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High-Seas Fisheries: Troubled Waters, Tangled Governance, and Recovery Prospects

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HIGH-SEAS FISHERIES: TROUBLED WATERS, TANGLED GOVERNANCE, AND RECOVERY PROSPECTS

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Global fisheries are in a perceived state of crisis. Despite growing technological effort and an unprecedented global expansion of fisheries, total landings (85-100 million MT per year) have stagnated and probably entered a period of slow decline. This trend may destabilize ocean ecosystems and undermine world seafood supplies, which provide the major source of protein for 2.3bn people, and international cooperation to address this issue has been slow. This is particularly true for high-seas fisheries that occur in international waters encompassing some 61% of the world's ocean. These have been plagued by a fragmented and weak legal framework, poor enforcement of existing regulations, and the problem of illegal, unreported, and unregulated (IUU) fishing. On the positive side, individual States have introduced measures that have been successful in recovering overexploited resources. Turning the tide on the high seas requires strong government cooperation to enforce conservative harvest levels (quotas), as well as measures that protect biological diversity, such as protected areas, bycatch regulations, and the conservation of critical habitats. This article provides a short overview of the biological, institutional and legal dimensions of high-seas fisheries. It emphasizes that this is a unique time in history, where unprecedented awareness, scientific advances, and a growing willingness to collaborate internationally are setting the stage for a dynamic transformation of high-seas governance. What is missing is a visionary master plan on how to integrate fragmented efforts towards the common goal of sustainable development on the high seas.

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Malgré un effort technologique et une expansion sans précédent des pêches mondiales, celles-ci passent pour être en état de crise : les prises totales (85-100 millions Mt par an) stagnent et sont probablement entrées dans une période de lent déclin. Cette tendance risque de déstabiliser les écosystèmes océaniques et de miner les réserves mondiales de poissons et de fruits de mer, qui constituent la principale source de protéines pour 2,3 milliards de personnes. La coopération internationale visant à résoudre ce problème s'opère lentement. Cela est particulièrement vrai dans le cas de la pêche en haute mer, pratiquée dans les eaux internationales, qui représentent quelque 61% des océans du monde. Elle est caractérisée par un cadre juridique fragmenté et faible, une mauvaise application des réglementations existantes et le problème de la pêche illégale, non déclarée et non réglementée. Sur une note plus positive, certains États ont mis en en place des mesures qui ont permis le rétablissement des ressources surexploitées. Le redressement de la situation en haute mer réclamera une forte collaboration gouvernementale pour faire respecter des niveaux (quotas) de prélèvement modérés et des mesures protégeant la diversité biologique, comme des zones protégées, des règlements sur les prises accessoires et la conservation des habitats cruciaux. Le présent article offre un bref survol des dimensions biologiques, institutionnelles et juridiques des pêches en haute mer. Il souligne que nous vivons un moment unique dans l'histoire, où une conscience, des progrès scientifiques sans précédent et un empressement croissant à collaborer au niveau international préparent le terrain à une transformation dynamique de la gouvernance en haute mer. Ce qui fait défaut, c'est un plan d'ensemble visionnaire d'intégration des efforts fragmentés vers le but commun du développement durable en haute mer.

INTRODUCTION

Fisheries have long been important in feeding a growing human population. They also have often been a contentious issue, causing conflicts among individuals, communities as well as nation states. Over the last decades, as the natural limits to the global seafood supply became evident, those conflicts have become more prevalent, giving rise to international laws and treaties that introduce governance systems beyond the immediate coastal waters. Despite efforts to regulate and restrain fishing activities, however, there are clear signs that current exploitation trends are unsustainable. For example, it appears that despite intensifying efforts, there has been a slow decline in global landings of wild fish over the last decade[1].

Consequently, there have been many calls to better manage global fisheries. Some have argued that we need to recognize past mistakes, such as those learned in the wake of the Canadian cod collapse in 1992.[2] Others emphasize that there also have been some notable successes that need to be emulated more broadly.[3] Clearly, both approaches are equally valid, and need to be merged in order to ensure a sustainable future for our fisheries.

Nowhere are the problems of fisheries management more evident than on the high seas, where ecological and economic stakes are high and laws and regulations remain weak or poorly enforced. The 1982 Law of the Sea Convention in various ways set the stage for the high-seas fisheries crisis. The Convention re-affirmed the primacy of exclusive flag State jurisdiction on the high seas, provided very general conservation obligations for States allowing their vessels to fish on the high seas, and only set out general duties on States to cooperate in conserving and managing high-seas living resources. Therefore, fishing on the high seas continues to attract the attention of international organizations, non-governmental organizations (NGOs) and the general public, all of which have a growing interest in management of high sea resources and a general concern for overfishing.[4] Because of this rising interest, and its relevance to foreign policy, this review is focusing on the problems of high-seas fisheries, as well as potential solutions.

THE HIGH SEAS FISHERY

The high seas are defined as the international waters beyond the exclusive economic zone (EEZ) in which no State has any sovereign claims. Collectively these waters cover 218.7 million km², which equals about 61% of the world ocean, or 43% of the globe's surface.[5] Thus the high seas comprise by far the largest, and one of the most important ecosystems on Earth. They support highly lucrative fisheries for tuna, marlin, swordfish, and other pelagic (open-water) fishes and squids, and recently also deep-sea demersal (bottom-water) fishes. The three largest high-seas fishing nations (by volume) are Japan, China and Chile, other major fleets are from Korea, Taiwan, Indonesia, the Philippines, Spain, and the United States.

