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Fisheries and Oceans Governance in Australia and Canada: from Sectoral Management to Integration?

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Australia and Canada have significant oceans domains, and concomitant responsibility for large maritime zones. Fisheries in both countries are important activities with capture fishing, aquaculture and associated processing being vital rural industries Australia and Canada both face major challenges affecting fisheries management. These challenges include managing multiple and at times conflicting uses and claims on ocean and marine resources, while also recognizing the complexity and profound uncertainty associated with those resources. In that context, and having regard to the different histories of Australia and Canada, this paper outlines the different strategies and emphases adopted recently by the two countries. These policies have been developed by both countries as part of their attempts to implement, nationally and regionally, the international understandings and covenants relating to responsible governance of oceans and marine resources.

L'Australie et le Canada ont tous deux d'importants territoires océaniques et, par conséquent, sont responsables de grandes zones maritimes. La pêche est une activité économique importante dans les deux pays, la capture, la pisciculture et la transformation sont notamment des industries rurales vitales. L'Australie et le Canada doivent tous deux relever de grands défis dans le domaine de la gestion des pêches: gestion d'utilisations et de réclamations multiples — et parfois conflictuelles — sur les mers et sur les ressources marines, tout en reconnaissant la complexité de ces ressources et les grandes incertitudes qui les entourent Dans ce contexte, et compte tenu des antécédents historiques de l'Australie et du Canada, l'auteur explique les différentes stratégies et attitudes adoptées par ces deux pays. Ces politiques récentes étaient developper pour tenter de mettre en œuvre, sur les plans national et régional, les ententes et les pactes internationaux conclus quant à la gestion responsable des océans et des ressources marines.

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Introduction

Australia and Canada have significant oceans domains,[1] and concomitant responsibility for large maritime zones.[2] Fisheries in both countries are important activities with capture fishing, aquaculture and associated processing being vital rural industries,[3] sustaining regional communities and their economies. Ensuring sustainable bases for fisheries and regulating aquaculture operations are central concerns of fisheries managers and governments in both countries.[4] Aquaculture is increasing in importance in both countries and has contributed to substantial export growth; as a result, both Australian and Canadian fisheries and seafood industries have experienced a period of impressive growth in the recent past. In Australia seafood exports have doubled in the past five years while aquaculture has grown in value from AUD 237 million in 1990 to AUD 746 million in 2001.[5] The value of Canada's commercial marine fisheries landings reached a record level of CAD 2.8 billion, with the value of aquaculture production rising to CAD 639 million in 2002.[6] Recreational fisheries are also important in Canada, notably for salmon on both the Atlantic and Pacific coasts. In British Columbia, sports fishing is by a significant margin the largest of the four activities (commercial fishing, aquaculture, seafood processing and sports fishing) making up the fisheries and aquaculture sector -

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1. Australia and Canada each border three oceans. The Australian exclusive economic zone (EEZ) and claimable continental shelf is 16 million km² extending from tropical to Antarctic waters, while Canada's offshore zone is approximately 5 million km², see Lorne K. Kriwoken *et al*., eds., *Oceans Law and Policy in the Post-UNCED Era. Australian and Canadian Perspectives*, (London: Kluwer Law International, 1996)
2. Australia is a party to, and has declared a 200 n-mile EEZ under the *United Nations Convention on Law of the Sea*, 1982. Canada ratified this convention on 7 November 2003
3. While Australian fisheries are not highly productive on a world scale they nonetheless support a number of commercially lucrative fisheries, including tuna and billfish, high value shellfish and crustaceans, and increasingly important aquaculture of salmonids and southern bluefin tuna. See Albert Caton, ed., *Fishery Status Reports 2000-01* (Canberra: Bureau of Rural Sciences, 2002).
4. The collapse of the Northern Cod Fishery off Newfoundland in the early 1990s and concerns over populations of Pacific salmon stocks in the mid 1990s centered attention towards sustainable fisheries in Canada. This goal, however, remains elusive. Meanwhile, most of Australia's fisheries are fully, if not over-exploited. Of 20 Commonwealth managed stocks, 11 are either overfished or fully fished and the state of 6 stocks is uncertain. Yellowfin and skipjack within the Eastern Tuna and Billfish fishery are considered to have potential for expansion, while blue grenadier within the South East fishery is similarly under-fished. See Caton, *ibid.*
5. *Australian Maritime Digest*, No 102, 1 May 2002. The gross value of seafood production in Australia in 2000-01 reached AUD 2.48 billion and is expected to reach AUD 5 billion by 2020.
6. Canada Department of Fisheries and Oceans, Backgrounder, *The Overall State of Canada's Fishery in 1002* (December 2003), online: Department of Fisheries and Oceans <http://www.dfo-mpo.gc.ca/media/backgrou/2003/hq-ac115a_e.htm>.

accounting for close to double the employment and gross domestic product originating in the commercial fishery.[7] The value of Canadian fishery exports exceeded CAD 3.7 billion in 1999, continuing a period of strong growth over the decade.[8]

Of course, these impressive production statistics do not tell the full story; many of the major fish stocks in both Australia and Canada are in a poor condition. In Canada, for example, continued closures of crucial cod fisheries on the East Coast, and a range of closures and restrictions on threatened Pacific salmon stocks, are illustrative of this problem.

