficient coordination among and between the different relevant instruments;
- there is a lack of clear rules governing access to and the sharing of benefits derived from high seas genetic resources;
- there is a lack of adequate implementation tools such as a mandate to establish marine reserves (no-take zones) in areas beyond the limits of national jurisdiction; and
- monitoring, control and surveillance of extractive and potentially polluting activities, particularly fishing on the high seas, is inadequate.

The current piecemeal approach and voluntary measures for the conservation of high seas biodiversity are simply insufficient to ensure that States take action to effectively protect the unknown treasures of the open ocean. In addition to adopting immediate short-term measures (see box 1), it is necessary to revise the current oceans governance system in order to achieve the conservation objectives of the UNCLOS and the Convention on Biological Diversity (CBD) in the medium to long-term.

Building on the existing provisions and set within the broad framework of UNCLOS, any revised regime should principally:

- Provide a clear mandate and legal duty to protect biodiversity on the high seas, based on ecosystem-based management and the precautionary principle;
- promote coordination and harmonisation between relevant international and regional instruments;
- clarify the rules governing access to, and the sharing of benefits derived from, high seas genetic resources;
- provide adequate implementation tools, including a mandate to establish and manage marine reserves in areas beyond the limits of national jurisdiction; and
- establish an effective centralised monitoring, control and surveillance mechanism for human activities on the high seas.

Modelled on the 1995 UNFSA, a new implementing agreement under the auspices of UNCLOS should be drawn up to address these five principle objectives through a list of detailed provisions.

The new implementing agreement would elaborate on and provide for the implementation of existing provisions of UNCLOS Part XII on the Protection and Preservation of the Marine Environment and Parts VII and XI concerning the high seas and the seabed, subsoil and ocean floor beyond areas of national jurisdiction (the Area), obliging States to take specific measures to protect biodiversity.

Box 1 Short-term conservation measures

Without immediate action to protect marine biodiversity from the most acute pressures, many of the deep secrets of our oceans will be lost before we can secure their long-term protection. Short-term measures that the international community must take now are:

- Immediate implementation of United Nations General Assembly (UNGA) Resolution 61/105 on high seas bottom trawling to ensure that States meet their obligations under the CBD, UNCLOS, the World Summit on Sustainable Development (WSSD) Programme of Implementation and the UNFSA to effectively conserve the benthic marine environment;
- The establishment of a centralised monitoring, control and surveillance authority to regulate the activities of high seas fishing vessels;
- The definition of the term ‘genuine link’ for fishing vessels; and
- A prohibition on all at-sea transshipments of fish and fish products.

image Unwanted bycatch, including a starfish in a net, far outweighs the target catch of orange roughy in a deep sea trawl from international waters in the Tasman Sea. Greenpeace, along with more than a thousand scientists and other NGOs called for a moratorium on high seas bottom trawling, because of the vast amount of marine life that is destroyed by this fishing method.



The advantages of using UNCLOS rather than the CBD or other agreements as the legal basis for such an agreement are:

- UNCLOS is regarded as the framework agreement that delimits ocean areas and details state rights and duties in the high seas and the 'Area';
- UNCLOS's broad remit already covers most or all activities that impact on marine biodiversity, including, for example, emerging activities such as bioprospecting, noise pollution and the introduction of alien species; and
- UNCLOS provides a binding dispute settlement mechanism.

Such an agreement would not require any amendment to the text of the Convention. It would further be consistent with Article 22(2) of the CBD, which already obliges contracting parties to implement the Convention "with respect to the marine environment consistently with the rights and obligations of States under the Law of the Sea."

In addition to the more general objectives mentioned above, the new implementing agreement must include a list of detailed provisions, including:

- recognition of the high seas as an area of scientific value for peaceful purposes, as well as a natural reserve that is part of the common heritage of humankind;
- lay down the general principles of the precautionary and ecosystem approach as the core components for the conservation of marine biodiversity on the high seas;
- consolidate existing provisions, such as those included in the UNFSA, the International Maritime Organisation (IMO) framework etc, and bring them into the context of biodiversity protection;
- prohibit highly destructive practices in areas beyond the limits of national jurisdiction;
- give a clear mandate for the identification, selection, establishment and management of high seas marine reserves;
- identify ecological and practical criteria and guidelines for the establishment of high seas marine reserves;
- oblige the establishment of a management plan for marine reserves;
- oblige States to establish regional environmental management organisations in high seas areas to regulate human activities in specific regions of interest;
- require prior environmental impact assessment (EIA) and approval for all activities planned to occur on the high seas;
- require that all high seas fisheries are managed in a responsible and

sustainable manner, and based on the ecosystem approach and precautionary principle as stipulated in the UNFSA and Food and Agriculture Organisation (FAO) Code of Conduct for Responsible Fisheries;