High-seas fish species can be broken into epipelagic species (tuna, marlin, or scad for example) and deep-water species (for example roughy, oreo, or toothfish). The number of targeted deep-water species continues to increase, reaching 115 in 2004, while the number of epipelagic species has remained stable at 60.[6] It is important to note that many of these species are also caught in individual countries' EEZs, as fish stocks migrate frequently between national and international waters. Indeed the highly migratory nature of most high-seas fish stocks has been a major challenge for successful management.

Fisheries are generally important for global food security, particularly with respect to the protein supply of poor coastal nations. The average global consumption of fish or shellfish is 16 kg per person. The contribution of fish proteins to total world animal protein supplies has recently been estimated around 15.5 percent, with much higher contributions in most island nations and many developing countries (e.g. Bangladesh, Equatorial Guinea, the Gambia, Guinea, Indonesia, Myanmar, Senegal, Sierra Leone and Sri Lanka). Globally, fish provides more than 2.8 billion people with almost 20 percent of their average per capita intake of animal protein. Around 200 million people are employed directly or indirectly in fisheries, most of them in coastal fisheries and in developing countries. High-seas fisheries

contribute relatively little to employment, but they yield between 9-11 million tones, or 12-15% of the total marine fish catch by volume, and about 25% by value. The total value of high-seas fish catches is estimated around 21 billion $US (real year 2000 value), more than half of that coming from tuna and billfishes. (All data from FAO (2007) The State of World Fisheries and Aquaculture 2006, http://www.fao.org, and SAUP (2007) The Sea Around Us Project Database. http://www.seaaroundus.org)

This review is presented in four parts: 'Troubled Waters' assesses the history, rise and depletion of high-seas fisheries; 'Prospects for Recovery' examines the conditions under which marine living resources can recover from overfishing; 'Tangled Governance' highlights institutions and initiatives that deal with high-seas fisheries; and the conclusions present an outlook on the opportunities and challenges ahead.

I. TROUBLED WATERS

High-seas fisheries have only been developed on a large scale after World War II. Their rise was partly fuelled by technological innovation, such as specialized fishing gear, improved navigation, and improved devices to find fish aggregations in the open ocean. On the other hand stagnating or dwindling seafood supplies from coastal waters, and a growing global demand for fish products, have led to a rapid spatial expansion in the 1960s-1980s

This is exemplified by the Japanese longlining fleet fishing for large tuna and billfish. Longlining employs long, baited fishing lines of up to 100km length with 1000-3000 hooks. The Japanese fleet is the largest longline operation worldwide, and was also the first to expand globally. Standardized catch rates (numbers of fish caught per 100 hooks) may provide an indication of the effects of fishing on high-seas fish stocks. It can be seen, how the fishery spread quickly from the Pacific into the Indian, and then into the Atlantic Ocean. Wherever new fishing grounds were explored, catch rates were high, usually around 10 fish per 100 hooks. After a few years, however, these catch rates dropped quickly to stabilize at 1-2 fish per 100 hooks in the

1980s. Global analyses of this and other fisheries revealed that typically the abundance of large fishes (such as the large tuna, marlin, cod, halibut) decline rapidly to ~10% of their former abundance.[7] The sharp decline of these large predators can lead to the rise of smaller fast-growing species that subsequently fuel the fisheries. In the tropical Pacific, for example, large fish have declined to about 17% of their former abundance,[8] but smaller fish remain highly productive and still support large catches. If poorly controlled, such dynamics can lead to a pattern known as serial depletion, where the decline of stocks is masked by the continual expansion to new species or new areas. Serial depletion is also seen in deep-sea fisheries and the live reef fish trade.

Concerns over the sustainability of high-sea fisheries are mainly based on the following considerations.

1. Overfished target species. Many of the most valuable species that are fuelling high-seas fisheries have been severely overfished. This means that their potential for replenishment has been damaged, and their economic value greatly diminished. Well-known examples include the Atlantic and southern bluefin tuna, Australian orange roughy, and Patagonian toothfish. In some cases, the problem is exacerbated by high levels of IUU (illegal, unregulated and unreported) fishing. For example, there has been a long-standing problem with illegal fishing for Patagonian toothfish, which may have exceeded the allowable catch by five times in some years. Clearly, IUU fishing makes any rational assessment of the resource and its status extremely difficult, and has been a major driver in the decline of high-seas fish stocks.

2. Threatened bycatch species. Most high-seas fisheries yield unintended bycatch of non-target species, such as sea turtles, sharks, marine mammals, and seabirds. Concerns over excessive bycatch have long been expressed by the scientific community.[9] Bycatch problems led to the banning of high-seas driftnets per UN resolution in 1992, and consumer boycotts of canned tuna caught by purse seines that target dolphin schools. Other

methods, such as longlining and deep-sea trawling have more recently been criticized. Longlining in the Pacific, for example, is implicated in the demise of the critically endangered leatherback and loggerhead turtles, which reportedly have a chance of being hooked as bycatch once every two years.[10] Similar problems occur for albatrosses and oceanic sharks which are caught as longline bycatch. Sharks are often killed for their fins, while the rest of the animal is discarded, a wasteful practice that has contributed to rapid worldwide decline and endangerment of large sharks. Shark finning is now illegal in the US, Canada and some other countries, but is still a widespread practice on the high seas.

