THE PEW ENVIRONMENT GROUP

UNCSD
4-6 JUNE, 2012
RIO DE JANEIRO, BRAZIL

# POLICY RECOMMENDATIONS

# OCEAN EARTH:

## HOW RIO+20 CAN AND MUST TURN THE TIDE

## FOREWORD

The world has changed since the first Earth Summit in ways that could not have been imagined in 1992. With an increasing global population, depleted natural resources alongside the advent of new technology, it will continue to do so.

With respect to the oceans, the facts speak for themselves. Eighty five percent of fish stocks are fully exploited, overexploited, depleted or recovering from depletion, the highest ever recorded. Unsustainable fishing practices, illegal, unreported and unregulated (IUU) fishing, destructive fishing practices, inadequate fisheries management and a virtual lack of governance and accountability, particularly on the high seas, have contributed to the systematic destruction of the marine environment.

States have already agreed that the Rio+20 conference in June 2012 must secure renewed political commitment for sustainable development, assessing the progress to date and remaining gaps in the implementation of the outcomes of the major summits on sustainable development and addressing emerging challenges. The ocean is critical to sustainable development, and must be foremost at the Rio+20 conference.

It stands to reason that any future direction for ocean governance and management must be informed by not only the best science, but also previous discussions and decisions, as well as an honest assessment of where responsibility lies for custodianship of ocean resources. Although many previous multilateral targets and commitments have been missed, these targets and goals are still relevant and commitment to achieving them should not waver.

Effective systems do not yet exist to govern the high seas and ensure sustainability and healthy ecosystems for the future. This must be rectified. The Pew Environment Group strongly urges governments at Rio+20 to set in motion the negotiation of a new agreement under UNCLOS for the protection and conservation of high seas biodiversity. We also urge you to address not only governance, but also the drivers and root causes of ocean destruction and the depletion of critical living marine resources.

Restoring the health and economic viability of ocean ecosystems must be acknowledged as a critical priority for sustainable development. This is especially fitting since 2012, the year that Rio+20 will take place, also marks the 30th anniversary of the UN Convention on the Law of the Sea.

Government submissions in November 2011 may be called a “zero draft” but we are not starting from zero. We have the information, solutions and science to resolve the current ocean crisis; it now requires the momentum, energy and political will to make this a reality.

The Pew Environment Group hopes you will find this document useful, in informing both your own “zero draft” submission and the negotiations leading up to and during Rio+20. Your citizens, and indeed the people of the world, are counting on the global community to take strong, meaningful action for the ocean and vast diversity of life within it at Rio in 2012.

Dr. Susan Lieberman
Director, International Policy
Pew Environment Group

# EXECUTIVE SUMMARY

## The significance of Rio and the ocean

The human population will reach 7 billion by October of 2011 and is predicted to reach 9 billion by 2050. As the global population continues to rise, humanity's dependence on healthy and productive ocean ecosystems will increase. Despite this dependence, governments continue to authorize activities that threaten the health and productivity of the ocean. Overexploitation of fish stocks, destruction of marine ecosystems and a steady trend in biodiversity loss threaten the food security, economic stability and livelihoods of tens of millions. In spite of some fisheries management efforts, global fish stocks continue to experience serious declines with stocks on the high seas particularly at risk. Various measures to promote the protection of biodiversity on the high seas have been agreed to at the international level; however, the international community has largely failed to implement these measures. At UNCSD in 2012 (Rio+20), the international community must take urgent action to reform ocean governance to ensure the sustainability of global fish stocks and to ensure legal instruments are in place to facilitate the protection and long term sustainable use of marine biodiversity.

The previous two Earth Summits, the United Nations Conference on Environment and Development (UNCED) in 1992 and the World Summit on Sustainable Development (WSSD) in 2002 together with the Convention on Biological Diversity's (CBD) Aichi Biodiversity Targets and the Millennium Development Goals (MDGs) provide a framework for achieving sustainable development. However, implementation has been incomplete and many gaps remain, particularly for the ocean. The international community at Rio+20 must take urgent action to implement these existing commitments and take additional steps to ensure the health and sustainability of the marine environment.

## Fisheries—dependency, decline and economics

Over the last 50 years, annual per capita fish consumption has steadily increased. Globally, fish provide almost 5 billion people with approximately 15-20% of their average per capita intake of animal protein. Alarmingly, as demand continues to grow, the abundance of fish stocks continues to decline. The UN Food and Agriculture Organization (FAO) has estimated 85% of fish stocks to be fully exploited, overexploited, depleted or recovering from depletion—the highest percentage ever recorded.

The effects of depleted fisheries will be felt most by the developing world. According to a study, in 2000, if fishing activities in the exclusive economic zones (EEZs) of developing countries had been managed sustainably, approximately 20 million people in the developing world could have directly benefited from the availability of more food.

## Fisheries Recommendations

Strong and meaningful action to address global fisheries is urgently needed. Pew recommends the international community at Rio+20 fully implement previous commitments, in particular:

- The JPOI target to maintain or restore stocks to sustainable (MSY) levels by 2015;
- The JPOI target to address overcapacity by 2005;
- The JPOI target to address IUU fishing by 2004; and
- The JPOI and CBD targets to eliminate harmful subsidies that contribute to overcapacity and overfishing by 2020.

Additionally, Pew recommends that the international community at Rio+20 take strong action to:

- Implement effective monitoring, control, surveillance, compliance and enforcement measures to ensure that conservation and management measures are implemented and enforced;
- Recognize that illegal fishing is a criminal activity and often linked to organized crime; and ensure that appropriate resources are deployed to combat this form of crime;
- Combat IUU fishing through the use of flag State, port State, national and market measures, particularly by encouraging States to become parties to the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, and by promoting timely implementation of this Agreement;
- Make strong commitments to shark conservation, including by prohibiting the take of threatened or endangered species of sharks, according to the International Union for the Conservation of Nature (IUCN) or national legislation;
- End destructive fishing practices which damage vulnerable marine ecosystems and recognize that bottom fishing in violation of previous UNGA resolutions is IUU fishing and should cease immediately;
- Recognize that deep sea bottom trawling is the single most destructive fishing method on the high seas and phase out this practice by 2015;
- Prohibit fishing in a given area or on a given stock if the fishery is not fully in accordance with relevant international commitments and resolutions and if precautionary, science-based management measures are not in place. These measures should include adequate bycatch mitigation measures; and
- Ensure transparency and accountability of RFMOs through UNGA oversight.

## Biodiversity—MPAs and healthy fisheries

Human-induced pressures on biodiversity are mounting. Marine biodiversity loss is increasingly harming the ocean's ability to provide vital services to humanity, but can be combated by utilizing precautionary management tools, including prior environmental impact assessments (EIAs), strategic environmental assessments (SEAs), marine protected areas (MPAs) and marine reserves. MPAs, in particular marine reserves, can help rebuild depleted fish populations and protect vulnerable areas. Scientists have found that reserves and fisheries closures have yielded increases in species richness and biomass.