The 1990s have seen greater interest — both government and academic – in integration between different resource management sectors.[9] Fisheries policy and management reflect this broad trend and, like policies relating to other marine resources, face further challenges with the implementation of integrated, ecosystem-based approaches to ocean governance and resource management.[10] Policy frameworks that aim to establish integrated, ecosystem-based approaches are the most important development, and represent major challenges affecting fisheries management in Australia and Canada. In particular, such policy frameworks must acknowledge growing tensions among multiple conflicting claims on ocean and marine resources, and recognize the complexity and profound uncertainty associated with those resources at a time when an increasing commitment to conservation is evident in most jurisdictions.

In that context, and having regard to the different histories of Australia and Canada, this paper outlines the strategies adopted by the two countries in their attempts to implement, nationally and regionally, the international understandings and covenants emerging with respect to responsible governance of oceans and marine resources.

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7. British Columbia, BC STATS, *British Columbia's Fisheries and Aquaculture Sector, September 2002* (Victoria: Ministry of Management Services, 2002)

8. Canada, Fisheries and Oceans Statistical Services, online: Department of Fisheries and Oceans <http://www.dfo-mpo.gc.ca/communic/statistics/trade/canadian_trade/export_data/xprd00_e.htm>.

9. See B. Davis, "National Responses to UNCED Outcomes: Australia" in Kriwoken, *supra* note 1 at 25

10. Austl., *Australia's Oceans Policy: Caring, Understanding, Using Wisely* (Canberra: Environment Australia, 1998) [*Australia's Oceans Policy*]. See also Canada, Oceans Directorate, *Canada's Oceans Strategy* (Ottawa: Fisheries and Oceans Canada, Oceans Directorate, 2002) [*Canada's Oceans Strategy*].

I. *Australian and Canadian Fisheries: The Government and Legislative Setting*

1. *Australia*

Over the past decade, fisheries management in Australia has undergone significant reform in response to increasing pressures. One set of pressures arises from changes within the fisheries. Technological advances have meant that fishing for target species is more viable, whilst minimizing bycatch.[11] Internal fishery conflicts between different gear users and different user groups are continually arising over resource use.[12] A new set of pressures has arisen through the introduction of environmental legislation that has increased the level of external review of Australian fisheries management. Continuing developments in high seas fishing and aquaculture have engendered new problems in surveillance, compliance and environmental health.

a. *Jurisdiction*

Jurisdiction over Australian fisheries is shared between the Commonwealth and the state and Northern Territory governments. The Commonwealth jurisdiction is based on section 51 (x.) of the constitution ('fisheries in Australian waters beyond territorial limits') and state jurisdiction from provisions of each state's constitution.[13] The Commonwealth's entry into active fisheries management occurred with the proclamation of the *Australian Fisheries Act 1952* (Cth.) in 1955, later repealed and replaced by the *Australian Fisheries Management Act 1991* (Cth.). This legislation provided for Commonwealth regulation of fishing activity beyond three nautical miles offshore. It took almost three years, however, to gain agreement from the states and to proclaim the Act because the states contested the potential reach of Commonwealth legislation inside the three nautical mile territorial sea.

The dispute over offshore jurisdiction was resolved in the late 1970s

11. A developing literature and policy guidance now addresses 'environmentally friendly' fishing gear.
12. Anthony T. Charles, "Fishery conflicts: A Unified Framework" (1992) 16:5 Marine Policy 379.
13. Don R. Rothwell & Marcus Haward, "Federal and International Perspectives on Australia's Maritime Claims" (1996) 20:1 Marine Policy 29.

with the Offshore Constitutional Settlement (OCS) in 1979.[14] The OCS was concluded after three years of intense intergovernmental negotiations between the Commonwealth and states.[15] During the negotiations the parties agreed to return to the situation before the *Seas and Submerged Lands Act 1973* (Cth.) whereby the states had jurisdiction from the low water mark to three miles offshore: the Commonwealth from three miles to the edge of national jurisdiction. The OCS included a number of agreed measures relating to major marine resource sectors, including fisheries.

OCS fisheries arrangements were designed to rationalise fisheries management by providing that, upon agreement between governments, either state or Commonwealth could manage specified individual fisheries over the entire 200 nautical mile fishing zone.[16] Equally, in the absence of such agreements the status quo would remain, with fisheries managed within state waters by the states and outside the three mile boundary by the Commonwealth. The first fisheries arrangements under the OCS were established in 1986.[17]

b. *Fisheries Legislation*

The *Australian Fisheries Act 1952* (Cth.), together with state legislation, focused on limited entry licensing, controls on gear or vessels, seasonal closures or a combination of these measures. While initially effective, input control measures could not contain the fisheries, leading to concerns about over-exploitation of some fish stocks.