3. Vulnerable habitats. Recently, deep-sea bottom trawling has become the focus of much criticism for destroying vulnerable habitats such as deep-water coral or sponge reefs. Bottom trawling is a widespread fishing practice whereby heavy nets are dragged across the seafloor to catch bottom-associated fish such cod. On the high seas, these fisheries typically target chains of seamounts (underwater mountains), which often support abundant coral, other invertebrates and fish. It has been shown that trawling can quickly reduce deep water coral reefs to rubble, which destroys the fish's habitat, and may take decades to centuries to recover. Indeed, most deep sea fisheries only operate few years on a particular seamount - once it is 'exhausted' they move on to others. This wasteful practice has been likened to forest clear-cutting, and likely represents a major threat to the biological resources of the deep sea. There have been efforts to ban this practice in international waters, leading to proposals for a moratorium through a United Nations resolution. Such a resolution has not been adopted though, and concerns have been largely delegated to regional fishery management organizations (RFMOs).

The cumulative consequences of overfishing, bycatch, and habitat destruction are now well understood. Taken together, these impacts lead to a successive loss of marine biodiversity, by which we mean the richness of genetically unique population and species, as well as their habitats. The species richness of tuna

and billfish, for example, has decreased by 10-20% in all oceans since 1950 due to fishing.[11] Such losses in diversity usually lead to a loss of productivity and stability of ecosystems, and hence threaten the long-term sustainability of fisheries[12] and other human uses of the ocean.[13] Most importantly, it appears that the recovery potential of marine ecosystems and their ability to adapt to perturbations such as climate change is tied to their biodiversity. This means that a loss of diversity undermines the resilience of ocean ecosystems, and hence their ability to function reliably in a changing world.[14]

II. PROSPECTS FOR RECOVERY

There is only limited evidence for recovery of depleted fisheries under current management.[15] This means that under business as usual most severely overfished stocks tend to stay depressed or recover only slowly; exceptions to this rule mostly concern particular fast-growing species such as herring and sardines. Importantly, we have currently no ability to engineer recovery of marine resources. In contrast to the situation on land where we can re-plant trees and rebuild landscapes, this has rarely, if ever, been tried successfully in the oceans. Therefore, we rely on the ability of the resource to replenish through natural processes. As mentioned above there are strong indications that this ability is tied to the diversity of the system, which needs to be maintained through careful management. Where such management efforts exist, they have produced some remarkable successes. Two selected case studies may illustrate the pre-conditions needed for successful recovery.

Atlantic swordfish is one of the largest and fastest predators in the Atlantic Ocean, reaching a maximum size of 530 kg (1165 lbs). This species had been severely overfished by the mid-1990s. Because much of the fishery was undertaken by U.S. fishers, national U.S. fishery legislation was triggered that mandates a strict rebuilding plan to recover the species. This led to a successive cut in quotas and the closure of areas that were important

juvenile habitats off the coast of Florida. At the same time there was a closure off Newfoundland to protect endangered sea turtles from bycatch in the fishery. A consumer boycott ('Give swordfish a break' campaign) was also mounted. This led to an effective recovery by 2002, which appears to be ongoing. Unilateral action by the U.S. provided incentives for other countries to obey the rebuilding plans (swordfish is jointly managed by ICCAT, the International Commission for the Conservation of Atlantic Tunas). Unfortunately, similar efforts to protect valuable Atlantic bluefin tuna stocks have not yet been successful. This stock, as well as Atlantic bigeye tuna stocks, and several stocks of marlins and sharks are still being overfished, despite scientific certainty about their depleted status.

Georges Bank haddock is an important fishery resource off New England and Eastern Canada. It had also been reaching a low-point of stock abundance in the early 1990s. This stock straddles the international boundary between the United States and Canada and is fished intensively by both nations. In order to protect this stock from overfishing, two large emergency closures were established on the U.S. portion, and quotas were reduced at the same time. These measures led to a rapid recovery of haddock, and also of scallops, flounder, and other stocks within the closure. Importantly, the buildup of biomass in the closure was spilling over into fished areas, supporting commercial fisheries both in Canada and the U.S.

These strong recoveries of swordfish and haddock are unprecedented, and made possible by the presence of a solid legal framework, clear recovery targets, and strong institutions in the United States. Both examples also show how the combination of area closures and catch limits can be very successful. There are many other examples for how marine protected areas have led to rapid recovery of biodiversity and fishery resources within their bounds, but it is also clear that they need to be embedded within a larger framework of reducing catches, fishing effort, and habitat destruction in order to lead to widespread recovery.

Mandatory rebuilding plans, as legislated under the U.S. Magnuson-Stevens Fishery Conservation and Management Act, provide such a framework.