The UN Convention on the Law of the Sea (UNCLOS) and the CBD have established provisions that require identification and prior assessment of potential threats from high seas activities before they take place, but these are not effectively implemented. CBD has also established mechanisms for identifying ecologically and biologically significant areas in need of protection, but it has no authority to designate or manage MPAs or reserves. To address these gaps in ocean governance Pew strongly urges the negotiation of a new implementing agreement under UNCLOS for the protection and conservation of high seas biodiversity.

## Biodiversity Recommendations

To address biodiversity concerns at Rio+20, Pew recommends the international community fully implement previous commitments, in particular:

- Principle 3 of the Rio declaration to ensure that the right to development must be fulfilled as to equitably meet developmental and environmental needs of present and future generations;
- Principle 15 of the Rio declaration to ensure that precautionary management is utilized to avoid significant damage to the environment before it takes place;
- Principle 17 of the Rio declaration to undertake EIAs;
- The JPOI and MDG targets to reduce global biodiversity loss;
- The JPOI and CBD targets to establish MPAs and marine reserves.

Current gaps which could be specifically addressed through an implementing agreement include:

- Comprehensive prior EIAs and SEAs, together with ongoing monitoring of the marine environment;
- Identification, designation and management of a global network of high seas MPAs, including in particular no-take reserves;
- Implementation of the precautionary principle and ecosystem based approach in decision making and fisheries management; and
- The reform of RFMOs to incorporate a broader ecosystem conservation focus.

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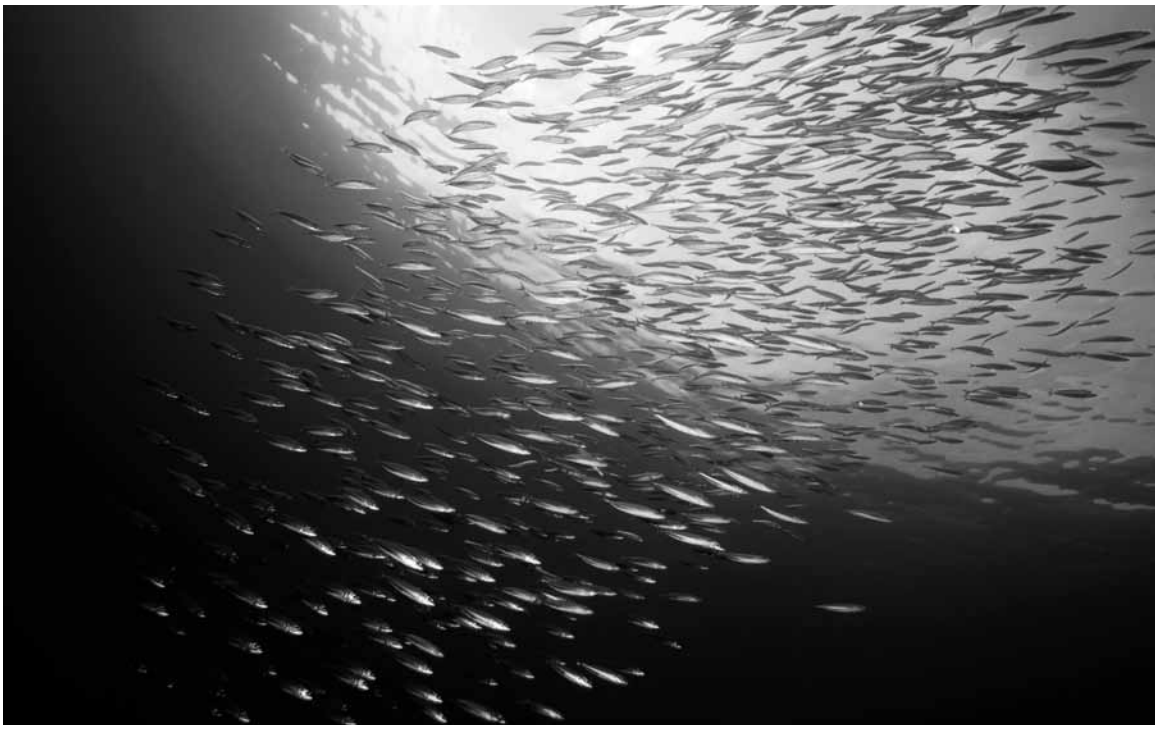
## SIGNIFICANCE OF RIO

The United Nations Conference on Sustainable Development (UNCSD) will take place in Rio de Janeiro, Brazil on 4–6 June 2012, marking the 20th anniversary of the 1992 United Nations Conference on Environment and Development (UNCED) and the 10th anniversary of the 2002 World Summit on Sustainable Development (WSSD). UNCED and WSSD, labeled the 1st and 2nd Earth Summit respectively, yielded several significant outcomes including Agenda 21 of the Rio Declaration and the Johannesburg Plan of Implementation (JPOI). These outcomes contained various targets and commitments which form the fundamental programmes of action for achieving sustainable development today. However, despite the existence of this well-intentioned framework, the international community has acknowledged that it has fallen short of achieving environmental sustainability and that renewed political commitment is urgently needed to fully implement the targets and commitments of the previous Earth Summits. Additionally, existing international environmental governance has proven to be inadequate to tackle current challenges that inhibit sustainable development.

UNCSD will likely be remembered as the 3rd Earth Summit and provides the international community with the opportunity to recommit political will and take urgently needed steps towards a sustainable future. States have agreed that the conference will result in a focused political document which will be shaped in the time leading up to UNCSD through a process that starts with the creation of a zero draft.

UNCSD 2012 is being organized in pursuance of General Assembly Resolution 64/236[1] with the objective of securing renewed political commitment for sustainable development, assessing the progress to date and the remaining gaps in the implementation of the outcomes of the major summits on sustainable development and addressing new and emerging challenges.

The UNCSD preparatory process will discuss and refine two distinct themes, 1) a green economy in the context of sustainable development and poverty eradication and 2) the institutional framework for sustainable development.



*Shoal of Mackerel Fish, © Rich Carey/Shutterstock*

## OCEANS AT RIO: PUTTING THE OCEAN BACK INTO THE EARTH SUMMIT

In order to achieve sustainable development, the international community must address the future of the ocean environment. There can be no green economy without a "blue" economy—without sustainable and healthy marine ecosystems. Unsustainable fishing practices, illegal, unreported and unregulated (IUU) fishing, destructive fishing practices, inadequate fisheries management and a virtual lack of governance and accountability have contributed to the systematic destruction of the marine environment and the species that reside within it.

Although there were some important ocean outcomes and commitments at the Earth Summits in 1992 and 2002, insufficient attention was paid to the ocean and its role in sustainable development. With 70% of the Earth's surface covered by the ocean, and given the importance of the ocean as the life support system of Planet Earth, it is time for UNCSD to focus on the needs of both the ocean itself, and of the hundreds of millions of people who depend on healthy ocean ecosystems for their very survival. It is especially fitting as 2012, the year UNCSD will take place, marks the 30th anniversary of the UN Convention on the Law of the Sea (UNCLOS, Montego Bay, December, 1982).

