

OBLIGATIONS TO PROTECT MARINE ECOSYSTEMS UNDER INTERNATIONAL CONVENTIONS AND OTHER LEGAL INSTRUMENTS

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EXECUTIVE SUMMARY

Introduction

During the past decade, a number of international conventions have included new obligations for management activities regulating uses of the oceans. The conventions (and codes) make explicit reference to protection of ecosystem features. The overarching convention in this respect is the Convention on Biological Diversity (CBD). Other international legal instruments include the UN Agreement on Straddling and Highly Migratory Fish Stocks and the FAO Code of Conduct for Responsible Fisheries. In response to these international agreements, national legislation and policies have been put in place to more explicitly incorporate ecosystem considerations within national ocean management regimes.

This paper examines the provisions of selected international instruments to demonstrate the extent to which ecosystem management has been incorporated in those instruments, exemplified by the Australian Ocean Policy and the Canadian Oceans Act. The paper also examines the implementation of ecosystem management principles at the domestic level.

The international instruments discussed are: the United Nations Convention on the Law of the Sea (UNCLOS); the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks; the Convention on the Conservation and Management of Highly Migratory Fish Stocks in The Western and Central Pacific Ocean; the FAO Code of Conduct for Responsible Fisheries; the Convention on Biological Diversity; the Jakarta Ministerial Statement on the Implementation of the Convention on Biological Diversity; the Convention on Conservation of Nature in the South Pacific; and the Washington Declaration on Protection of the Marine Environment from Land-based Activities. National policies examined include Australia's Oceans Policy and Canada's Oceans Act 1996.

International conventions and other legal instruments

United Nations Convention on the Law of the Sea (UNCLOS) UNCLOS provides rules for the regulation of all uses of oceans and seas. UNCLOS also establishes a framework for the development of conservation and management measures concerning marine resources and scientific research within the exclusive economic zone (EEZ) of States as well as on the high seas.

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 (United Nations Fish Stocks Agreement – UNFSA) UNFSA imposes obligations on Parties to protect the marine environment and requires States to ensure the sustainable utilization of fish stocks. UNFSA require States to apply the precautionary approach and adopt appropriate measures to maintain or restore populations of species that are part of the same ecosystem.

Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPT Convention) The objective of the WCPT Convention is to ensure the long-term and effective conservation and sustainable use of highly

migratory fish stocks in the western and central Pacific, in accordance with UNCLOS and UNFSA.

FAO Code of Conduct for Responsible Fishing The FAO Code of Conduct for Responsible Fishing is a non-legally binding code, but with important links to UNCLOS. The Code expects States to implement appropriate measures within the precautionary principle framework to minimize waste, discards, ghost-fishing, and negative impacts of fishing on associated or dependent species.

Convention on Biological Diversity (CBD) Although CBD does not specifically address fisheries, it applies to all terrestrial and marine biodiversity, and, as such affects fisheries. CBD outlines measures for conserving biodiversity, including *in situ* and *ex situ* conservation measures. General measures for conserving and ensuring ecologically sustainable development include developing national policies, strategies and programmes reflecting the principles espoused in the Convention.

Convention on Conservation of Nature in the South Pacific The objective of the Convention is to conserve, utilize and develop the natural resources of the South Pacific region through careful planning and management for the benefit of present and future generations.

National policies for protecting the marine environment

The paper discusses the national policies of two countries that illustrate some of the efforts being undertaken at the national level to promote more responsible approaches to fisheries in the marine ecosystem. These are Australia's Oceans Policy and the *Oceans Act* 1996 of Canada. Australia's Oceans Policy has several objectives, including protection of Australia's marine biodiversity and the ocean environment, and to ensure that the use of oceanic resources is ecologically sustainable. The Oceans Act of Canada establishes certain obligations for the Minister for Fisheries and Oceans for management and conservation of Canadian waters. The Act also establishes a legal framework for the development and implementation of a national strategy for the management of estuarine, coastal and marine waters within Canadian jurisdiction.