Current management and recovery plans often still consider individual fish stocks in isolation. Yet, virtually every contemporary review of ocean and living marine resource management has called for an ecosystem approach. The approach is a modern extension of the traditional stock-by-stock management of fisheries, which includes, for example, the consideration of non-commercial species that may be indirectly affected by fisheries (such as most marine mammals or turtles). The ecosystem approach also takes into account ecosystem changes that may compromise the resilience of fish stocks (for example climate change), and the approach encouraging involvement of multiple stakeholders that include, but are not limited to, those with fisheries interests. A definition recently provided by The United Nations Food and Agriculture Organization[16] states that

> *An ecosystem approach to fisheries strives to balance diverse societal objectives, by taking into account the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries.*

These diverse objectives include all of the aforementioned concerns: conserving overfished target species, vulnerable bycatch species and habitats. The ecosystem approach recognizes that these species and habitats are linked by interactions that maintain the structure and functioning of the marine ecosystem. If many of these elements get damaged or removed, the functioning of the ecosystem may suffer and its services to humans may decline or collapse. Naturally, the unit of management is the ecosystem itself. As our knowledge of marine ecosystems is incomplete, uncertainties have to be accounted for and included in the management strategies, for example through implementation of the precautionary approach, or through large-scale

protected areas that serve both as spatial insurance and as a control for areas that are exploited. Within the ecosystem different human uses may occur, and are ideally managed together, with the common goal of maximizing benefits, and minimizing harm to target species, other organisms, and habitats. This obviously requires strong institutional cooperation and leadership. A fragmented approach to management and governance, as seen on the high seas, and discussed below, is not conducive to the ecosystem approach.

III. TANGLED GOVERNANCE

A fragmented array of international instruments, initiatives and processes have tried to address the challenges of high-seas fisheries.[17] Key international response avenues include: the UN Straddling and Highly Migratory Fish Stocks Agreement (UNFA), Food and Agriculture Organization (FAO) instruments and initiatives, UN General Assembly resolutions and processes, the International Maritime Organization (IMO), World Trade Organization (WTO) negotiations on fisheries subsidies, multilateral environmental agreements and other initiatives such as the High Seas Task Force.

UNFA

Concluded in 1995 and entering into force in December 2001, the UN Fish Stocks Agreement aims to address two main high-seas fisheries management challenges: how to conserve straddling fish stocks which move between exclusive economic zones of coastal States and the high seas; and how to sustain highly migratory species, such as tunas, which transit national maritime zones and the high seas. The Agreement calls upon States to follow precautionary and ecosystem approaches in managing such stocks, requires States to cooperate in strengthening existing regional fisheries management organizations or arrangements and urges creation of new regional fisheries management organizations where they are needed. The Agreement places various obligations on flag States including a duty to ensure their

vessels comply with and do not undermine regional conservation and management measures. The Agreement seeks to bolster regional cooperation in enforcement, by among other things, requiring States to establish regional boarding and inspection procedures.

UNFA has helped catalyze the establishment of new regional fisheries management agreements. Subsequent to UNFA, regional fisheries agreements have been forged for the West and Central Pacific, the South East Atlantic Ocean and the Southern Indian Ocean. A South Pacific Regional Fisheries Management Organization (SPRFMO) is still under negotiation and discussions are underway to establish a new mechanism for managing high-seas bottom trawling in the North Western Pacific Ocean.[18]

A Review Conference on the Implementation of UNFA, held in May 2006, encouraged States to apply the general principles of the Agreement to discrete high-seas fish stocks and made numerous recommendations for strengthening fisheries management.[19] For example, the Review Conference called on an urgent basis for modernizing the mandates of RFMOs in light of precautionary and ecosystem approaches, urged performance reviews of RFMOs which should include some element of independent evaluation, and encouraged the development of best practice guidelines for them. To strengthen compliance and enforcement, the Conference recommended initiation of a process within FAO to develop a legally binding instrument on minimum standards for port State control measures and development of regional guidelines for fisheries sanctions to be applied by flag States.

The Review Conference agreed to continue informal consultations among State parties and to keep the Agreement under review. Resumption of the Review Conference is to occur not later than 2011.

FAO INSTRUMENTS AND INITIATIVES

The FAO has attempted to curb high-seas fishing through both a legally binding agreement and various 'soft urgings.' The FAO led negotiations for the 1993 Agreement to Promote Compliance

with International Conservation and Management Measures by Fishing Vessels on the High Seas. The Agreement's main objective is to spell out flag State responsibilities in controlling fishing vessels on the high seas. No Party to the Agreement is to allow high-seas fishing by its vessels unless authorized, and each Party is required to take necessary measures to ensure that its flagged fishing vessels do not engage in any activity that undermines the effectiveness of international conservation and management measures. The Agreement also seeks to stop reflagging of vessels whose authorizations have been cancelled due to abuse of international conservation measures. Parties are not allowed to authorize fishing by vessels previously registered in the territory of another Party that has undermined the effectiveness of international management measures, except in narrow circumstances such as where a period of authorization suspension by another Party has expired.

FAO has also tried to influence high-seas fisheries through various non-legally binding instruments. The FAO Code of Conduct for Responsible Fisheries, adopted in 1995, urges a principled approach to managing all fisheries including those on the high seas with the precautionary approach particularly emphasized. Four international plans of action have been issued. The International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (IPOA - Seabirds) urges States to conduct assessments of whether incidental catch of seabirds is a problem in longline fisheries and if so to develop national plans of action for reducing incidental catches of seabirds. Regional cooperation in addressing seabird incidental catches is encouraged, and a list of possible technical and operational measures to reduce incidental catch is provided, for example, setting lines underwater and at night.

The International Plan of Action for the Conservation and Management of Sharks (IPOA - Sharks), urges States to adopt national plans of action addressing directed and non-directed taking of sharks in national waters and on the high seas. Such plans should ensure shark catches are sustainable, determine

and protect critical habitats and minimize waste and discards from shark catches (for example, requiring retention of carcasses when fins are removed). IPOA - Sharks calls upon States to report biennially to FAO on progress in assessing the status of shark stocks and plan implementation. Development of regional shark plans is also suggested.