**The Pew Environment Group has identified two key elements for consideration at UNCSD 2012: marine fisheries and marine biodiversity. Ensuring the long term sustainability of global fisheries and preserving marine biodiversity must be at the center of the international community's sustainable development agenda. In this document Pew offers a background of the state of global fisheries and the marine environment, an overview of the previous major international marine-related commitments as well as a number of recommendations to chart a sustainable future for the ocean.**

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# ACHIEVING A GREEN ECONOMY: CONSIDERATION OF THE OCEAN IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

## PART I: FISHERIES

### Global dependency on fisheries

At the United Nations General Assembly (UNGA), States have expressed concerns over future environmental pressures and impacts exacerbated by an increasing population, which is expected to rise to at least 9 billion by 2050.[2] States have also highlighted the increasing pressure on the planet's limited resources that accompanies such rapid population growth.[3] Among the most exploited of Earth's resources, the ocean acts as a significant support system to the global population, and to the Earth itself. During the 2011 United Nations Informal Consultative Process on Oceans and Law of the Sea (ICP) and throughout the UNCSD preparatory process States acknowledged the importance of marine resources as a source of food and economic prosperity.[4] Among the most outspoken States highlighting this importance were small island developing States, many of whom depend on the ocean as a primary source of food security and economic revenue.[5] Across the globe, healthy fisheries support countries and communities through direct employment, processing and ancillary services and through subsistence-based activities. In fact, approximately 144 countries around the world are engaged in marine fisheries.[6] Marine fisheries are a crucial source of food security for the global population. Globally, fish provide more than 1.5 billion people with approximately 20 percent of their average per capita intake of animal protein and 3 billion people with about 15% of their average per capita intake.[7] Over the last 50 years, annual per capita fish consumption has steadily increased, with East Asia, Southeast Asia and North Africa yielding the most substantial increases.[8] In 2007, fish accounted for 6.1% of all protein consumed globally[9] and in 2009, marine capture fisheries provided the world with almost 80 million tonnes of fish.[10]

Despite the world's dependence on fisheries, overfishing of global stocks threatens ocean ecosystems and food security. Overfishing is largely stimulated not only by demand, but also by ever-increasing and often subsidized industrial fishing fleets spanning the globe. Economists have found that overfishing has resulted in significant losses in revenue and productivity of fisheries. A study examining these losses in the context of undernourishment levels has yielded some sobering estimates. According to the study, in 2000, if fishing activities in the exclusive economic zones (EEZs) of developing countries had been managed sustainably, the additional fish catch could have helped 20 million people avert malnutrition.[11]

### Decline of global fish stocks

Over the last 40 years, fisheries data have revealed an increasing trend in the global percentage of overexploited, depleted and recovering fish stocks and a decreasing trend in the percentage of underexploited and moderately exploited stocks.[12] These trends give cause for serious concern over the future state of global fisheries, and clearly highlight the threats not only to fisheries and marine biodiversity, but to sustainable development of coastal States. In 2008, the UN Food and Agriculture Organization (FAO) estimated that 53% of fish stocks were fully exploited, meaning their current catches are at or close to maximum sustainable yield with no room for expansion. In the same year, the FAO estimated 32% of fish stocks were overexploited, depleted or recovering from depletion, meaning these stocks are yielding less than their maximum potential production and are urgently in need of rebuilding plans. These two percentages together reveal 85% of fish stocks to be fully exploited, overexploited, depleted or recovering from depletion. This percentage is the highest ever recorded.[13]

Alarmingly, the FAO reports that most of the stocks of the top ten commercially exploited marine fish are fully exploited.[14] Among these top ten are two species of tuna, skipjack and yellowfin.[15] Up to 60% of the 23 global tuna stocks are fully exploited and up to 35% are overexploited or depleted. FAO's 2010, *The State of World Fisheries and Aquaculture* reports that only a small percentage of tuna stocks are underexploited.[17] However, the percentage of underexploited tuna stocks may be even lower than FAO estimates. At the recent Inter-American Tropical Tuna Commission (IATTC) scientific advisory committee meeting, scientists indicated that populations of skipjack tuna, considered to be one of the more underexploited tuna stocks, may be approaching Maximum Sustainable Yield (MSY).[17] Due to the significant commercial demand for tuna and the overcapacity of fishing fleets, the status of tuna stocks will likely continue to deteriorate if management is not significantly improved, and effective management necessitates global cooperation.[18]

Declines in population sizes of other exploited marine species have reached alarming levels as well. Population declines of as much as 70-80 percent have been reported globally, for various shark species. Populations of porbeagle sharks in the northwestern Atlantic[19] have been reduced by 90 percent or more. Studies estimate that up to 73 million sharks are killed annually to supply the global shark fin trade.[20]

| FAO Fishery Terms | Definition |
|---|---|
| Underexploited | Undeveloped or new fishery. Believed to have a significant potential for expansion in total production; |
| Moderately exploited | Exploited with a low level of fishing effort. Believed to have some limited potential for expansion in total production; |
| Fully exploited | The fishery is operating at or close to an optimal yield level, with no expected room for further expansion; |
| Overexploited | The fishery is being exploited at above a level which is believed to be sustainable in the long term, with no potential room for further expansion and a higher risk of stock depletion/collapse; |
| Depleted | Catches are well below historical levels, irrespective of the amount of fishing effort exerted; |
| Recovering | Catches are again increasing after having been depleted |

*Source: FAO.org*

## Economic Revenue from global fisheries

Globally, fisheries provide income and support the livelihoods of hundreds of millions of people. In 2008, FAO estimates indicated approximately 45 million people were working part time or full time in capture fisheries or aquaculture. Notably, this number has increased by 167% since 1980. For each individual engaged directly in capture fisheries or aquaculture, there are approximately 3 jobs that are created in secondary activities, expanding the number of employment opportunities in the fishing industry to 180 million jobs. These jobs support the livelihoods of approximately 540 million people which equates to about 8% of the global population.[21] At the current rate of over-exploitation, particularly by industrial fisheries, many of those livelihoods will be lost in the not-too-distant future. The international community is keenly aware of the ecosystem services provided by the ocean and in particular, the marine fisheries sector. International leaders have stressed the importance of marine ecosystems and resources as a foundation for sustainable development for many countries.[22] Yet globally, not enough has been done to ensure the long term integrity of the marine environment.

Developing States have spoken up in the lead up to Rio+20 about the importance of sustainable fisheries.[23] The developing world accounts for the majority of fishers and aquaculturists.[24] In 2008, developing States were responsible for 80% of world fishery production. Exports from developing States accounted for almost US$51 billion, which translates to 50% of the value of world exports of fish and fishery products. Additionally, the quantity of world fish exports from the developing world destined for human consumption has been on the rise since 1998.[25]

Revenue from tourism opportunities provided by the presence of shark species is particularly significant in a number of countries throughout the globe. For example, shark diving constitutes 8 percent of Palau's GDP, approximately US$18 million annually.[26] In 2007, the potential value of whale shark ecotourism in the Seychelles was estimated at US$2.02 million per year.[27] In 1993, grey reef sharks in the Maldives were estimated to be worth at least 100 times more alive at a dive site than dead on a fishing boat.[28] Palau, Honduras, Bahamas, Maldives and the Marshall Islands have declared their entire EEZs shark sanctuaries, where no commercial shark fishing is allowed, to protect these vulnerable yet valuable species. Studies conducted on the economic value of sharks in Palau's waters indicate that a single reef shark contributes approximately US$179,000 to the country's economy every year, compared to a one-time value of $108 if caught and sold on the market.[29]

Just as many countries established large national parks on land in the 20th century, a number of countries are now moving towards the creation of large no-take marine reserves in the sea. These new oceanic "parks" can serve to help rebuild depleted populations of marine species to healthy levels and provide refuge for species elsewhere depleted by overfishing. In the future, large no-take marine reserves can benefit local communities interested in ecotourism, and scientists who need reference sites that are largely undisturbed. In addition, relatively healthy ecosystems within large marine reserves are more resilient to the impacts of climate change than surrounding ecosystems in which fishing and other extractive activities are taking place. Aside from limiting the increase in carbon dioxide into the atmosphere, the establishment of large no-take marine reserves and stemming overfishing may be the only direct actions that governments can take to try to minimize the potential damage from ocean acidification and other impacts of climate change on marine life.