Conclusion

The conclusion analyses the strengths and weaknesses of international efforts to incorporate ecosystem management principles into international instruments. The most notable strengths of the international instruments studied for this paper are the instruments themselves, as they attempt to establish a global framework for the conservation and management of marine environments and resources. Moreover, the inclusion of ecosystem conservation is also a positive element as it is a step away from the traditional species and stock focus. This ecosystem-based focus also provides scope for an increased involvement of regional bodies in establishing integrated marine and coastal management measures. There are, however, several weaknesses that need to be considered. One of the major drawbacks of international instruments is that many States are not party to them, thereby limiting the extent to which these instruments are being applied. The provisions outlined in instruments are often vague and ambiguous with respect to the protection of the marine environment, and these provisions need to be addressed to more clearly assert the environmental protection obligations of States. Even though many of the instruments include illegal, unregulated and unreported (IUU) fishing, surveillance and enforcement as key issues to be addressed, it will be difficult or even impossible to control these problems through comprehensive and effective monitoring of an area so vast. Moreover, many countries, developing nations in particular, will be hard pressed to find sufficient resources to implement many of the measures outlined in the international instruments.

INTRODUCTION

[1] During the past decade, a number of international conventions have included new obligations for management activities regulating uses of the oceans. The conventions (and codes) make explicit reference to protection of ecosystem features. The overarching convention in this respect is the Convention of Biological Diversity. Other international legal instruments include the UN Agreement on Straddling and Highly Migratory Fish Stocks, and the FAO Code of Conduct for Responsible Fisheries. In response to these international agreements, national legislation and policies have been put in place to more explicitly incorporate ecosystem considerations within national ocean management regimes. This paper examines the provisions of selected international instruments to demonstrate the extent to which ecosystem management has been incorporated in the instruments, using as examples the Australian Ocean Policy and the Canadian Oceans Act. The paper also examines the implementation of ecosystem management principles at the domestic level.

[2] The international instruments discussed are the:

- United Nations Convention on the Law of the Sea (UNCLOS); 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;
- Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean;
- FAO Code of Conduct for Responsible Fisheries;
- Convention on Biological Diversity;
- Jakarta Ministerial Statement on the Implementation of the Convention on Biological Diversity;
- Convention on Conservation of Nature in the South Pacific; and
- Washington Declaration on Protection of the Marine Environment from Land-based Activities.

[3] The national policies examined include Australia's Oceans Policy and the Canadian *Oceans Act* 1996.

UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

[4] UNCLOS was opened for signature in 1982 and entered into force in 1994. This regime deals with all matters related to oceans and seas, and provides rules for the regulation of all uses of oceans and seas. UNCLOS also establishes a framework for the development of conservation and management measures concerning marine resources and scientific research within the Exclusive Economic Zone (EEZ) of a State, as well as on the high seas.

Protection and preservation of the marine environment

[5] Part 12 of UNCLOS outlines provisions for the protection and preservation of marine ecosystems. These provisions are very broad and so applicable to fisheries industries on a global scale. All States are obliged to undertake measures to protect the marine environment and to control, reduce and manage pollution of the sea (UNCLOS, 1982, Articles 192 & 194). Although the provisions in this part of Conventionb (i.e. Part 12) do not specifically refer to fisheries, they are relevant in the sense that they urge States to prevent, reduce and control pollution of marine ecosystems through any source (UNCLOS, 1982, Article 194(1)), and this could include debris and waste from fisheries operations. The provisions relating to the protection and preservation of the marine environment emphasize the importance of cooperation between States and the need for States to undertake surveillance of activities that they permit or engage in, in order to determine whether these activities are likely to have significant adverse impacts on the marine ecosystem and its various components (UNCLOS, 1982, Article 204 (2)).

Conservation of the living resources within the EEZ

[6] Parties are required to establish measures for the conservation and management of marine living resources in their EEZs. These measures must take into account *inter alia* the effects of harvesting target species on species that are associated with or dependent upon the harvested species whilst ensuring that living resources are not endangered by overexploitation (UNCLOS, 1982, Article 61(2) & (4). Additionally, UNCLOS addresses highly migratory species, marine mammals, and anadromous and catadromous stocks to ensure that these species are conserved and managed in their State of origin and external areas (UNCLOS, 1982, Articles 64-67).

Conservation of the Living Resources of the High Seas

[7] UNCLOS states that all States have the right for their nationals to engage in fishing on the high seas provided that States do not contravene UNCLOS' objectives and are consistent with Articles 63(2) and 64-67, as well as with provisions dealing with the high seas (UNCLOS, 1982, Article 116). All States are obliged to undertake measures to conserve the living resources of the high seas and, in doing so, States must cooperate with each other and establish regional or sub regional fisheries organizations as appropriate, to promote this objective (UNCLOS, 1982, Article 118).