Management of Australian fisheries underwent substantial changes in the 1990s, following parliamentary and government-supported inquiries

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14 Marcus Haward, "The Australian Offshore Constitutional Settlement" (1989) 13:4 Marine Policy 334. This interesting intergovernmental agreement arose from action by the Commonwealth government to assert Commonwealth jurisdiction from low water mark. The legislation asserting this, the *Seas and Submerged Lands Act 1973* (Cth.), was opposed by all States and challenged in the High Court. The High Court upheld the Commonwealth's legislation but brought its decision down after a change of Commonwealth government in late 1975. The incoming Commonwealth government, unwilling to act on the opportunity provided to it by the High Court, given its widely publicized commitment to more 'cooperative federalism', looked for a way to accommodate State interests.

15. *Ibid* at 337.

16. *Ibid* at 338.

17. Marcus Haward, "The Commonwealth in Australian Fisheries Management 1945-1995" (1995) 2:2 Australasian Journal of Natural Resources Law and Policy 313.

and conferences in the preceding decade.[18] The 1980s ended with the release in 1989 of a major Commonwealth policy statement, *New Directions for Commonwealth Fisheries Management in the 1990s*, (*New Directions*)[19] which provided the basis of major legislative and administrative changes for Commonwealth fisheries that were implemented in 1991. *New Directions* proposed the development of a statutory body, the Australian Fisheries Management Authority (AFMA), to assume management responsibilities previously undertaken by the Australian Fisheries Service within the Department of Primary Industry and Energy. AFMA was established as an independent statutory authority in 1992 under the auspices of the *Fisheries Management Act 1991* (Cth.).[20] AFMA is responsible for all operational matters in the Commonwealth and international fisheries management while the *Department of Agriculture, Fisheries and Forestry* — Australia provides advice to the Minister on all Commonwealth and international fisheries policy issues. These legislative and institutional arrangements were addressed in a review process spanning the years 2000 through 2003 discussed in more detail below. The review noted "that the fundamentals of the model — particularly its independence — applied to Commonwealth fisheries management are appropriate."[21]

In addition to the *Fisheries Management Act 1991* (Cth.), other legislation included in the reform package was the *Fisheries Administration Act 1991* (Cth.), the *Fisheries Agreements (Payments) Act 1991* (Cth.),

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18. This period began with a major review of the Australian fishing industry undertaken by the Senate Standing Committee on Trade and Commerce, chaired by Senator Brian Archer in 1982. See Austl., Senate Standing Committee on Trade and Commerce, *Development of the Australian Fishing Industry* (Canberra: AGPS, 1982). A major turning point in the administration and management of Australian (and particularly Commonwealth) fisheries occurred in early 1985 when the Australian Fisheries Conference was held in Canberra. This conference led, *inter alia*, to the establishment of a new peak industry organization, the National Fishing Industry Council. The recommendations of the Fisheries Conference and the Archer Report heralded a new era in fisheries management.

19. Austl., Commonwealth, DPIE, *New Directions for Commonwealth Fisheries Management in the 1990s: A Government Policy Statement* (Canberra: AGPS, 1989) [*New Directions*].

20. This legislation also allowed the establishment of the Fishing Industry Policy Council as a peak Ministerial advisory group. This council was never established. See *Commonwealth of Australia, Looking to the Future: A Review of Commonwealth Fisheries Policy* (Canberra: AFFA, 2003), online: Australian Government Department of Agriculture, Fisheries and Forestry <http://www.afa.gov.au/content/output.cfm? ObjectID= A0E7FF50-E5C2-4E93-816265C1E83D062F> [*Looking to the Future*] which announced "to advise Commonwealth ministers on new and merging fisheries matters." See also Senator The Hon. Ian Macdonald: Minister of Fisheries, Forestry and Conservation, Media Release, AFFA03/109M, "Seafood Forum to Give Government Hands-On Advice" (25 June 2003), online: Senator The Hon. Ian Macdonald: Minister for Fisheries, Forestry and Conservation <http://www.affa.gov.au/ministers/macdonald /releases/2003/03109m.html>.

21. *Looking to the Future*, *supra* note 20 at iii.

Fishing Legislation (Consequential Provisions) Act 1991 (Cth.), *Fishing Levy Act 1991* (Cth.), *Foreign Fishing Licences Act 1991* (Cth.), and the *Statutory Fishing Charge Act 1991* (Cth.).[22] Australia gave domestic effect to the *Law of the Sea Convention* (*LOS Convention*) through the *Maritime Legislation Amendment Act 1994* (Cth.). This amendment ensured that Australian maritime zones were consistent with the provisions of the *LOS Convention*. The *Fisheries Legislation Amendment Act 1999* (Cth.) was enacted in late 1999. This legislative measure gives Australia important new tools in its international fisheries, and enhances its efforts to prevent illegal, unregulated and unreported fishing, both internationally and within the Australian EEZ. It gives effect to the UN *Fish Stocks Agreement*[23] (UNFSA) on management of straddling and highly migratory fish stocks and provides the base for Australian action against illegal foreign fishing in Australian waters, closing legal loopholes that have proved problematic in previous enforcement actions.