Despite the impressive value of fish and fishery products, the World Bank and the FAO, in the report *Sunken Billions*, describe global capture fishery resources as "non-performing assets with rates of return, or yield, not exceeding zero – costing the world economy an estimated US$50 billion per year in forgone resource rent."[30] In 2008, the 63rd session of the UNGA noted the conclusions of this report "including that sustainable fisheries and reform of the global fisheries sector could generate additional economic growth and alternative livelihoods, and that reforms would need to include a reduction in fishing effort and fishing capacity."[31] Economists predict that greening global fisheries could increase resource rents from negative US$26 billion to positive US$45 billion a year. The benefits of doing so would out-value the necessary costs by a factor of 3 to 5.[32] Under a green economy framework, world fisheries landings could increase by up to 19 million tons per year if overfished stocks were rebuilt, allowing for MSY. If accomplished, this amount could yield an annual increase in the value of landings by US$36 billion.[33] The need to decouple economic growth and environmental degradation has been a common theme throughout the UNCSD preparatory process.[34] Continued over-exploitation and destruction of marine ecosystems and resources threatens long term sustainable development. However, strong and meaningful action by UNCSD on global fisheries could lead to a reversal in these alarming trends.

## PATHWAY TO A GREEN ECONOMY—FISHERIES COMMITMENTS OF THE PREVIOUS EARTH SUMMITS

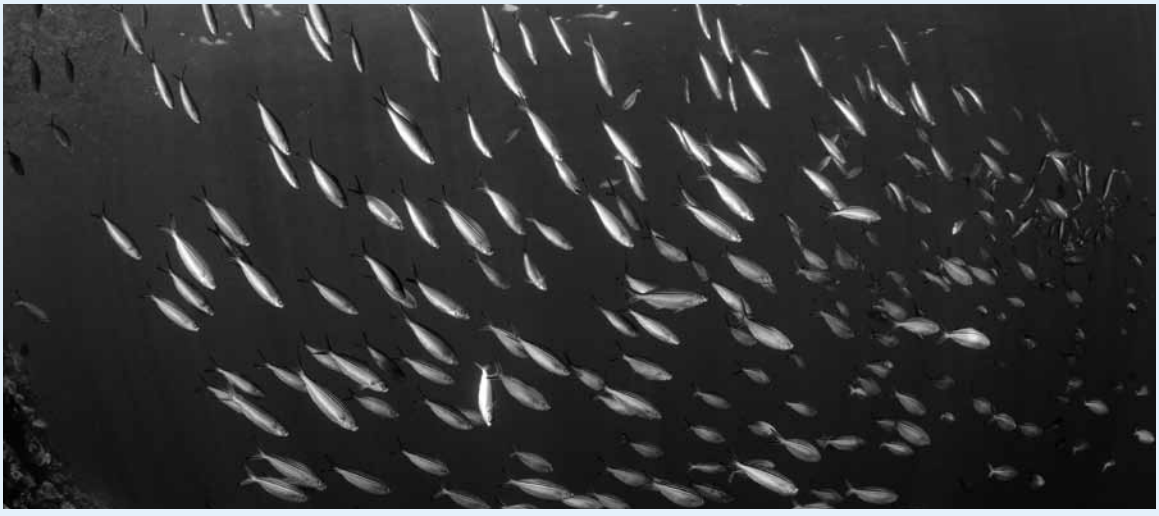
Acknowledging the world's growing dependency on fisheries for food security and economic revenue, the international community has agreed to several commitments, principles and targets to address the declining trends of global fish stocks. These commitments were agreed in the outcome documents in each of the previous Earth Summits as well as the Convention on Biological Diversity (CBD). They include the Rio Declaration, the Johannesburg POI and the CBD Aichi Biodiversity Targets.

Although many of these targets and commitments have been missed and others will likely not be achieved, these targets and goals are still extremely relevant and the resolve to achieve them should not waver. The data are clear that the marine environment is in a state of peril, and the world's dependence on this valuable resource will only increase. Taking marine species at the current rate is unsustainable. The depletion of global fish stocks threatens marine biodiversity, food security, economic stability and the livelihoods of millions. These trends will continue unless sufficient management measures are put in place and are effectively implemented and enforced. Despite the existence of regional, sectoral and national approaches to fisheries management, global fish stocks are in serious decline. Stocks occurring in the waters of developing countries and on the high seas are particularly at risk. Achieving the targets and commitments of the previous Earth Summits and expanding on the gaps in implementation is essential for charting a sustainable future.

### Relevant Earth Summit fisheries commitments

### The Rio Declaration:

Principle 2: "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."



*School of Fusilier Fish, © Rich Carey/Shutterstock*

Principle 2 provides that States have the responsibility to ensure that activities within their control do not cause damage to the environment in areas beyond national jurisdiction. However, States' adherence to this principle is not uniform and there are numerous activities which take place on the high seas which cause significant adverse impact to the marine environment. Destructive fishing practices are one such example. Scientific surveys have identified the existence of a wealth of vulnerable marine ecosystems (VMEs) occurring in the deep sea, in areas beyond national jurisdiction. However, destructive fishing practices on the high seas, in particular deep sea bottom trawling have been documented to cause significant damage to marine species and ecosystems. Furthermore, deep sea species possess life history characteristics that make them particularly vulnerable to fishing pressure. This vulnerability coupled with the destructive methods of deep sea fisheries led the UNGA to negotiate a series of resolutions, including 61/105 and 64/72, to promote the conservation and sustainable use of biodiversity in areas beyond national jurisdiction. These resolutions call on States to prevent significant adverse impacts to VMEs in the deep sea. However, some countries continue to authorize their vessels to fish even though they have failed to effectively implement the measures associated with these resolutions. These commitments must be implemented. As is made clear in resolution 64/72, States should not authorize bottom fishing activities until they have adopted and implemented measures that comply with the UNGA resolutions.