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

[8] The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stocks Agreement; FSA) was adopted in August 1995. The FSA is not in force as the required number of ratification instruments (30) have not yet been received. The fundamental objective of the FSA 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 UNCLOS.

[9] The FSA imposes certain obligations on Parties in regard to the protection of the marine environment. In general, the Agreement requires that States ensure the sustainable utilization of fish stocks and that they assess the impacts of fishing on the marine environment. For instance, Parties must assess the impacts of fishing, other human activities and environmental factors on target species, species that are part of the same ecosystem, and species that are associated with or dependent upon target species (FSA, 1995, Article 5d). In doing so Parties must take into account the precautionary principle and uncertainties relating to data used in the development of conservation and management measures (FSA, 1995, Article 6c). Furthermore, data collection and research programmes must be established for assessing the impacts of fishing on non-target (fish and non-fish) species (FSA, 1995, Article 6e).

[10] Parties must adopt appropriate conservation and management measures to maintain or restore populations of species that are a part of the same ecosystem as target species or are associated with or dependent upon target species (FSA, 1995, Article 5e). Parties must also establish conservation and management measures for habitats of special concern (FSA, 1995, Article 6d). Parties must minimize discards, waste and by-catch of target and non-target species through various measures, including the development and use of selective fishing gear and techniques (FAS, 1995, Article 5f). Where stock populations of target species and populations of non-target species are of concern, Parties must enhance monitoring of those species and review their management and conservation status.

[11] Parties are also obliged to collect and share all relevant and up-to-date fisheries data (FSA, 1995, Article 5j). Annex I of the FSA provides standard requirements for the collection and sharing of data. Data that can be collected includes information on vessel position, catch and yield statistics, composition of catch, including target and non-target species (FAS, 1995, Article 3, Annex I) fishing gear description, etc. States are also required to establish mechanisms for verifying fisheries data;

mechanisms include scientific observer programmes for monitoring details of fishing operations such as catch composition (target and non-target species) (FSA, 1995, Article 6, Annex I).

[12] Management strategies aimed at restoring or maintaining populations of species associated with or dependent upon target species must do so at levels consistent with precautionary reference points (FSA, 1995, Article 4, Annex II).

[13] Flag State vessels are obliged to record and report catch and vessel information (FSA, 1995, Article 18e). Flagged vessels must also have their catch of target and non-target species verified through measures such as observer programmes, inspection schemes, etc. (FSA, 1995, Article 18f). The fishing activities of flagged vessels must be regulated to ensure compliance with sub regional, regional or global by-catch reduction measures (FSA, 1995, Article 18i).

CONVENTION ON THE CONSERVATION AND MANAGEMENT OF HIGHLY MIGRATORY FISH STOCKS IN THE WESTERN AND CENTRAL PACIFIC OCEAN

[14] This Convention (MHLC) was adopted in September, 1995, in Honolulu, USA. The objective of the Convention is to ensure the long-term and effective conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean, in accordance with UNCLOS and FSA.

Conservation of the marine environment

[15] The Agreement deals specifically with highly migratory fish stocks in the western and central Pacific Ocean. However, it outlines some broad provisions that can be applied for the protection of marine ecosystems. These include *inter alia* measures to ensure the long-term sustainability of highly migratory fish stocks; minimization of wastes, discards and other impacts associated with fishing; applying the precautionary principle in implementing the MHLC; protecting marine biodiversity; preventing or eliminating overexploitation of fish stocks; and enforcing conservation measures through effective monitoring, control and surveillance (MHLC, 2000, Article 5).

[16] The Convention establishes a Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (MHLC Commission) to assist in the implementation of the MHLC (MHLC, 2000, Article 9). Functions of the Commission include *inter alia* promoting the sustainable utilization of highly migratory fish stocks in the Pacific; adopting measures for the conservation and management of highly migratory fish stocks, other species and the marine environment in general; and adopting measures to promote responsible fishing in the western and central Pacific (MHLC, 2000, Article 10(1)).