The legislative reforms of the early 1990s established that statutory management plans were to be developed for all Commonwealth fisheries.[24] The management plans gave increased roles and responsibilities to the fishing industry. They established an increased level of co-management while providing the industry with statutorily-based fishing rights and assessing levies which permitted full recovery of management costs. A critical issue was the AFMA's objective to balance ecologically sustainable development with economic efficiency, the focus of several major court cases in the 1990s.[25] These reforms radically changed the traditional regulatory-based input controls, and as a result changed the relationship between government and industry.[26] The relationship between industry's increased responsibilities and the move to output control in fisheries management, which limits the level of catch through imposition of quotas or a designated level of catch, has been critical in enhancing alternative,

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22. *Ibid.*

23. *Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of December 10, 1982, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks with Annexes (I And II)*, 4 August 1995, U.N. Doc. A CONF.164/38 (entered into force 11 December 2001)

24. See Haward, *supra* note 17.

25. The most significant of these cases was *Bannister Quest Pty. Ltd. v Australian Fisheries Management Authority* [1997] 77 F.C.R. 503 (F.C.A.) as it focused on AFMA's objectives and indirectly provided a judicial interpretation of Ecologically Sustainable Development.

26. See Haward, *supra* note 17.

more collaborative, approaches to management.[27] As noted below, there is an interesting contrast with the Canadian situation, where in addition to management based on industry partnerships coupled with output controls — as in Australia — there are multiple initiatives in pursuit of collaborative approaches to management through community-based initiatives.

The 1990s brought similar developments and reforms in state fisheries legislation and management. In general these changes also saw shifts from input to output controls. Each state and the Northern Territory also updated or formalized industry involvement with the introduction of, or reform to, management advisory bodies. Introduction of ecologically-sustainable development principles into legislation and management plans has seen a greater focus on precautionary reference points. These developments marked a revolution in fisheries management and the activity of fishers in Australian fisheries.

c. *Fisheries Management and Australia's Oceans Policy*

Australia's oceans policy has developed from concerns over the limitations of sectoral management arrangements. It establishes a number of key arrangements that will affect fisheries management into the future. The introduction of regional marine plans, for example, represents a new paradigm for ocean use by attempting to shift decision-making to ecosystem-based approaches. Whilst considerable conceptual work has been devoted to articulating ecosystem management, few — if indeed any — practical examples of such approaches exist upon which to model regional marine plans.[28]

Fisheries and other marine industries are managed under sophisticated arrangements that deal with jurisdictional issues between governments,[29] but little attention has been given to emergent imperatives such as cross-sectoral decision-making. Existing sectoral regimes for managing ocean resources are retained under Australia's oceans policy but fisheries activities are integrated within a 'multiple-use model' of ocean governance.[30]

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27. Marcus Haward & Marc Wilson, "Co-Management and Rights Based Fisheries" in Ross Shotton, ed., *Use of Property Rights in Fisheries Management: Proceedings of the FishRights99 Conference, Fremantle, Western Australia, 11-19 November 1999* (Rome: FAO, 2000) 155.

28. For a pioneering approach to regional management see Richard A. Kenchington, *Managing Marine Environments* (London: Taylor & Francis, 1990).

29. See Rothwell & Haward, *supra* note 13, and Haward, *supra* note 14

30. Austl., Commonwealth, Keith Sainsbury *et al.*, Environment Australia, *Multiple Use Management in the Australian Marine Environment. Principles, Definitions and Elements* (Canberra: AGPS, 1997).

An analysis of *Australia's Oceans Policy*[31] (Oceans Policy) document and its companion volume *Australia's Oceans Policy: Specific Sectoral Measures*[32] provides some indication of future developments. The sectoral measures are those that "are being or will be pursued by the Commonwealth."[33] The Oceans Policy sets the 'challenge' for fisheries "to ensure ecologically sustainable fisheries that contribute to the social, cultural, environmental and economic well-being of Australians."[34]

In recognising that "Australia's commercial fisheries management is well regarded internationally" the Oceans Policy reiterates that the "many well-established fisheries ... must continue to be managed on an ecologically sustainable basis."[35] Forty-eight specific policy initiatives or actions are identified in relation to fisheries management including ecologically sustainable fishing practices, stewardship, economic regulatory instruments, structural adjustment, recreational and charter fishing, industry action, research and development and illegal fishing and compliance with conventions.[36]

For aquaculture the challenge is "to ensure that our aquaculture industries are managed in an ecologically sustainable and internationally competitive manner which generates economic benefits for Australia."[37] The Oceans Policy mentions that aquaculture is one of the fastest growing rural industries, projected to reach AUD 1.4 billion in value of production by 2005.[38] The rapid growth in the last 20 years in the diversity of marine species has raised a number of issues. Concerns over environmental impacts, both direct and indirect, have generated a number of legal challenges.[39] The Commonwealth has committed itself to 28 initiatives and actions in terms of ecologically sustainable aquaculture practices, industry development, research and development and health of aquatic animals.[40] These initiatives and actions, as in other sectors, have been

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31 *Supra* note 10

32 Austl., *Australia's Oceans Policy: Specific Sectoral Measures* (Canberra: Environment Australia, 1998) [*Specific Sectoral Measures*] The identification of 'social, cultural, environmental and economic well-being' is, however, itself a major challenge to implementation of the principles set out in this document

33. *Ibid*

34 *Ibid* at 9.