**JPOI Promises:**

"Maintain or restore stocks to levels that can produce the maximum sustainable yield with the aim of achieving these goals for depleted stocks on an urgent basis and where possible not later than 2015"[35]

FAO reports that since 1974, the proportion of over-exploited, depleted and recovering fish stocks continues to increase and experienced its highest percentage, of 32%, in 2008.[36] Given the current trajectory, it is highly unlikely that the JPOI goal above will be met by 2015. Perhaps even more disturbing than the failure to achieve MSY is the growing consensus among fisheries scientists that the exploitation rate that achieves MSY should be interpreted as an upper limit rather than as a management target. Overall reductions in exploitation rates are necessary to achieve even the minimal sustainability requirement of MSY, not to mention to achieve appropriate management that will ensure long term sustainability of stocks.[37]

"Urgently develop and implement national and, where appropriate, regional plans of action, to put into effect the international plans of action of the FAO, in particular the International Plan of Action for the Management of Fishing Capacity by 2005"[38]

The objective of the IPOA-Capacity is to achieve efficient, equitable and transparent management of fishing capacity, globally, by 2005. Necessary action to achieve this objective is critically overdue. Modern technology has enabled a smaller global fishing fleet to capture MSY, yet fishing capacity throughout the globe continues to increase.[39] Some estimates have calculated current fishing capacity to be 2.5 times more that what is required to land MSY.[40]

"Urgently develop and implement national and, where appropriate, regional plans of action, to put into effect the international plans of action of the FAO, in particular the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing by 2004. Establish effective monitoring, reporting and enforcement, and control of fishing vessels, including by flag States, to further the International Plan of Action to Prevent, Deter and Eliminate IUU fishing"[41]

The Organization for Economic Cooperation and Development (OECD) Task Force meeting in 2004 estimated the worldwide value of IUU catches at between US $4 billion and $9 billion per year.[42] Since then, the number has doubled: illegal and unreported fishing is responsible for $10 to $23 billion dollars per year in lost revenue and from 11 to 26 million tonnes of fish[43] of a total world marine capture of 80 million tonnes.[44]

According to the FAO, regional fisheries bodies (RFBs)[45] have identified IUU fishing, effective implementation of monitoring, control and surveillance (MCS) and fishing fleet overcapacity as some of the major challenges undermining their performance. Additionally, most RFBs have acknowledged extreme difficulties in controlling IUU fishing which in turn has hampered effective fisheries management.[46] However, despite the obvious valuable contributions of national and/or regional plans of action to combat IUU fishing, the preparation of these plans has stalled after the development of only about 40 such plans.[47] This instrument applies to all States and entities, thus the development of only 40 is considerably insufficient.

Another significant instrument, the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA) is an encouraging development in port State control of vessels. However, it has yet to enter into force and is only one piece of what is required to effectively combat IUU fishing. This includes the control of flag vessels and nationals, monitoring, control surveillance and enforcement, and catch and trade documentation schemes. In addition, efforts need to be undertaken by States to ratify the PSMA and implement its provisions domestically and by RFMOs to adopt port State measures that meet the standard of the PSMA. Existing enforcement and investigative systems have largely proven inadequate to address the magnitude of the IUU problem. At the core of this enforcement deficit is a lack of transparency and information sharing. Currently, States and RFMOs have insufficient requirements to gather and share information on vessels and fishing activities.[48] States and RFBs should require all fishing vessels over 24 meters and/or over 100 GT and all vessels involved in distant water fishing activities to register with the IHS-Fairplay ship numbering system and obtain an International Maritime Organization (IMO) number.[49] The IMO numbering system should be used and updated in all records regarding the vessel, including licensing arrangements, catch certificates, landing information and port logs. Fishing vessels in this category should, like all commercial maritime vessels, be required to have and use an Automatic Identification System (AIS).

Illegal fishing is defined as 'environmental crime' by the UN Office on Drugs and Crime (UNODC),[50] and as a 'new trend in crime' in the Salvador Declaration of the Twelfth United Nations Congress on Crime Prevention and Criminal Justice in 2010.[51] The possible connections between international organized crime and illegal fishing have been noted by the UNGA,[52] and described in a 2011 report by the UNODC.[53] Effective enforcement against illegal fishing will require all the tools the international community has at its disposal. Rio +20 should recognize that illegal fishing is a criminal activity. This will lead to the marshalling of new enforcement tools to combat this perennial problem.

"Eliminate subsidies that contribute to IUU fishing and to overcapacity, while completing the efforts undertaken at the World Trade Organization to clarify and improve its disciplines on fisheries subsidies, taking into account the importance of this sector to developing countries;"[54]

Global fisheries are widely regarded as overcapitalized, a reality that contributes significantly to the depletion of fisheries.[55] Some studies estimate fisheries subsidies to total US$ 25-30 billion annually.[56] Economists have estimated that society at large currently receives negative US$26 billion a year from fishing.[57] US$152 million is spent every year to support deep sea fisheries alone. [58] Without government support, these operations would operate at a loss of US$50 million a year.[59] A startling example of the negative effects of harmful subsidies concerns deep sea fisheries. Global deep sea catch is in steady decline and the high vulnerability of deep-sea fish populations and diverse marine ecosystems is well documented.[60] In the Northeast Atlantic, scientific authorities have determined that 100% of all targeted deep-sea species are "outside safe biological limits."[61] Despite this knowledge, destructive deep sea fishing operations continue to be supported by government subsidies in the midst of a global financial crisis. A communication from the European Commission distributed at ICP in 2011 emphasized the importance of tackling harmful subsidies and highlighted the G20 commitment to rationalize and phase out inefficient fossil fuel subsidies that encourage wasteful consumption.[62] Numerous States have asserted that addressing harmful fisheries subsidies is absolutely critical to chart a path for sustainable development.[63]

*Biodiversity of Rangiroa atoll, © Pommeyrol Vincent/Shutterstock*

### Convention on Biological Diversity:

Target 3: "By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socioeconomic conditions."

Target 6: "By 2020, all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits."

Target 12: "By 2020, the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained."

Pew welcomes the CBD programme of work on marine and coastal biological diversity and its fisheries related outcomes, adopted at CBD CoP10 in Nagoya, Japan. Targets 3, 6 and 12 are particularly relevant to oceans and Rio+20.

## RECOMMENDATIONS FOR SUSTAINABLE FISHERIES

The international community should follow through on these existing commitments, many of whose deadlines have come and gone. Specifically, Pew recommends the international community at UNCSD fully implement previous commitments, in particular:

- The JPOI target to maintain or restore stocks to sustainable levels (MSY) by 2015;
- The JPOI target to address overcapacity by 2005;
- The JPOI target to address IUU fishing by 2004; and
- The JPOI and CBD targets to eliminate harmful subsidies that contribute to overcapacity and overfishing by 2020.

Additionally, the Pew Environment Group encourages States to agree to a short timeline for achieving new commitments. Throughout the UNCSD preparatory process, States have explicitly asked for timelines and targets to turn words into action to conserve and protect ocean life and ensure sustainable development.[64] In response to these requests and the urgent need to fill crucial gaps in fisheries management, Pew recommends that the international community at UNCSD take strong action to:

- Implement effective monitoring, control, surveillance, compliance and enforcement measures to ensure that conservation and management measures are implemented and enforced;
- Recognize that illegal fishing is a criminal activity and often linked to organized crime; and ensure that appropriate resources are deployed to combat this form of crime;
- Combat IUU fishing through the use of flag State, port State, national and market measures, particularly by encouraging States to become parties to the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, and by promoting timely implementation of this Agreement;
- Make strong commitments to shark conservation, including by prohibiting the take of threatened or endangered species of sharks, as listed by International Union for the Conservation of Nature (IUCN) or national legislation;
- End destructive fishing practices which damage vulnerable marine ecosystems and recognize that bottom fishing in violation of previous UNGA resolutions is IUU fishing and should cease immediately;
- Recognize that deep sea bottom trawling is the single most destructive fishing method on the high seas and phase out this practice by 2015;
- Prohibit fishing in a given area or on a given stock if the fishery is not fully in accordance with relevant international commitments and resolutions and if precautionary, science-based management measures are not in place. These measures should include adequate bycatch mitigation measures; and
- Ensure transparency and accountability of RFMOs through UNGA oversight.