The International Plan for the Management of Fishing Capacity urges States to adopt national plans of action for the management of fishing capacity and, if required, to reduce fishing in order to ensure sustainable harvesting of resources. The Plan calls for the reduction of subsidies and economic incentives which contribute to the build-up of excessive fishing capacity. The Plan urges States to take steps to manage fishing capacity of their vessels involved in high-seas fisheries and to improve in collaboration with FAO the collection of data on high-seas catches. The Plan encourages States to become members of regional fisheries organizations or arrangements or to agree to apply the conservation and management measures established by such organizations/arrangements to their vessels. Biennial reporting to FAO on plan implementation is recommended.

The International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA - IUU) was adopted in 2001 to address many of the serious problems surrounding high-seas fisheries. Those problems include fishing in contravention of regional management organization management measures, not reporting or misreporting of catches, and unregulated fishing inconsistent with State responsibilities for conserving living marine resources. The Plan encourages States to develop national plans of action to deter and eliminate IUU fishing and to ensure national legislation effectively addresses IUU fishing, for example, through sufficiently severe sanctions. Flag States are urged not to register fishing vessels unless they can exercise responsibility to ensure such vessels do not engage in IUU fishing. Flag States are requested to avoid flagging vessels with a history of non-compliance to avoid 'flag hopping.' The Plan seeks to bolster port State control measures in various

ways including a recommendation that States should publicize ports to which foreign flagged vessels may be permitted admission and should ensure such ports have adequate capacity to conduct inspections for possible IUU fishing activities. The Plan contains a long list of measures RFMOs should consider for tackling IUU fishing including development of regional boarding and inspection schemes and regional plans of action.

Putting FAO's voluntary instruments into practice has been problematic. A 2007 progress report on Code of Conduct and international plan of action implementation prepared for the 27th meeting of FAO's Committee on Fisheries (COFI) concluded that implementation of the precautionary approach was poorly understood and little applied in fisheries management worldwide.[20] Fewer than 20% of FAO COFI members have implemented a national plan of action (NPOA) for sharks while fewer than 10% of members have developed an NPOA on fishing capacity. Less than half of COFI's members have developed NPOAs for IUU fishing and some 40% of members have yet to implement an NPOA for seabirds.[21]

The Committee on Fisheries at its March 2007 meeting addressed high-seas fisheries on a number of fronts. COFI endorsed a timetable for developing a new legally binding instrument on port State measures to combat IUU fishing. An Expert Consultation during the latter half of 2007 to prepare a draft agreement followed by a Technical Consultation to finalize a text during the first half of 2008 was called for with presentation of the new instrument to the 28th session of COFI in 2009. COFI requested the FAO to consider the possibility of holding an expert consultation to develop criteria for assessing the performance of flag States and to examine possible actions against vessel flying the flag of States not meeting such criteria. COFI also encouraged members to join or cooperate with the voluntary International Monitoring, Control and Surveillance (MCS) Network to improve enforcement globally.

Japan, with FAO technical cooperation, hosted a joint meeting of five tuna RFMOs in January 2007. The meeting adopted

a Course of Action for RFMOs with agreement to cooperate on various technical challenges including harmonization and improvement of trade tracking programs, creation of a comprehensive, harmonized list of tuna fishing vessels, development of a global list of IUU vessels, and harmonization of transshipment control measures. The meeting also suggested the five tuna RFMOs should undertake performance reviews in accord with a common methodology and a common set of criteria.

The FAO Fisheries and Aquaculture Department is leading efforts to develop international guidelines for the management of deep-sea fisheries on the high seas. An expert consultation is scheduled for September 11-14, 2007 in Bangkok, Thailand to review a first draft of the guidelines.

UN RESOLUTIONS AND PROCESSES

Another avenue for addressing high-seas fisheries and governance issues is through UN General Assembly resolutions with annual resolutions on sustainable fisheries and on oceans and the law of the sea having become common. The latest Resolution on Sustainable Fisheries (61/105) adopted in December 2006 at the sixty-first session contained many recommendations for enhancing high-seas fisheries controls, for example, urging mandatory vessel monitoring systems on large-scale fishing vessels no later than 2008 and trying to encourage regional fisheries management organizations and arrangements to strengthen and modernize their mandates in light of the precautionary and ecosystem approaches. The resolution urged performance reviews with some element of independent evaluation to be undertaken for regional fisheries management organizations/arrangements. The resolution encouraged the development of regional guidelines for adequate sanctioning of vessels violating regional conservation measures. It called upon RFMOs or arrangements to close vulnerable marine ecosystems, including known or likely to occur seamounts, hydrothermal vents and cold water corals, to bottom fishing and to ensure such activities do not proceed unless conservation and management measures have

been established to prevent significant adverse impacts on vulnerable ecosystems. The resolution invited FAO to consider creating a global database on vulnerable marine ecosystems in areas beyond national jurisdiction. The sustainable fisheries resolution also calls upon States participating in new RFMO negotiations to implement interim measures addressing bottom fishing in vulnerable areas.