FAO – CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

[17] The *Code of Conduct for Responsible Fisheries* (FAO Fisheries Code) addresses specific impacts of fisheries on the marine and aquatic environment, including by-catch, and marine resource protection. FAO Fisheries Code is not legally binding, but links other international fisheries obligations, including those established under UNCLOS. The general principles of the Code suggest that fisheries management measures should ensure the protection of not only target species but also of non-target, associated or dependent species (FAO Fisheries Code, Article 6.2).

[18] States are urged to apply the precautionary principle in conserving, managing and exploiting fisheries resources (FAO Fisheries Code, Article 6.5). States are to ensure *inter alia* the use of selective fishing gear and reduce waste, discards and catch of non-target species (fish and non-fish) (FAO Fisheries Code, Article 6.6). Furthermore, States are encouraged to reduce the impacts of fisheries on species associated with or dependent upon target species (FAO Fisheries Code, Article 6.6). The provisions have the scope to provide effective protection of marine ecosystems by protecting target and non-target species and the ecosystems associated with those species.

[19] In addition, the FAO Fisheries Code requires States to implement appropriate measures (within the precautionary principle framework) so as to minimize waste, discards, ghost-fishing, by-catch and negative impacts of fishing on associated or dependent species (FAO Fisheries Code,

Articles 7.22, 7.52 and 7.69). The principles also require fisheries management authorities to promote the development and use of selective gear and efficient operational methods as part of their overall effort to conserve the marine environment (FAO Fisheries Code, Article 7.69). States must ensure that regulations related to measures for the reduction of waste, discards and by-catch are not circumvented by technical devices (FAO Fisheries Code, Article 8.51). The Code suggests that reduction of waste and by-catch may be achieved by technical measures, such as modifying gear to prevent smaller, unwanted species or individuals being trapped in the net (FAO Fisheries Code, Article 7.69). States are also required to improve their understanding of the status of fisheries by collecting appropriate data and exchanging information with all relevant groups (FAO Fisheries Code, Article 12.4).

CONVENTION ON BIOLOGICAL DIVERSITY

[20] The *Convention on Biological Diversity* (CBD) was signed on 5 June 1992 in Rio de Janeiro, Brazil, and entered into force on 23 December 1993. It was created to provide an international framework for the conservation and ecologically sustainable development and use of biodiversity.

[21] The Convention does not specifically address fisheries, but it applies to all terrestrial and marine biodiversity and therefore affects fisheries. The Convention outlines *inter alia* measures for conserving biodiversity. These include general, *in situ* and *ex situ* conservation measures. General measures for conserving biodiversity and ensuring ecologically sustainable development include developing national policies, strategies and programmes that should *inter alia* reflect the principles espoused in the Convention (CBD, 1992, Article 6(a)). The Convention also urges Parties to integrate biodiversity conservation policies and strategies with cross-sectoral plans (CBD, 1992, Article 6(b)).

In situ conservation

[22] Measures outlined for the *in situ* conservation of biodiversity encompass certain key issues. These include *inter alia* protected areas, ecosystems and habitats. With respect to protected areas and ecosystems, the Convention imposes the following obligations on all Contracting Parties:

- *Protected areas*
 - establish a system of protected areas for conserving biodiversity; and
 - develop guidelines for the selection, establishment and maintenance of protected areas.
- *Biological resources*
 - regulate and manage biological resources that are important for conserving biodiversity within protected areas and in *ex situ* circumstances; and
 - Promote ecologically sustainable development in areas adjacent to protected areas with a view to protecting these areas to complement protected areas
- *Ecosystems and habitats*
 - rehabilitate and restore degraded ecosystems, *inter alia* through the development and implementation of management plans and strategies;
 - promote the (*in situ*) protection of ecosystems, natural habitats and the maintenance of viable populations of species; and
 - eradicate, prevent or control and manage alien species that threaten native habitats and species (CBD, 1992, Articles 8(a)-(f), (h)).

[23] Parties are obliged to regulate and manage threatening processes affecting or likely to affect biodiversity in an adverse manner (CBD, 1992, Article 8(l)). Additionally, Parties must develop and implement measures to control and manage the risks associated with potentially threatening activities, such as the use and release into the environment of organisms that have been modified through biotechnology (CBD, 1992, Article 8(g)).