# PART II: BIODIVERSITY

## Biodiversity and sustainable development

Biodiversity is crucial for maintaining the health of marine ecosystems. Sustainable development cannot be achieved without healthy marine ecosystems which provide a wide variety of goods and services. Degraded ecosystems, those that have lost biodiversity, are expected to be less resilient to increased pressures, including climate change.[65] Ecosystem services provided by the marine environment are of crucial importance for food security and poverty eradication. Therefore, without healthy oceans there can be no "Green Economy." Restoring the health and economic viability of ocean systems should be recognized as a critical priority for sustainable development. Exploitation, pollution and habitat destruction have been demonstrated to cause direct changes to marine biodiversity.[66] Scientific assessments reveal that marine biodiversity loss is increasingly harming the ocean's ability to provide food, maintain water quality and recover from the adverse impacts of stress.[67] Scientists have documented that the rate of biodiversity loss is not slowing. In fact biodiversity has continued to decline over the past four decades. Yet despite this decline, studies indicate that human-induced pressures on biodiversity are increasing.[68] Efforts to stop biodiversity loss have not been adequate.[69] The consequences of biodiversity loss are cascading and potentially catastrophic; this dangerous trend must be urgently addressed.

## MPAs, biodiversity and healthy fisheries

Fisheries scientists and managers have recognized that sustainable fisheries are only possible in healthy ecosystems. Reducing the stressors acting on an area can help maintain ecosystem integrity, population viability and the health of organisms, as well as foster recovery from adverse impacts. Removing stressors through the establishment of marine protected areas (MPAs), including in particular no-take marine reserves (MRs), is an important step in building the resilience of ecosystems and populations.[70] In addition, scientists have found that reserves and fisheries closures have yielded an increase in species diversity, averaging a 23% increase in species richness.[71] The scope of fisheries management has widened from only considering the size of the fishery resource to considering broader aspects such as the fishery's impact on the ecosystem. At the same time, MPAs and MRs are increasingly recognized as having an important role to play within fisheries management and particularly in an ecosystem approach to fisheries. Leading economists note that MPAs hold promise as a rational and practical way of managing ocean resources to achieve fishery ecosystem objectives.[72] Marine reserves in combination with other fisheries management tools can help achieve both fisheries and biodiversity objectives.[73] Reserves across the globe have resulted in increases in abundance, size, biomass and reproductive output of exploited species.[74] Studies have demonstrated that MPAs and MRs can be beneficial in conserving resources, increasing biomass and consequently benefit surrounding areas through species migration and recruitment.[75]

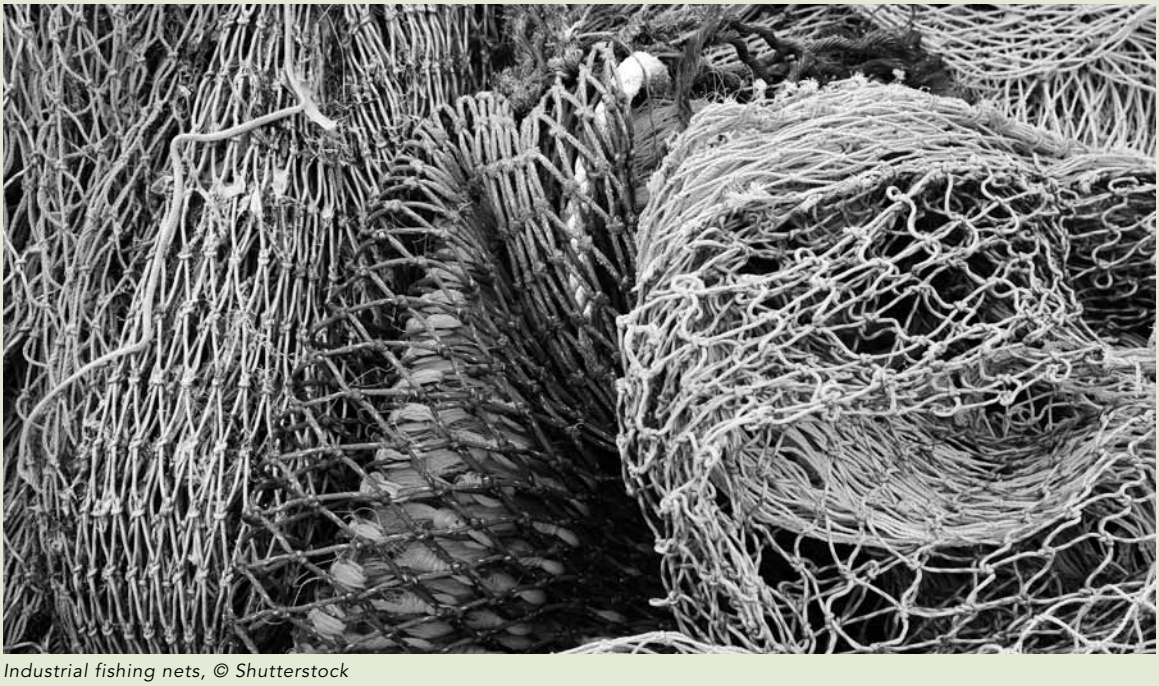
## PATHWAY TO A GREEN ECONOMY: BIODIVERSITY COMMITMENTS OF THE PREVIOUS EARTH SUMMITS

With the aim to conserve biodiversity and promote the conservation of the marine environment, particularly in areas beyond national jurisdiction, the international community agreed to a number of commitments in the previous Earth Summits and the CBD to tackle these issues and chart a more sustainable future for the oceans. As with the aforementioned fisheries commitments, several of these biodiversity commitments have been missed or will likely not be achieved. Maintaining marine biodiversity is crucial for fostering sustainable development. Current international ocean governance has proven to be inadequate to halt biodiversity loss and protect marine ecosystems beyond national jurisdiction. The following is a list of the relevant biodiversity commitments along with a short assessment.

### Rio Declaration:

### Principle 3: "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations."

The Economics of Ecosystems and Biodiversity (TEEB) defines natural capital as a metaphor for the "limited stocks of physical and biological resources found on earth, and of the limited capacity of ecosystems to provide ecosystem services.[76] Many poor households throughout the globe rely on natural capital for a significant percentage of their income. These households are unable to easily adjust to losses of ecosystem services.[77] Conserving marine biodiversity should be a critical element to ensure the sustainable management of natural capital. TEEB states "biodiversity in all its dimensions – needs to be preserved not only for societal, ethical or religious reasons but also for the economic benefits it provides to present and future generations."[78] As was previously mentioned, the rate of biodiversity loss is not slowing. If this trend continues, future generations will be deprived of essential developmental needs that are fulfilled by ecosystem services. The international community urgently needs to reverse these trends and implement measures to conserve biodiversity.