- build on existing inventories to develop a list of priority areas for biodiversity protection;
- establish a centralised monitoring, control and surveillance agency with a register and database of all high seas fishing vessels;
- encourage information and knowledge sharing on high seas biodiversity through the creation of a central list of high seas species available to all;
- provide for the management of as yet unknown emerging activities;
- establish a secretariat and a scientific committee in order to carry out the terms of the agreement;
- support shared and collaborative scientific research for the identification of areas and species of special concern;
- secure long-term funding for the management and enforcement of marine reserves as well as sustainable oceans management across the high seas;
- secure long-term funding for capacity building to address the common but differentiated needs of developing country coastal States and their key roles in management and enforcement;
- set a timetable for review of implementation of the agreement.

Part III: Conclusions

Charting the way towards comprehensive regulation for the conservation of high seas biodiversity

The international waters of the high seas are our common heritage. Most of the resources of this global commons are non-renewable. The high seas must therefore be considered off limits to extractive and disposal activities unless and until it can be shown that these activities do not cause harm to the surrounding environment. The protection of marine biodiversity on the high seas requires a collective approach and a clear political commitment from all States.

A new UNCLOS implementing agreement needs to fill the gaping void in the current regime for the protection of marine biodiversity by establishing a strong institutional framework for high seas biodiversity protection. Building on existing structures and, where necessary, reforming or creating new bodies, coordination, cooperation and compliance with existing provisions must be improved. It must also be flexible enough to allow for potential future activities to be brought into the regulatory framework. Particularly important is the consideration of implementing tools and enforcement mechanisms.

The implementing agreement should further provide a clear mandate for the establishment and protection of high seas marine reserves as well as the tools necessary to enforce reserves and other high seas conservation measures. To this end it must put in place an effective monitoring, surveillance and control system for all high seas fishing vessels, including a mandate to protect the integrity of high seas marine reserves.

Short-term interim measures must be taken to protect the deep-sea from its current most serious threats – particularly destructive practices such as high seas bottom trawling. But if nation States are serious about protecting the marine biodiversity of the high seas, then negotiations must start now for a new UNCLOS implementing agreement that can ensure that the duties to protect and conserve high seas biodiversity are spelled out for all States, and that the pressures being faced by this final frontier that is the common heritage of all humankind can be sustainably and equitably managed for now and for the future.

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Appendix 1 Existing mechanisms for governing the high seas

UNCLOS and the CBD provide the international legal framework governing the protection of the marine environment. However, there is no overarching legally binding agreement that effectively and comprehensively addresses the protection of biodiversity on the high seas, and is able to effectively implement the relevant provisions contained in these conventions. A brief summary of some of the key elements of these conventions vis-à-vis biodiversity conservation follows.

1 UNCLOS

While UNCLOS offers States the right to use our oceans as well as the duty to conserve them, it fails to provide explicit tools for the implementation of environmental protection provisions. One exception is the obligation for States to cooperate in determining the total allowable catch for living resources being exploited on the high seas (Article 119). In addition, fisheries management measures for straddling and highly migratory stocks are further elaborated in the UNFSA. However, to date this agreement does not apply to discrete deep-sea stocks, and thus leaves a huge gap in the international management regime for a number of deep-sea fisheries.

Box 3 Gaps in governance of high seas biodiversity

- No formal recognition of the need to protect biodiversity on the high seas and no mechanism with a mandate to do so.
- No mandate for the protection of areas on the high seas for conservation purposes.
- No conservation enforcement mechanism and competent enforcement body.
- No framework for access to, and benefit sharing of, living marine resources on the high seas.
- Insufficient geographic coverage and lack of competent fisheries management.
- Emerging activities, such as bioprospecting, remain outside the regulatory framework.
- Lack of regulation of ocean noise and its potential impacts on marine life.
- No regulation of discrete deep-sea fish stocks.