35. *Ibid.*

36. *Ibid.*

37. *Ibid* at 12.

38 *Ibid.*; see also Caton, *supra* note 3.

39. Objections to the siting and operation of aquaculture operations have led to numerous court cases in different states. See *e.g. Tuna Boat Owners of South Australia Inc. v Dac and Ano*, [2000] 77 S.A.S.R. 369 (S.A.S.C.)

40 *Specific Sectoral Measures*, *supra* note 32 at 12-13.

designed to advance the goals set for *Australia's Oceans Policy*.[41]

2. *Canada*

a. *Jurisdiction*

Unlike Australia, jurisdiction within Canadian fisheries is primarily federal but with responsibilities and authority shared among provincial governments, local governments and First Nations, as well as a wide range of non-governmental stakeholders. At the federal level, fishery systems are governed by the nation's *Fisheries Act*.[42] In broad terms, Canada's national government is responsible for management of ocean fisheries, through the Department of Fisheries and Oceans (DFO), and in particular for conservation of ocean resources. The provinces are responsible for any land-based fishery activity, including fish processing, and for aquaculture. Provincial governments are also responsible for freshwater habitat and, through administrative agreements, for most freshwater fisheries.

The virtual demise of the Atlantic ground fishery in the early 1990s and the decline in the economies of the eastern provinces served as driving forces for more effective management and enforcement measures for straddling stocks.[43] The 'cod crisis' also served as a catalyst for a reassessment of management tools and policies used to govern Canada's fisheries.[44] Further, apprehensions about salmon stocks on the West Coast in the 1990s led to considerable federal-provincial conflict over the re-negotiation of the *Pacific Salmon Treaty*[45] with the United States. The federal government had the constitutional authority for the negotiation over the fishery, which the Government of British Columbia considered vital to its fisheries interests. These events generated substantial pressures for restructuring and re-orientation of fisheries management. Notably, the *Oceans Act*[46] established the role of the Department of Fisheries and Oceans as lead agency with responsibility for assuring effective coordination and integration of activities carried out by many agencies — federal, provincial, territorial and local.

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41. *Ibid.* at 5.
42. R.S.C. 1985, c. F-14 [*Fisheries Act*].
43. *Supra*, note 23.
44. Canada, Task Force on Incomes and Adjustment in the Atlantic Fishery, *Charting a New Course: Towards the Fishery of the Future: Report of the Task Force on Incomes and Adjustment in the Atlantic Fishery* (Ottawa: Communications Directorate, Fisheries and Oceans, 1993).
45. *Treaty Concerning Pacific Salmon, with Annexes (I to IV) and Memorandum of Understanding*, Canada and United States, 28 January 1985, 1470 U.N.T.S. 3 (entered into force 18 March 1985).
46. S.C. 1996, c. 31 [*Oceans Act*].

b. *The Fisheries Act*

Canada's *Fisheries Act* is comprehensive and effective legislation that since 1868 has generally served the country well. The *Fisheries Act* gives government power to make regulations "for the proper management and control of seacoast and inland fisheries"[47] as well as to control pollution of the marine environment. In 1995, the federal government introduced legislation (Bill C-115) to "streamline and modernize" the Act.[48] One impetus for this action was the conclusion of the UN *Fish Stocks Agreement* (FSA).[49] Although Canada ratified the UN *Convention on the Law of the Sea* only in November 2003,[50] a DFO Backgrounder explaining Bill C-115 declared at the end of 1995 that "The Canadian government continues to demonstrate leadership by being the first country to [attempt to] amend its domestic legislation to implement the precautionary approach to fisheries management following the signing of the UN *Convention on Straddling Fish Stocks and Highly Migratory Fish Stocks* on December 4th."[51] The proposed amendments to the *Fisheries Act* also attempted to establish a mechanism for government to "enter into a fisheries management agreement with any organization that, in the opinion of the Minister, is representative of a class of persons or [license] holders."[52] However, the proposed legislative changes, and a subsequent attempt (Bill C-62), ran into heavy opposition, largely relating to provisions for co-management in the commercial fishery, as well as arrangements with Native fishers and others.[53] As a result, both Bills died on the order paper, and no subsequent attempts at fundamental reform of the *Fisheries Act* have been made.

One element of the amendments — the creation of a strong legislative basis for administrative license sanctions processes — might have succeeded in settling some ongoing legal challenges to current enforce-

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47. *Fisheries Act*, *supra* note 42, s. 43(a)

48. Bill C-62, introduced in 1996 after the previous attempt to amend the legislation, Bill C-115, died on the order paper. In turn, Bill C-62, which had received second reading in November, 1996, also died on the order paper.