*Industrial fishing nets, © Shutterstock*

## Principle 15: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

Although principle 15 –the precautionary principle— enjoys widespread support, when it comes to protection of the marine environment, its implementation has been weak. Governance of human activities in marine areas beyond national jurisdiction has consistently failed to incorporate ecosystem considerations. Current fisheries management has largely ignored broader impacts on the environment from commercial fishing activities such as bottom trawling. As a consequence, many marine ecosystems are failing to provide the same ecosystem services that they were able to offer before unsustainable exploitation occurred.[79] Scientists have called on the international community to ensure proper and universal implementation of the precautionary principle.[80] Implementing the precautionary principle in fisheries management requires that action is taken to prevent irreversible harm before it starts to take place. In turn, where there is a lack of scientific certainty, fishing should not take place until precautionary conservation and management measures are agreed and implemented. In far too many cases, failure to reach agreement on measures allows destructive fishing practices to continue without restraint. It is vital that the precautionary principle and ecosystem approach are incorporated into decision making processes regarding the marine environment.

For example, it is well documented that many vulnerable marine ecosystems exist in areas beyond national jurisdiction; however, little has been done to protect these areas. The use of ecosystem based management tools such as high seas marine reserves to protect these VMEs could fulfill the provisions under principle 15. However, to date, very few high seas reserves have been established. The international community must make it a priority to implement the precautionary principle and implement the ecosystem approach, including through ecosystem based management tools such as high seas reserves to conserve the marine environment.

## Principle 17: "Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority."

At ICP in 2011, many countries stressed the importance of an ecosystem based approach to the management of human activities affecting the marine environment as a means to ensure the sustainable use of marine good and services.[81] Throughout the Rio+20 process numerous States have emphasized the importance of moving forward on MPAs and environmental impact assessments (EIAs) to promote precautionary management of the marine environment.[82] Prior EIAs, together with strategic environmental assessments (SEAs) should be utilized to assess whether individual activities will have adverse impacts on marine biodiversity, particularly in areas beyond national jurisdiction (ABNJ). If it is determined those activities will have adverse impacts, they should be managed to prevent such impacts or they should not be allowed to proceed.

### JPOI and MDG Biodiversity Target:

"Achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth"[83]

This target is found both within the JPOI[84] and the Millennium Development Goals (MDGs).[85] Biodiversity is vitally important for human well-being, because it underpins the ecosystem services on which life depends. Not only do billions of people rely on a myriad of species for their livelihoods and survival, but the loss of biodiversity will hinder the delivery of the MDG targets related to poverty, hunger and health, since it will increase the vulnerability of the poor and reduce options for development.[86] The 2010 MDGs Report[87] noted that the world has missed the 2010 target for biodiversity conservation, with potentially grave consequences.[88] In particular, the specific indicators agreed for the MDG goal -- the proportion of fish stocks within safe biological limits, the proportion of terrestrial and marine areas protected and the proportion of species threatened with extinction[89] – shows by how far this goal has been missed.

*Trawler surrounded by seagulls under covered sky, © Sirko Hartmann/Shutterstock*

### JPOI Promise and CBD Target:

The following two targets, agreed in Johannesburg and Nagoya respectively, are linked and are therefore dealt with as one in the description.

"Develop and facilitate the use of diverse approaches and tools, including the ecosystem approach, the elimination of destructive fishing practices, the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks by 2012 and time/area closures for the protection of nursery grounds and periods, proper coastal land use and watershed planning and the integration of marine and coastal areas management into key sectors;"[90]

Target 11: "By 2020, at least 17 percent of terrestrial and inland water, and 10 percent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes."

MPAs, including in particular no-take marine reserves, are widely acknowledged as a key tool to protect biodiversity and help build resilience of ecosystems. Despite this, the promise made in the JPOI and most recently by the Parties to the CBD to establish MPAs including representative networks, is not on a trajectory to be fulfilled. Only about 1% of the global marine environment is protected[91] and there is virtually no protection of marine ecosystems and biodiversity occurring on the high seas. The high seas are host to a wealth of vulnerable marine areas and habitats including seamounts, which can be areas of high diversity and/or productivity, and are frequently the habitat of numerous endemic species. There has been some effort to protect vulnerable marine ecosystems on the high seas pursuant to UNGA resolutions 61/105 and 64/72 and RFMOs; and, regional bodies including the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) and the Parties to the Nauru Agreement (PNA) have acted to close some vulnerable areas to fishing pressure. However, adherence to these measures is not uniform. MPAs, including no-take marine reserves, can help build marine ecosystem resilience and flexibility in the face of existing and emerging threats.

## RECOMMENDATIONS FOR CONSERVING BIODIVERSITY

In order to adequately protect and conserve marine biodiversity in areas beyond national jurisdiction, ensure global accountability and improve international marine governance, the Pew Environment Group strongly urges the negotiation of a new agreement under UNCLOS for the protection and conservation of high seas biodiversity to implement its Articles on the conservation and protection of marine biodiversity in areas beyond national jurisdiction.[92] Just as the decision to establish 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 (UN Fish Stocks Agreement, or UNFSA) following the recommendation from the first Rio conference in 1992 filled a critical gap in the management of straddling stocks and highly migratory species, this new agreement could fill existing gaps in high seas governance and promote precautionary, ecosystem based management measures to ensure the long term sustainability of marine species and ecosystems in areas beyond national jurisdiction.

The global community has agreed to preserve the biodiversity of important and vulnerable marine areas both within and beyond national jurisdiction, whether at WSSD, the UNGA, or elsewhere. However, there is no legal regime in place to establish and manage MPAs and no-take marine reserves in areas beyond national jurisdiction. Although the CBD is developing mechanisms for identifying ecologically or biologically significant areas, it has no mandate for their designation and management as MPAs (including reserves). Thus, a serious gap exists between MPA identification and MPA and reserve designation. In order to achieve the JPOI, and CBD targets, and to ensure a sustainable future for the oceans, this implementation gap urgently needs to be filled. An implementing agreement under UNCLOS offers a way forward. It could include a provision that addresses this implementation gap to ensure that a system is put in place whereby MPAs and reserves can be designated, monitored, and effectively enforced on the high seas. The time has come for the countries of the world to take this step.

Among one of the largest gaps in high seas governance is the lack of a legally binding agreement on prior environmental impact assessments (EIAs). The EIA provisions under CBD and those under UNCLOS are quite general and open to interpretation. Other than the CBD and UNCLOS requirements, there are few international instruments that require identification and prior assessment of potential threats from high seas activities before they take place. The Madrid protocol, adopted in 1991 to regulate activities in Antarctica, is one such model and was considered by many to be a landmark achievement in global environmental protection. The Protocol subjects all activities to prior assessment of their environmental impacts.[93] At the 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 (BBNJ) in 2011 one country expressed the need to understand, to the greatest degree possible, the potential impact of human activities on the marine environment in order to evaluate how human activities should be regulated.[94] Application of prior EIAs and SEAs through an implementing agreement could fulfill and expand on the CBD and UNCLOS requirements.