The General Assembly Resolution on Oceans and Law of the Sea (61/222), also adopted at the sixty-first session, reaffirmed the role for the General Assembly in promoting the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction. The resolution requested the reconvening in 2008 of the Ad Hoc Open-ended Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (WG on Biodiversity Beyond National Jurisdiction) which first met in 2006. The resolution set out a list of issues for the Working Group to consider including among others: the environmental impacts of human activities on marine biological diversity beyond national jurisdiction; coordination and cooperation among States and relevant intergovernmental organizations and bodies for managing marine biodiversity beyond national jurisdiction; whether there is a governance or regulatory gap and; if so, how it should be addressed.

The WG on Biodiversity Beyond Areas of National Jurisdiction, meeting in February 2006, served as a discussion forum on high-seas governance challenges and brought out major differences of opinion among States regarding future high-seas governance options. Some delegations felt that existing international instruments provided an adequate legal framework for conserving marine biological diversity beyond national jurisdiction while others supported negotiation of a new high-seas implementing agreement to the Law of the Sea Convention to overcome the current sectoral fragmentation in governance and to provide a legal foundation for establishing high-seas marine protected areas. Tensions also occurred over how marine

scientific research on the high seas should be addressed with some delegations supporting a freedom of scientific research approach while others preferred the establishment of internationally agreed codes of conduct, such as an international code of conduct for responsible marine scientific research.

The UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (ICP), established as an annual discussion forum by the General Assembly since 1999, has continued to keep high-seas governance issues on the agenda. The fifth meeting of the ICP in 2004 specifically addressed new sustainable uses of the oceans including the conservation and management of biological diversity of the seabed in areas beyond national jurisdiction, and many NGOs pushed hard for a global moratorium on high-seas bottom trawling. The moratorium was not recommended for adoption by the General Assembly because of opposition by some delegations. The sixth ICP meeting in 2005 focused on two areas, fisheries and the contribution to sustainable development and marine debris and various recommendations were directed at RFMOs including, modernizing their mandates in light of precaution and ecosystem approaches, increasing cooperation with regional seas arrangements and initiating performance review processes The seventh meeting in 2006 focused upon ecosystem approaches and oceans while the eighth meeting in 2007 addressed marine genetic resources.

INTERNATIONAL MARITIME ORGANIZATION

The IMO has also joined the tangled array of efforts to better regulated high-seas fishing, largely through trying to address one of the most serious problems - lack of effective flag State controls especially where ships are registered in open-registry countries.[23] For example, following an invitation through various General Assembly resolutions, the IMO convened an Ad Hoc Consultative Meeting of senior representatives of international organizations in July 2005 to examine and clarify the role of the 'genuine link' that serves as the legal foundation for flag States exercising control over their vessels, including fishing vessels.

The meeting report transmitted to the General Assembly in 2006, did not address the controversial issue of precise conditions for granting nationality to ships and mainly described initiatives undertaken by IMO, FAO and the International Labour Organization to strengthen flag State jurisdiction.[24] The Voluntary IMO Member State Audit Scheme, whereby independent audits are encouraged to assess how effectively national maritime administrations implement IMO safety and anti-pollution treaties, was highlighted as a possible model that eventually might be applied to fishing vessels under the purview of FAO.

WTO NEGOTIATIONS ON SUBSIDIES

Government subsidies to world fishing fleets probably total US$15-20 billion annually and are a thought to be major contributory factor to the ongoing crisis in world fish stocks through the financing of marginal operations that continue to target heavily depleted stocks. This may be particularly true in high-seas fisheries which heavily depend on fuel subsidies, for example. The World Trade Organization has repeatedly been called upon to control such harmful subsidies to the fishing sector.

The WTO, while having fisheries subsidies placed on its regulatory agenda, has yet to develop an agreement on how subsidies should be addressed. The Doha WTO Ministerial Declaration, adopted in November 2001, called for further negotiations on fisheries subsidies under the umbrella of the Agreement on Subsidies and Countervailing Measures. The Negotiating Group on Rules, established by the Trade Negotiations Committee in February 2002, has led negotiations on fisheries subsidies and has solicited the views of States on how fisheries subsidy rules should be developed. Wide variations in national viewpoints have been expressed over how broad a subsidy ban should extend, for example, covering fuel costs and price supports, and whether 'small scale' or 'artisinal fishing' should be exempt from subsidy support restrictions. The Chairman of the Negotiating Group on Rules in a July 2007 report[25] expressed disappointment over the overall progress in negoti-

ations and indicated a draft text on fisheries subsidies may be circulated later in 2007.

MULTILATERAL ENVIRONMENTAL AGREEMENTS

Three international environmental agreements have particular relevance to high-seas fisheries governance: the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on the Conservation of Migratory Species of Wild Animals (CMS).

CBD

Besides expressing through Article 3 a general responsibility on all States to ensure that activites within their jurisdiction or control do not cause damage to the environment of areas beyond national jurisdiction, the Convention on Biological Diversity has generated various decisions and initiatives relevant to high-seas governance. Through Decision VII/5 on marine and coastal biological diversity, Parties expressed the urgent need for international cooperation to improve conservation and sustainable use of biodiversity in marine areas beyond national jurisdiction including the establishment of high-seas protected areas to protect vulnerable ecosystems such as seamounts, hydrothermal vents and cold-water corals. Through Decision VII/28 on protected areas in 2004, the Conference of the Parties agreed to establish an Ad Hoc Open-Ended Working Group on Protected Areas with one of its key tasks being to explore options for cooperation in establishing marine protected areas in areas beyond the limits of national jurisdiction. Decision VIII/24 on protected areas, adopted at the Eighth Conference of the Parties in 2006, recognized the key role for the CBD in providing scientific and technical information and advice relating to marine biological biodiversity beyond national jurisdiction. The Decision requested the Executive Secretary to synthesize studies on priority areas for biodiversity conservation beyond natural jurisdiction and to develop a consolidated set of scientific criteria for

identifying ecologically or biologically significant marine areas in need of protection in open sea waters and deep-sea habitats.