49. *Supra* note 23.

50. *United Nations Convention on the Law of the Sea, with Annexes (I - IX)*, 10 December 1982, U.N. Doc. A/CONF.62/122 (entered into force 16 November 1994).

51. Department of Fisheries and Oceans, Backgrounder, B-HQ-95-32E, "Integration of the Coastal Fisheries Protection Act with the *Fisheries Act*" (11 December 1995), online: DFO Media Room <http://www.dfo-mpo.gc.ca/media/backgrou/1995/hq-ac32_e.htm>.

52. *Ibid.*

53. Daniel J. Savoie, Gabriel Filteau, & Patricia Gallaugher, *Partnering the Fishery: Report of the Panel Studying Partnering* (Ottawa: Department of Fisheries and Oceans, 1998).

ment practices.[54] Administrative sanctions are a relatively recent development in fishery enforcement. They attempt to avoid lengthy and uncertain legal cases for fishery offences by substituting quick administrative hearings for a fisher charged with a violation, such as exceeding quota. Penalties are lower than in court, but 'conviction' is more likely; the process is administratively efficient, but the question whether the 'absolute discretion' of the Minister to issue licenses can be delegated to Departmental officials (as contrasted with the arms-length tribunals that would have been created by the amendments to the Act) in a manner that permits amendment of fishing licenses seems still to be a somewhat contested issue in Canadian administrative law.[55]

c. *The Oceans Act*

Perhaps the most innovative move by the federal government in recent years was the passing of an *Oceans Act* which came into law in January 1997[56] after protracted debate. The *Oceans Act* gives a lead coordinating role to the Department of Fisheries and Oceans on oceans matters. In particular, the *Oceans Act* provides government with the enabling legislation to manage multiple and conflicting ocean uses.[57] The *Oceans Act* is an extraordinary piece of legislation which introduces a commitment to integrated, ecosystem-based, precautionary management.[58] A current challenge is working out how that commitment should be interpreted and implemented within the complex jurisdictional and regulatory structure of Canadian fisheries.

Two of the most 'high profile' elements of the *Oceans Act* reflect the reality of the competitive interactions among Canada's commercial fisheries, sport fisheries, Native fisheries, aquaculture industry and non-fishery activity along the coast. First, the Act provides the capability for the government to declare marine protected areas (MPAs), either as a fishery conservation tool, to protect endangered species or habitats, or for one of

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54. See Department of Fisheries and Oceans, Backgrounder, B-HQ-95-05E, "Sanctions and Prosecutions" (March 1995), online: DFO Media Room <http://www.dfo-po.gc.ca/media/backgrou/1995/hq-ac05_e.htm>. See also Department of Fisheries and Oceans, Backgrounder, "New Administrative Sanctions and Licence Appeal System" (October 1996), online: DFO Media Room <http://www.dfo-mpo.gc.ca/media/backgrou/1996/hq-ac76(5)_e.htm>.

55. See *Newell v. Canada* (2002), 218 F.C.T. 238. See also *Matthews v. The Attorney General of Canada*, [1997] 1 F.C. 206.

56. *Oceans Act*, *supra* note 46. In Force, with the exception of s. 53 as of January 31, 1997, by S.I. 97-21.

57. For a review of the *Oceans Act*, see Aldo Chircop, *et al.*, "Legislating for Integrated Marine Management: Canada's Proposed Oceans Act of 1996" (1996) 33 Can. Y.B. Int'l Law 305.

58. *Oceans Act*, *supra* note 46, s. 30.

several other purposes. MPAs range from traditional closed areas in fisheries to permanent no-take zones. Second, the *Oceans Act* adopts integrated coastal zone management as an essential element for Canadian oceans governance.[59] This approach is still embryonic in Canada, although both provincial and federal governments are in the midst of formulating strategies and pilot projects. A number of initiatives have been undertaken since the mid-1990s to bring a more integrated approach to ocean management. It is noteworthy, from a fishery management perspective, that the initiatives are typically seen as threatening by existing industrial fishing interests, who are accustomed to being the sole participants in discussions of fishery matters with government, without having to deal with other issues and without having other players involved.

In 2005, the Government of Canada published the next step in its approach to implementing the *Oceans Act*, namely *Canada's Ocean Action Plan*. This reflects an attempt to operationalize the requirements of the *Oceans Act* and the directions of *Canada's Oceans Strategy*, with a focus on four 'pillars,' relating to (a) international considerations, (b) integrated management, (c) health of the oceans (and marine protected areas), and (d) ocean science and technology.[60]

The relations between the federal and provincial levels of government have a longstanding and ongoing significance in fisheries. It is worth mentioning a variety of initiatives to reduce federal-provincial tensions and harmonize policies across governments. In particular, in June 1999 an intergovernmental *Agreement on Interjurisdictional Cooperation with Respect to Fisheries and Aquaculture* was completed.[61] Amongst other things, this Agreement created a continuing Canadian Council of Fisheries and Aquaculture Ministers (CCFAM) intended to meet annually to promote cooperation and coordination. CCFAM reserves to governments, particularly the federal government, the authority to make the difficult final decisions that have to be made on contested matters falling within their jurisdictional scope. Since then, a new Pacific Council of Fisheries Ministers has been created, paralleling the previously-established regional council, the Atlantic Council of Fisheries and Aquaculture Ministers.