UNCLOS which opened for signature in 1982 and entered into force in 1994 has been supplemented by the 1994 Deep Seabed Mining Agreement and the 1995 UNFSA. UNFSA was born out of the original Earth Summit, UNCED. Agenda 21, paragraph 17.49 requests States to convene a conference on straddling and highly migratory fish stocks to supplement the mandate of UNCLOS as it pertains to high-seas fisheries management. The UNGA endorsed this decision at its 47th session and UNFSA was crafted in a series of specialized sessions from 1993-1995. In 1995 UNFSA was adopted; it entered into force in 2001. UNFSA sets out specific principles to guide the development of conservation and management measures for straddling and highly migratory fish stocks, with a view to addressing the problems identified in Chapter 17 of Agenda 21.[95] The Agreement's objective is "to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory

fish stocks through effective implementation of the relevant provisions of the Convention."[96] If no RFMO/A is in existence in a given area, States are to cooperate to establish a suitable organization or arrangement to ensure the conservation and management of the particular stock or stocks of interest. The precedent of the UNFSA, which came out of UNCED at Rio in 1992, should guide the next steps in ocean conservation, particularly as relates to UNCLOS and the protection of marine biodiversity in areas beyond national jurisdiction.

Drawing on the success and precedent of the agreement of UNFSA, the Pew Environment Group strongly urges the negotiation of a new implementing agreement under UNCLOS for the protection and conservation of high seas biodiversity. The 2011 BBNJ meeting initiated crucial progress towards this end. States agreed to recommend that a process be initiated by the UNGA to ensure that the legal framework for the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction identifies gaps and ways forward, including through the implementation of existing instruments and the possible development of a multilateral agreement under UNCLOS. Many States reaffirmed their commitment to this process at the 2011 ICP meeting.[97] Pew applauds this important step and urges the international community to ensure that UNCSD convene an intergovernmental conference under United Nations auspices to establish an UNCLOS implementing agreement to address high seas governance gaps.

**Current gaps which could be specifically addressed through an implementing agreement include:**

- Comprehensive prior environmental impact assessments (EIAs) and strategic environmental assessments (SEAs), together with ongoing monitoring of the marine environment;
- Identification, designation and management of a global network of high seas marine protected areas, including in particular no-take reserves;
- Implementation of the precautionary principle and ecosystem approach in decision making and fisheries management; and
- The reform of RFMOs to incorporate a broader ecosystem conservation focus.

If agreed, such an outcome would truly represent a paradigm shift and demonstrate strong international commitment at Rio in 2012 to chart a more sustainable future for the ocean.

Rio+20 marks the 3rd Earth Summit, the third time leaders from the highest levels of government have come together on the international stage to discuss the future of sustainable development and the future of the environment. The international community must seize this critical opportunity to take meaningful action to ensure the long term conservation and sustainable use of the ocean and its resources.

*School of barracudas underwater, Celebes Sea, © Khoroshunova Olga/Shutterstock*

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79 International Programme on the State of the Ocean, "Implementing the Global State of the Oceans Report." http://www.stateoftheocean.org/pdfs/ipso_report_051208web.pdf

80 Rogers, A.D. & Laffoley, D.d'A. 2011. International Earth system expert workshop on ocean stresses and impacts. Summary report. IPSO Oxford, 18pp.

81 EU, ICP 2011

82 Australia, Canada, EU, Mexico, USA BBNJ 2011

83 JPOI para. 44

84 Ibid

85 The biodiversity target was adopted in 2005 and amended to include targets in 2007. The Biodiversity Target was endorsed by 110 leaders at the WSSD in 2002, and then at the Summit in 2005, where the UNGA adopted a set of detailed targets related to Goal 7 on environmental governance which aimed at significantly reducing the rate of loss of biodiversity by the year 2010. See the World Summit Outcomes Document, UN GA resolution 60/01 (24 October 2005), at http://www.un.org/summit2005/documents.html. The UN Secretary-General in his 2006 report noted the 2010 agreed target, in Secretary-General, Report of the Secretary-General on the work of the Organization, A/61/1, paragraph 24, at http://mdgs.un.org/unsd/mdg/Resources/Static/Products/SGReports/61_1/a_61_1_e.pdf. States adopted this recommendation and specifically resolved that "All States will fulfill commitments and significantly reduce the rate of loss of biodiversity by 2010 and continue ongoing efforts towards elaborating and negotiating an international regime on access to genetic resources and benefit sharing." Paragraph 56(c). The current targets were adopted in 2007 following a recommendation by the recommended by the Inter-Agency and Expert Group on MDG Indicators (IAEG). See http://unstats.un.org/unsd/mdg/Host.aspx?Content=Indicators/About.htm.

The 2007 revised MDG monitoring framework was presented in 2007 to the UN General Assembly to monitor MDG Goal 7. See the current official list of indicators at http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm.

86 See United Nations Millennium Development Goals Report (2010), page 55. At http://www.un.org/millenniumgoals/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%2020100615%20-.pdf.

87 Millennium Development Goals Report (2010), at http://www.un.org/millenniumgoals/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%2020100615%20-.pdf.

88 Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss. Page 55.

89 See United Nations Millennium Development Goals Report (2010), page 57. At http://www.un.org/millenniumgoals/pdf/MDG%20Report%202010%20En%20r15%20-low%20res%2020100615%20-.pdf.

90 JPOI para. 32(c)

91 The current figure is about 1.17 percent, but the MPAs gazetted around the Chagos Archipelago and the approved MPA around the Sala y GÓmez islands will take the coverage of MPAs to 1.42 percent of the global ocean and 3.49 percent of EEZ areas. C. Toropova, I. Meliane, D. Laffoley, E. Matthews and M. Spalding, "Global Ocean Protection: Present Status and Future Possibilities" (2010), p.29 http://data.iucn.org/dbtw-wpd/edocs/2010-053.pdf

92 UNCLOS Articles 117, 118, 119, 192, 197

93 Protocol on Environmental Protection to the Antarctic Treaty (1991) Article 3. http://www.antarctica.ac.uk/about_antarctica/geopolitical/treaty/update_1991.php

94 Canada, BBNJ 2011

95 The UNGA 2010 Sustainable Fisheries Resolution A/65/38 called upon States to extend UNFSA's measures to include the long-term conservation, management and sustainable use of discrete high seas stocks in accordance with UNCLOS and consistent with the Code and general principles set forth in UNFSA. http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N10/514/82/PDF/N1051482.pdf?OpenElement p.9

96 http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N95/274/67/PDF/N9527467.pdf?OpenElement Article 2.

97 Australia, EU, South Africa, Trinidad and Tobago, Costa Rica ICP 2011

Palau, India, Argentina, Mexico BBNJ 2011

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## ABOUT THE PEW ENVIRONMENT GROUP

The Pew Environment Group is the conservation arm of The Pew Charitable Trusts, a non-governmental organization that works globally to establish pragmatic, science-based policies that protect our oceans, preserve our wildlands and promote clean energy.