Through Decision VIII/21 on marine and coastal biological diversity: conservation and sustainable use of deep seabed genetic resources beyond the limits of national jurisdiction, the Conference of the Parties listed a preliminary range of options for protecting deep seabed genetic resources beyond national jurisdiction. These options include the use of codes of conduct and guidelines; the imposition of permits and environmental impact assessments; establishment of marine protected areas; and prohibition of detrimental and destructive practices in vulnerable areas. Parties also emphasized the need for further work in developing all these options and other options, in particular within the framework of the United Nations.

The Ad Hoc Open-Ended Working Group on Protected Areas, which held its first meeting in June 2005 and is mandated to meet again prior to the ninth meeting of the Conference of the Parties to be held in 2008, helped identify four possible legal approaches to establishing high-seas marine protected areas (HSMPAs). The goal is to effectively protect vulnerable or endangered populations, species, and habitats from deleterious impacts. Marine Protected Areas do not necessarily exclude fishing, although they often limit more destructive fishing practices such as bottom trawling. Possible avenues include: an implementing agreement to the Law of the Sea Convention; an implementing agreement to the CBD; amendment of the Convention concerning the Protection of World Cultural and National Heritage to enable the protection of sites of outstanding universal value in marine areas beyond national jurisdiction; and a new global framework agreement perhaps providing for a network of regional MPAs.[26]

In a related effort, the World Conservation Union (IUCN) has led a Ten Year Strategy to establish a representative network of HSMPAs by the year 2012.[27] A representative system aims to include all habitats that are unique, special, and fragile or representative on a regional biogeographic basis, including benthic

habitats such as shelf edges, cold-water coral reefs, canyons, seamounts, hydrothermal vents, cold seeps and abyssal plains, as well as persistent oceanographic features such as eddies, fronts and zones of upwelling. These habitats are known to be of particular importance to a large number of high-seas species, including commercially valuable fish

CITES

As concerns for endangered marine species have mounted, the Convention on International Trade in Endangered Species has entered the field of high-seas conservation. Its mandate is to control trade that impacts the status of listed endangered species. The first fish species that were listed under CITES Appendix II were seahorses, which are coastal species. Three large oceanic shark species have also been listed under Appendix II: the whale shark, basking shark and the white shark. All three species occur on the high seas and are mostly caught as bycatch. They are also particularly valuable in the shark fin trade mentioned above. CITES provides a way to regulate the trade with these species and may provide a limited disincentive to continue with further overfishing.[28]

The role of CITES in addressing fisheries has been controversial, especially in light of the traditional roles played by FAO and RFMOs in fisheries management. Listing of overfished bluefin tuna stocks has been attempted, but so far not successfully. At the Fourteenth Conference of the Parties to CITES in June 2007, the EU proposed listing the commercially valuable porbeagle shark and spiny dogfish on Appendix II, but the proposals were rejected partly on the basis of some countries preferring national and regional management measures to CITES listings.

CMS

The Convention on Migratory Species, providing a cooperative framework for developing agreements and taking measures

to conserve listed migratory species, has placed considerable emphasis on addressing fisheries bycatch - including on the high seas - for seabirds, marine turtles and cetaceans. Resolution 6.2 adopted by the Sixth Conference of the Parties in 1999 requested all Parties to strengthen measures to protect migratory species against bycatch in fisheries within their marine waters and by their vessels fishing on the high seas. The Resolution also encou-raged Parties to work with relevant regional fisheries organiz-ations in adopting mitigation measures for incidental mortality of migratory species. Recommendation 7.2, adopted at the Seventh Conference of the Parties in 2002, encouraged enhanced research on the impacts of fisheries bycatch on migratory species and further urged implementation of mitigation measures especially through RFMOs. The Agreement on the Conservation of Albatrosses and Petrels[29], entering into force in February 2004 and covering all 21 species of albatrosses and seven species of petrels from the Southern Hemisphere, calls upon Parties to take measures to reduce or eliminate the mortality of albatrosses and petrels resulting incidentally from fishing activities and to cooperate with regional fisheries or marine living resource organizations in adopting incidental take measures.

Protection of migratory sharks has become a more recent focus. Through Resolution 8.5 the Conference of the Parties at its Eighth Meeting in 2005 endorsed the development of a global instrument on migratory sharks under CMS auspices and through Recommendation 8.16 called upon Range States of migratory sharks listed on Appendix I or II to develop a global migratory shark conservation instrument. A meeting to identify and elaborate an option for international cooperation on migr-atory sharks under the CMS is scheduled for Mahé, Seychelles in December 2007 and a Background Paper prepared for the meeting has documented the ongoing failure of most RFMOs to regulate shark bycatch other than through shark finning bans.[30]

OTHER INITIATIVES

While many other international and regional initiatives have arisen to address better governance of high-seas fisheries, two efforts stand out for their potential to influence future law and policy directions. They are the High Seas Task Force and Chatham House supported efforts including the Independent Panel on RFMOs.