***Ex situ* conservation**

[24] In addition to outlining measures for the *in situ* conservation of biodiversity, the Convention recommends that all Parties undertake activities to ensure the protection of biodiversity in *ex situ* circumstances, although such activities should complement the *in situ* conservation measures articulated in the Convention (CBD, 1992, Article 9). The CBD requires Parties to undertake the following *ex situ* biodiversity conservation measures:

- establish and maintain facilities for *ex situ* conservation of, and research into, biodiversity in the country of origin of the biodiversity in question;
- adopt measures to ensure the recovery and rehabilitation of threatened species, and the re-introduction of such species into their natural habitats under appropriate conditions;
- regulate and manage the collection of biological resources from habitats to ensure that the survival of *in situ* species, populations and ecosystems is not threatened; and
- cooperate in providing financial and other support for *ex situ* conservation measures, particularly to developing nations (CBD, 1992, Article (a)-(e)).

THE JAKARTA MINISTERIAL STATEMENT ON THE IMPLEMENTATION OF THE CONVENTION ON BIOLOGICAL DIVERSITY

[25] The *Jakarta Ministerial Statement on the Implementation of the Convention on Biological Diversity* (Jakarta Mandate on Coastal and Marine Biodiversity) was issued during the second meeting of the Conference of Parties to the CBD (COP 2), held in Jakarta in November 1995, as a result of the Conference of Parties (COP) identifying marine and coastal biodiversity as a high priority issue. The Mandate essentially reaffirms the importance of the conservation and ecologically sustainable use of coastal and marine biodiversity and urges the COP to initiate the immediate development and implementation of actions concerning this issue.

[26] The Mandate specifically links conservation, the use of biodiversity and fishing activities, and establishes a new global consensus on the importance of marine and coastal biodiversity. The Mandate identifies the following areas as being of critical importance:

- integrated management of marine and coastal areas;
- marine and coastal protected areas;
- ecologically sustainable use of marine and coastal living resources;
- mariculture; and
- alien species (Tsamenyi and McIlgorm, 1999: 23-24).

[27] A Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) was established following the Ministerial Declaration, with marine and coastal biodiversity appointed as the first key sector to be investigated by the SBSTTA (Tsamenyi and McIlgorm, 1999: 24). The SBSTTA was responsible for *inter alia* a resolution calling for a reduction in overcapacity and subsidies to fisheries (Tsamenyi and McIlgorm, 1999: 24). This resolution was endorsed at COP 2 (Tsamenyi and McIlgorm, 1999: 24). Furthermore, the SBSTTA was also responsible for the following:

- establishing a roster of Experts on Marine and Coastal Biological Diversity;
- applying the precautionary approach to biodiversity; and
- implementing integrated marine and coastal area management (Tsamenyi and McIlgorm, 1999: 24).

CONVENTION ON CONSERVATION OF NATURE IN THE SOUTH PACIFIC

[28] The *Convention on Conservation of Nature in the South Pacific* (Apia Convention) was developed in Apia, Western Samoa, in June 1976, with the fundamental objective of conserving,

utilizing and developing the natural resources of the South Pacific Region through careful planning and management for the benefit of present and future generations.

[29] There are certain core provisions in the Apia Convention that address matters such as protected areas, conservation of indigenous species under threat of extinction, customary use of species and areas, and research.

Protected areas

[30] The Apia Convention requires Parties to establish protected areas to safeguard *inter alia* representative samples of natural ecosystems and endangered species (Apia Convention, 1976, Article 2(1)). Parties are required not to alter the boundaries of national parks within their jurisdiction to either decrease the size of such areas, or to allow the commercial exploitation, collection or hunting of resources contained therein, without first conducting a full investigation (Apia Convention, 1976, Article 3(1)-(3)). Additionally, national reserves must be maintained inviolate to the greatest extent possible, although permission for scientific research in reserves may be granted if the purposes of such research is consistent with the purposes for which the reserves were established (Apia Convention, 1976, Article 4).

Conservation of indigenous species

[31] Parties must not only protect indigenous species in general, but also give particular attention to indigenous and migratory species being exploited in an unsustainable manner or under threat of extinction (Apia Convention, 1976, Article 5(1)). In order to achieve the latter, each Party must develop and maintain a list of indigenous species that are threatened with extinction (Apia Convention, 1976, Article 5(2)). Species listed accordingly must be protected to the greatest extent possible, and permission to collect, capture or hunt such species may be granted only under circumstances that will improve the conservation status of the listed species and their ecosystems (Apia Convention, 1976, Article 5(3)). Parties must bear in mind the traditions of indigenous communities and make special provisions to enable such communities to use species and areas in accordance with their customs (Apia Convention, 1976, Article 6).