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59. See Chircop, *supra* note 57.

60. See Fisheries and Oceans Canada, *Canada's Ocean Action Plan* (Ottawa: Department of Fisheries and Oceans, 2005), online: Department of Fisheries and Oceans <http://www.dfo-mpo.gc.ca/canwaters-eauxcan/oap-pao/pdf/oap_e.pdf>.

61. Canadian Intergovernmental Conference Secretariat, News Release, "Fisheries Ministers Agree in Principle on a Framework for Cooperation" (12 April 1999) online: Canadian Intergovernmental Conference Secretariat <http://www.scics.gc.ca/cinfo99/83064409_e.html>.

II. *Co-Management*

An interesting contrast emerges as one examines co-management as it has developed in the two countries. The Australian approach to co-management focuses on partnerships with industry and, largely, on individual quotas or allocations. The Canadian approach on the other hand, is a sometimes conflicting combination of the approach described for Australia and community-based participatory institutions that are, to some extent, based on community quotas.

1. *Co-Management in Australian Fisheries*

The introduction of an institutional basis for industry involvement within Australian Commonwealth fisheries was also part of the fisheries reform in the early 1990s discussed above. There were two significant outcomes. The first was the willingness of the fishing industry to accept increased responsibility and their recognition of the challenges facing the industry.[62] The second outcome was the facilitation of industry's participation in management. The latter was addressed in several parliamentary and government inquiries between 1993 and 2001.[63] The most recent House of Representatives inquiry into AFMA, which reported in June 1997,[64] reiterated the importance of industry involvement in management[65] through the broadening of the role and membership of management advisory committees (MACs).[66]

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62. One symbolic response was the change in name of the peak industry body from the National Fishing Industry Council to the Australian Seafood Industry Council.

63. Senate Standing Committee on Industry, Science, Technology, Communication and Infrastructure, *Fisheries Reviewed* (Canberra: AGPS, 1993) [*Fisheries Reviewed*]; Australian National Audit Office (ANAO) *Commonwealth Fisheries Management. Performance Audit - Audit Report No. 32 1995-96* (Canberra: ANAO, 1996); House of Representatives Standing Committee on Primary Industries, Resources, Rural and Regional Affairs, *Managing Commonwealth Fisheries: The Last Frontier* (Canberra: AGPS, 1997) [*Managing Commonwealth Fisheries*]; and Australian National Audit Office (ANAO), *Commonwealth Fisheries Management· Follow-up Audit- Audit Report No. 6 2000-01* (Canberra: ANAO, 2001).

64. *Managing Commonwealth Fisheries*, *ibid.*

65. Haward & Wilson, *supra* note 27.

66. *Fisheries Reviewed*, *supra* note 63, recommended, for example, that these arrangements should be fisheries 'management committees.' The MAC model is an example of institutional arrangements that reflect a shift away from traditional government-dominated management structures and processes. MACs (although established and maintained under a regulatory framework) have introduced a form of cooperative management to these fisheries. The members of a MAC (usually 6-8 people, comprising 3-4 catch sector representatives; a fisheries manager; a fisheries scientist; an environmental representative; chaired by an independent chairperson) are established under relevant legislation to provide 'advice' on the management of a fishery to AFMA. The MACs' focus on consensus-based decision-making emphasizes the internal dynamics of the MAC as the most critical variable in determining effectiveness in cooperative management.

While the MACs, and their equivalent bodies in state fisheries, have provided an important voice for industry in management, they have not been without criticism. One is that MACs are only advisory and provide symbolic, rather than substantive, industry involvement in management.[67] A second is that there may be "a reluctance to apply rigorously the precautionary approach when MACs are dominated by fishers."[68]

While there have been moves to formalize commercial industry involvement in management arrangements, other interests are not well incorporated. The level of involvement of aboriginal and islander groups is discussed below. Another major interest group is the recreational fisheries. It is estimated that between 25 and 35 per cent of the Australian population fish at least once a year, with the recreational sector generating significant economic multipliers.[69] Recreational fishing is an important activity. There is concern, however, over a lack of knowledge of the impact and size of the recreational fishing sector.[70] It is speculated that recreational fishing catches actually exceed some commercial ones, yet the sector has traditionally remained unmanaged.[71] The sector itself is extremely diverse ranging from shore-based angling to deep sea charter boat operations targeting large tunas and billfish. The Commonwealth Fisheries Policy Review commissioned a study of recreational fishing in Australia to determine the management options available leading to a new policy statement, discussed further in Part IV(1) of this article.[72]

2. *Co-Management in Canadian Fisheries*

There is a trend in the Canadian government's approach to management, one also present in many fishery jurisdictions (including Australia), to move away from a 'top-down' model of central control and toward greater 'empowerment' of local organizations, and participatory structures.[73]

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67 Haward & Wilson, *supra* note 27.