2 CBD

In addition to responsible fisheries management, an important tool to help comprehensively protect marine biodiversity is the establishment of a global network of marine reserves. The UN Millennium Project calls for 10% of the oceans to be covered by marine reserves in the short to medium-term, with a long-term goal of 30%. In 2004, echoing pledges taken at the World Summit on Sustainable Development (WSSD), the CBD's 7th Conference of the Parties (CoP 7) committed to the establishment of a global network of marine protected areas by 2012 (Decision VII/28). According to Decision VII/5, such a network should be composed of:

“comprehensive, effectively managed, and ecologically representative national and regional systems of protected areas that collectively... contribute to achieving the three objectives of the Convention and the 2010 target to significantly reduce the current rate of biodiversity loss”.

The CBD is the primary instrument providing direction to States for the establishment of marine protected areas and marine reserves in waters under their jurisdiction. The CBD further holds States responsible for the regulation of activities and processes within and beyond the limits of national jurisdiction, irrespective of where their impact may be felt, provided they occur under the control of a Contracting Party². This obliges Parties to apply the Convention to all its activities either in the EEZ or on the high seas, and acknowledges the need for protective measures in areas beyond national jurisdiction. It does not, however, oblige States to take collective measures to protect the high seas.

Greenpeace definition of Marine Reserves

Marine reserves are one type of Marine Protected Area. In terms of protecting the marine environment, they offer the highest level of protection - much like national parks in the sea. They are closed to all extractive uses, such as fishing and mining, as well as to industrial and disposal activities. Greenpeace calls for a network of large-scale marine reserves to cover around 40% of the ocean surface. Within these areas there may be core zones where no human activities are allowed, for instance areas that act as scientific reference areas or areas where there are particularly sensitive habitats or species.

3. Regional Fisheries Management Organisations

Articles 5 and 6 of the UNFSA require the application of the ecosystem and precautionary approach to fisheries through the mechanism of Regional Fisheries Management Organisations (RFMOs). Of the 30 RFMOs mandated under the UNFSA to regulate and protect straddling or highly migratory stocks, only five are competent to manage all or most of the living marine resources falling within their regulatory areas. The mandate of the others is limited to cover certain specific species, such as tuna. Almost all of the existing RFMOs fail to explicitly provide for the application of the ecosystem approach or precautionary principle in fisheries management. Only the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Southeast Atlantic Fisheries Organisation (SEAFO) are specifically mandated in their constitutional agreements to implement the ecosystem approach to fisheries management. SEAFO has yet to adopt and implement any measures applying this approach to its convention area. Even CCAMLR, with its proactive mandate and conservation measures, struggles to deal with the scourge of illegal, unregulated and unreported (IUU) fishing by flag-of-convenience vessels, non-parties, and in some cases its own parties, who fail to abide by its rules.

In both its 2002 and 2004 review of the state of the world's fisheries, the FAO noted this lack of an explicit mandate in RFMOs for ecosystem-based fisheries management. The review suggests that extending the number of RFMOs with a mandate to adopt an ecosystem approach, as well as forging closer links between environmental and fisheries organisations, will facilitate better and more effective implementation³.

Fundamental change and reform of RFMOs is urgently needed if they are to adapt to the governance challenges of this century. These must go hand in hand with innovative developments in high seas oceans management if the oceans governance challenges of today and the future are to be met.

Even if RFMO management was adequate to protect high seas biodiversity, the limited geographical coverage of RFMOs with the competence to regulate deep-sea fisheries and their impacts on the benthic environment, leaves approximately three-quarters of the high seas completely unregulated. The UN Secretary-General has reported the gaps in coverage as being the southeast Pacific Ocean for all fish stocks, and the southwest Atlantic, southeast Pacific, west-central Pacific, Indian Ocean and the Caribbean for straddling fish stocks and discrete high seas fish stocks.⁴ Negotiations are ongoing for new RFMOs for the South and North Pacific.

Institutional weaknesses of RFMOs

- Decision-making is often weak and driven by a need to reach consensus rather than based on ecological or scientific grounds. The small number of States party to RFMOs and the possibility of opting out of decisions by lodging a reservation further weakens decision making.
- Many RFMOs are not required by their constitutions to apply the precautionary approach or ecosystem approach to fisheries, so scientific advice and uncertainties are not adequately translated into the decision-making process.
- Member States fail to take action against non-Members and Members acting in breach of agreed measures. Member States may continue to issue licenses to vessels that have breached RFMO provisions.
- Constitutional and institutional incapacity means many RFMOs have a single species focus and do not account for impacts on associated and dependent species.
- Lack of international direction and inadequate coordination among RFMOs weakens their ability to tackle IUU fishing.