Research

[32] All Parties must initiate research relating to nature conservation and the management of protected areas and species (Apia Convention, 1976, Article 7(2)). Furthermore, Parties are obliged to cooperate in exchanging information and results relating to such research and in interchanging and training personnel for nature conservation objectives (Apia Convention, 1976, Article 7(2)).

NATIONAL POLICIES FOR PROTECTING THE MARINE ENVIRONMENT

Australia's Oceans Policy

[33] Australia's Oceans Policy (AOP) was released in December 1998 by the Federal Government of Australia (Environment Australia, 1998a,b) as an initiative to promote and facilitate the development of an integrated and ecosystem-based approach to ocean management and conservation. The AOP has several objectives, including the protection of Australia's marine biodiversity, the ocean environment and to ensure that the uses of oceanic resources are ecologically sustainable (AOP, 1998: 4). Developing and establishing regional marine planning for large marine ecosystems is a key aspect of the AOP's focus on facilitating an integrated and ecosystem-based oceans planning and management framework. The first Regional Marine Plan (RMP) will be developed for the southeastern region of Australia's EEZ (AOP, 1998: 2). The AOP establishes the following arrangements to assist with the implementation of the Policy:

- a National Oceans Ministerial Board, comprising key Commonwealth Ministers, to be chaired by the Minister for the Environment;
- a National Oceans Advisory Group, comprising industry, community and government stakeholders;
- Regional Marine Planning Steering Committees, comprising regional stakeholders; and

- a National Oceans Office in Environment Australia, to provide secretariat and technical support for oceans policy initiatives (AOP 1, 1998: 15).

[34] There are two sections to the AOP. The first, and main part of the policy document, outlines broad goals and planning and management principles to guide the development of an integrated oceans management framework. This part also provides a brief overview of issues and measures related to different uses of oceans, including fisheries management, by-catch and environmental impact assessment (AOP, 1998: 25-26). The AOP identifies *inter alia* overcapacity and excess effort in fisheries as major cause of overfishing and in reducing the viability of marine species populations (AOP, 1998: 25). Moreover, the Policy states that measures to reduce overcapacity in domestic fisheries will be pursued to ensure that fishing efforts do not exceed ecologically sustainable levels (AOP, 1998: 25). The second part of the Policy outlines specific measures on a sectoral basis, including fisheries (AOP 2, 1998: 9-11). This section of the Policy identifies key issues and challenges for the fisheries industry including:

- fisheries management;
- ecologically sustainable fisheries practices;
- economic and regulatory instruments (to improve the sustainability and efficiency of fisheries operations);
- structural adjustments (to make the fisheries industry more viable while protecting the marine environment);
- recreational and charter fishing management; and
- illegal fishing and compliance with conventions (AOP, 1998: 9-11).

[35] The Policy essentially states that the Federal Government, in collaboration and consultation with all stakeholders, will address *inter alia* the aforementioned issues in order to improve the efficiency and economic and environmental or ecological viability of Australia's fisheries, as well as to protect the marine environment from the environmental impacts of fisheries (and other industries). Examples of measures suggested by the Policy for the fisheries industry include:

- reviewing fisheries laws and regulations to streamline procedures and reduce compliance costs;
- undertaking strategic environmental impact assessments of all new management plans for Commonwealth fisheries with and without management plans;
- continuing to address the issue of by-catch in fisheries;
- continuing to develop and implement policies for ecologically sustainable fisheries through, for example, pre-commercial assessments and experimental fisheries;
- encouraging the adoption and use of codes of responsible fishing practices;
- undertaking research and development measures to develop management initiatives to ensure ecologically sustainable fisheries; and
- continuing to develop national and international strategies to address illegal fishing, non-compliance with conventions and enforcement (AOP, 1998: 10-11).