High Seas Task Force

Launched in 2003, the High Seas Task Force, comprised of fisheries ministers from Australia, Canada, Chile, Namibia, New Zealand and the UK together with international NGO representatives, worked under the auspices of the Organization of Economic Cooperation and Development (OECD) to develop an action plan for addressing high-seas IUU fishing. The Task Force issued its final report in March 2006 which set out nine proposed areas for action.[31] Those proposals included: committing more resources to the voluntary International Monitoring Controlling and Surveillance Network (MCS); developing a global information system on high-seas fishing vessels; encouraging countries to become parties to relevant high-seas instruments; providing guidance in RFMO performance review and reform; setting guidelines on flag State performance; improving port State controls; improving methods of assessing and monitoring IUU fishing and bycatch; supporting vulnerable developing countries in addressing high-seas fishing challenges; and promoting the better use of technological solutions, such as vessel monitoring systems including the development of international standards for equipment and resistance to tampering.

Chatham House supported efforts

Chatham House, based in the UK, has led various initiatives to address IUU fishing including stakeholder consultative meetings on IUU fishing and establishment of a website (http://www.illegal-fishing.info) which provides information and updates

on IUU initiatives around the globe including those of the European Union. An Independent Panel on RFMOs, established as a result of the recommendation of the High Seas Task Force and hosted by Chatham House, has issued a report on Recommended Best Practices for RFMOs which promises to provide guidance for RFMO reforms in such areas as conservation and management measures, allocation criteria, compliance and enforcement, decision-making practice, settlement of disputes and transparency.[32]

IV. CONCLUSIONS

Anyone reviewing the troubled history of high-seas fisheries and the tangled array of international initiatives trying to introduce better governance is likely to feel both senses of pessimism and optimism. One can lament over how the fundamental problem of 'flags of convenience' has yet to be effectively addressed; how many States still refuse to ratify global and regional conservation agreements; how political and economic interests often dominate over sound science in fisheries management decisions; and how high-seas governance continues to be fragmented rather than integrated.

Reasons for optimism also exist including: the ongoing processes of RFMO strengthening in light of sustainability principles and international pressures; the adoption of interim management measures for high-seas areas where new regional fisheries management provisions are being negotiated in the South Pacific and North Western Pacific; increasing efforts under MEAs to address high-seas fisheries issues; and the ongoing international discussions and processes to further debate and explore high-seas governance options. This time in history is unique for its growing international focus on environmental sustainability, and an unprecedented wealth of scientific information and technological innovation. It is an exciting and dynamic time which provides rich opportunities for individual organizations or States to transform governance of the oceans towards greater sustainability and stability.

However, sorely missing is a clear vision, a master plan, on how to integrate fragmented efforts to introduce better governance on the high seas. Visionary initiatives, like the abovementioned IUCN 10-year high-seas MPA strategy, are often blocked or watered down by conflicting national interests. While a global network of high seas marine reserves could go a long way in supporting sustainable fisheries[33], that reality still seems a distant goal in light of socio-economic interests of fishing States and continued championing of freedom of the seas. More likely in the near term are increased efforts by RFMOs to close vulnerable areas to at least some types of fishing and even greater cooperation among States and RMFOs in addressing IUU fishing through the many ways possible including greater port State controls and trade measures.[34] Finally, a clampdown on harmful subsidies may remove some of the excess capital that still fuels unsustainable and in some cases illegal fishing activities on the high-seas.

Whether living marine resources of the high seas can wait for these incremental and fragmented changes to occur remains to be seen. It is encouraging that real examples of recovery exist, both for individual species, and for entire ecosystems that have received meaningful protection. These successes should both inspire and inform ongoing efforts to reverse the decline of high-seas living resources.

Certainly the global community has not reached an end point in high-seas governance. Many possible governance innovations remain to be fully explored and many issues remain to be resolved. Whether political will can be mustered to actually initiate a negotiation process for an implementing agreement on high-seas biodiversity, as advocated by the European Union[35], remains uncertain. Even if an implementing agreement route is agreed to, many issues loom on the horizon[36] including: what the scope of coverage should be, for example, discrete high-seas fish stocks, aquaculture, ocean energy, bioprospecting, ocean fertilization, noise and marine protected areas; whether new institution(s) should be created, for example, a High Seas Biopr-

ospecting Agency, a High Seas Integrated Planning Commission, a High Seas MPA Authority, a High Seas Compliance Committee; what powers, if any, should be granted to such institution(s); and how regional cooperation should be addressed. Progressing from RFMOs to broader regional ocean management organizations (ROMOs) has been suggested and could be encouraged through an implementation agreement.[37] Even creation of a World Ocean Organization might be envisaged, but such an innovation does not look promising in light of many factors including: desires to maintain the status quo, lack of leadership and political will; institutional fiefdoms, and preferences for decentralization and regionalization.[38] Navigating beyond the present troubled and tangled waters of high-seas governance is likely to involve a long and arduous voyage

Canadian leadership already displayed on various fronts, including the hosting of a Conference on the Governance of High Seas Fisheries in St. John's in May 2005, pushing for the modernization of RFMOs and supporting the High Seas Task Force and the Independent Panel on RFMOs, could be crucial for the sustainable future of the world's oceans. Canada should seriously consider adding its voice in support of a high seas implementing agreement.

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(Some references were removed in the editorial process. A complete list of background papers and references can be obtained from the authors - Boris Worm bworm@dal.ca, David VanderZwaag david.vanderzwaag@dal.ca.)

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