In addition to the provisions of UNCLOS, the UNFSA and related instruments, and the CBD, there are also a number of voluntary, species-specific or sectoral agreements that collectively set out a piecemeal governance structure for managing human activities on the high seas.

The FAO's 1995 Code of Conduct for Responsible Fisheries and 2001 International Plan of Action (IPOA) to prevent, deter and eliminate IUU fishing attempt to address some of these issues. Although these agreements apply to all fishing activities, including those fisheries not covered by the UNFSA (i.e. discrete stocks), both the Code of Conduct and IPOA-IUU are voluntary agreements and therefore lack the weight and the 'teeth' (i.e. ability to impose sanctions for violations) of legally binding agreements. Their ineffectiveness is compounded by the lack of the necessary political commitment by States to achieve implementation.

The Convention on Migratory Species (CMS) sets up a framework of protection for certain species groups such as cetaceans, seals, sea turtles and sea birds. The International Whaling Commission (IWC) has continued to uphold a politically fragile moratorium on commercial whaling since 1982, despite a year-on-year struggle to maintain support for such a measure. However, more positively, the IWC has succeeded in designating two whale sanctuaries in high seas areas⁵.

image Two Hourglass dolphins breach. Rarely seen and little known, these are the only cetaceans to be taxonomically described from eyewitness accounts alone. Only six complete and 14 partial specimens have been examined by scientists - to see them from the Greenpeace ship Esperanza was a rare treat.



As for the significant proportion of high seas biodiversity that is sedentary, i.e. living on and/or attached to the sea floor, the regulatory system is considerably weaker. Whereas coastal States have the right and obligation to control the exploitation of such 'living resources' on their continental shelf and margin, or up to a distance of 200 nautical miles from the coast (whichever is furthest), the responsibility for the conservation and management of sedentary species in areas beyond the continental shelf, and thus in most areas of the high seas, remains unclear under UNCLOS. Their exploitation is thus unregulated. This leaves another huge vacuum in the protection of such species, many of which are currently of most interest to bioprospectors. UNCLOS further contains no explicit provisions regulating the use or equitable benefit sharing of genetic resources derived from marine organisms living in either the water column or seabed of the high seas.

4. IMO

The IMO, established in 1958 under the UN umbrella, regulates all activities related to shipping and, as part of its mandate, introduces environmental protection measures to address pollution and other adverse effects from shipping. Although its mandate does not explicitly cover biodiversity protection, the IMO has established a number of relevant instruments including the International Convention for the Prevention of Pollution from Ships (as modified by the MARPOL Protocol 73/78), the International Convention on the Control of Harmful Anti-fouling Systems on Ships (not yet in force) and the International Convention for the Control and Management of Ships' Ballast Water and Sediments (not yet in force).

The IMO regime provides the possibility to define certain sea areas as "special areas" and Particularly Sensitive Sea Areas (PSSA), which are provided with a higher level of protection than other areas of the sea.⁶ The control of maritime activities in PSSAs is designed to give permanent protection and can include routing measures, strict application of MARPOL discharge and equipment requirements for ships, such as oil tankers; and installation of Vessel Traffic Services (VTS). Far too often, however, provisions to control the impacts of the shipping sector are still initiated reactively and in the face of disasters, or designed to protect near shore waters of greatest interest to coastal States.

Footnotes

- 1** The Royal Society (2005) Ocean Acidification due to increasing atmospheric carbon dioxide. June 2005, London
- 2** Article 4 of CBD Text of the Convention
- 3** The State of World Fisheries and Aquaculture 2002 (SOFIA 2002), FAO & The State of World Fisheries and Aquaculture (SOFIA) 2004, http://www.fao.org/sof/sofia/index_en.htm
- 4** Report of the Secretary General, Oceans and the Law of the Sea, 59th Session, <http://daccessdds.un.org/doc/UNDOC/GEN/N04/464/58/PDF/N0446458.pdf?OpenElement>
- 5** The Indian Ocean Sanctuary and the Southern Ocean Sanctuary.
- 6** IMO Resolution A.927(22); Guidelines for the Designation of Special Areas under MARPOL73/78 and Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas.

GREENPEACE

Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment and to promote peace.

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