Canada's Oceans Act

[36] The Oceans Act of Canada (OA) received Royal Assent in the House of Commons on 18 December 1996, and entered into force on 31 January 1997. OA has three core sections. The first part establishes a legal demarcation of Canada's waters, including a Contiguous Zone (CZ) and an EEZ. The first part also outlines Canada's rights and responsibilities with respect to its EEZ. These responsibilities essentially enable Canada to explore, exploit and conserve the natural living and non-living marine resources of the EEZ, as well as to regulate scientific research and control the construction of offshore structures in the EEZ (Canada's Oceans Act, 1996, Articles 13-14). The second part of the OA establishes certain obligations for the Minister of Fisheries and Oceans with respect to the management and conservation of Canadian waters (Canada's Oceans Act, 1996,

Articles 30-35). The third part of the OA outlines the powers, duties and functions of the Minister of Fisheries and Oceans (Canada's Oceans Act, 1996, Articles 40-52.1).

Protection of the Marine Environment

[37] As mentioned earlier, the second part of the OA creates obligations for the management and protection of Canada's waters. The Act establishes a legal framework for the development and implementation of a national strategy for the management of estuarine, coastal and marine waters within Canadian jurisdiction (Canada's Oceans Act, 1996, Article 29). Under the OA, the Minister of Fisheries and Oceans (in collaboration with all relevant stakeholders) must develop and implement the national strategy, as well as facilitate the development and implementation of an integrated management plan for managing all activities and measures that affect Canada's estuarine, coastal and marine waters (Canada's Oceans Act, 1996, Articles 31-32). The Act also enables the Minister to establish marine protected areas specifically for the conservation and protection of marine ecosystems and biodiversity, threatened or endangered species and their habitats (Canada's Oceans Act, 1996, Article 35). The OA also enables the Minister to establish advisory or management bodies for the purposes of implementing integrated management plans for Canadian waters (Canada's Oceans Act, 1996, Article 32(c)(i)). In performing the duties assigned by the OA, the Minister must consult and collaborate with all appropriate stakeholders (Canada's Oceans Act, 1996, Article 33(2)).

The Washington Declaration on Protection of the Marine Environment from Land-based Activities

[38] The *Washington Declaration on Protection of the Marine Environment from Land-based Activities* (the Washington Declaration) was developed in Washington in November 1995 as part of the UN Global Programme of Action for the Protection of the Environment. The primary objective of the Washington Program is to protect the marine environment from the impacts of land-based activities, and in particular from:

- sewage;
- persistent organic pollutants;
- radioactive substances;
- heavy metals;
- oils (hydrocarbons);
- nutrients;
- sediment mobilization;
- litter; and
- physical alteration and destruction of habitats (Washington Declaration, 1995, Article 1).

[39] The Programme recommends *inter alia* the following measures for protecting the marine environment from the impacts of land-based sources:

- reviewing national action programmes within a few years and implementing these programmes in accordance with national capacities and priorities;
- cooperating to undertake capacity building activities and mobilizing resources for developing and implementing the programme, in particular, for countries in need of assistance;
- undertaking measures to prevent and/or mitigate impacts on the marine environment resulting from land-based activities;
- promoting access to knowledge, expertise and cleaner technologies to address land-based activities that impact upon the marine environment; and
- promoting measures to address the consequences of sea-based activities that require national and/or regional land-based actions, such as recycling facilities (Washington Declaration, 1995, Articles 2-6 & 14).

CONCLUSION

[40] In analysing the strengths and weaknesses of international efforts to incorporate ecosystem management principles into international instruments, the most notable strengths of the international instruments studied for this paper are the instruments themselves, as they attempt to establish a global framework for the conservation and management of marine environments and resources. Moreover, the inclusion of ecosystem conservation is also a positive element, as it is a step away from the traditional species and stock focuses. This ecosystem-based focus also provides scope for an increased involvement of regional bodies in establishing integrated marine and coastal management measures.

[41] There are, however, several weaknesses that need to be considered. One of the major drawbacks of international instruments is that many States are not party to them, thereby limiting the extent to which these instruments are being applied. The provisions outlined in instruments are often vague and ambiguous with respect to the protection of the marine environment, and these need to be addressed to more clearly assert environmental protection obligations to States. Even though many of the instruments include illegal, unregulated and unreported (IUU) fishing, surveillance and enforcement as key issues to be addressed, it will be difficult, or even impossible, to control these problems through comprehensive and effective monitoring of an area so vast. Moreover, developing nations, in particular, will be hard pressed to find sufficient resources to implement many of the measures outlined in the international instruments.

[42] The international instruments studied for this paper clearly include ecosystem management as a key element in protecting the marine environment and its resources. The effectiveness of those instruments, however, remains to be seen.

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