68. Scoresby Shepherd, "Sustainability and Precaution in Co-Management: A Consummation Devoutly to be Wished" (2001) 8.3 Waves 14. Environmental organizations have argued that industry has captured management through its involvement in MACs.

69 Graham Pike, "The Australian Recreational Fishing Sector: Serious Policy Issues from the Big Business of Fun Fishing" (Paper presented to the Australian Fisheries Conference — Looking to the Future, Coffs Harbour, November 2000) [unpublished].

70 Robert F. Kearney, Neil L. Andrew & Ron J. West "Some Issues in the Management of Australia's Marine and Coastal Fisheries Resources" (1996) 33:1-3 Ocean & Coastal Management 133.

71. *Ibid*

72 Pepperell Research and Consulting, *Recreational Fishing Study* (Noosaville, Australia: Pepperell Research and Consulting Pty Ltd., 2001).

73. Canada, *Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada* (Ottawa: Department of Fisheries and Oceans, 2002). See also Brad de Young *et al*, *Canadian Marine Fisheries in a Changing and Uncertain World* (Ottawa: NRC Press, 1999).

Initially the shift was to a consultative model, in which government discussed management measures with the industry prior to implementation but did not delegate decision-making power. The result, however, was that fishers did not accept government-imposed regulations.[74] More recently, co-management approaches have emerged, driven in part by a down-sizing of the DFO, and in part by a recognition of the need for involvement of those being regulated, the fishing industry.[75] New legislative efforts by the Canadian government attempt to provide a vehicle for co-management with commercial and Native fishers as well as others, and to reinforce a process of fishery enforcement by administrative sanction as already described.

While the market-based approach to decision-making regarding fishery access and allocation of fishing rights is widespread in Canada, there is a growing interest in a local-level approach, historically the principal approach worldwide. In this model, the assigning of fishing rights is done through a decision making process that

- recognizes multiple societal goals;
- is carried out by nested institutions operating at suitable scales, whether community-based, regional or national; and
- involves rights specified through a combination of legislation and governmental decisions, on the one hand, and tradition and informal arrangements on the other.

These rights may operate at the individual fisher level or at the group (collective) level, with allocations made through relevant institutions. Group rights have a lengthy history in real-world situations and the popularization of common property theory has led to increased study and theoretical development of these themes.[76]

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74 Anthony T. Charles, "The Atlantic Canadian Groundfishery: Roots of a Collapse" (1995) 18 Dal. L.J. 65.

75. Evelyn Pinkerton, "Factors in Overcoming Barriers to Implementing Co-management in British Columbia Salmon Fisheries" (1999) 3:2 Conservation Ecology 2.

76. Fikret Berkes & Carl Folkes, eds., *Linking Social and Ecological Systems* (Cambridge: Cambridge University Press, 1989). See also Elinor Ostrom, *Governing the Commons* (New York: Cambridge University Press, 1990). See also Evelyn Pinkerton & Martin Weinstein, *Fisheries that Work: Sustainability through Community-Based Management*. (Vancouver: David Suzuki Foundation, 1995).

This approach can be especially important when fishing communities are able to play a role in regulating fisheries in which they have a 'community self-interest'. This institutional environment draws on the group dynamics in such communities to create a collective incentive to ensure that the resource is managed wisely. In particular, this can involve:

- efficiently managing allocation of catches and fishery access (also helping prevent the *rush for the fish*); and

- increasing management efficiency, by bringing fishers and fishing communities fully into the management process, encouraging self-regulation or 'co-management' jointly by fishers and government, and implementing local enforcement tools.

The following section describes initiatives, with an emphasis on examples from Atlantic Canada, on three local-level fishery fronts: territorial management, community-based management, and community quotas.

a. *Territorial Management*

Territorial use rights in fishing (TURFs) are rights assigned to individuals and groups or both to fish in certain locations, generally, although not necessarily, based on long-standing tradition. It is well established that under suitable circumstances TURFs can serve as relatively stable and socially-supported components of a fishery management system. In Atlantic Canada, the Mi'kmaq (aboriginal) people long ago developed a social process for determining control over fishing territory through a TURF-like approach:

> In the centuries before the arrival of the first Europeans, the Mi'kmaq... governed themselves through councils based on consensus in accordance with the laws of nature. District Chiefs were responsible... for confirming and reassigning hunting/harvesting territories.[77]

The presence of TURFs within a more commercial fishery on the north-eastern coast of North America, and their role in management, gained considerable scholarly attention through the work of James Acheson. Acheson's work describes territorial use rights in lobster fisheries, specifi-

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77. Native Council of Nova Scotia, *Mi'kmaq Fisheries Netukulimk: Towards a Better Understanding* (Truro, Canada: Native Council of Nova Scotia, 1994) at 7

cally, showing how fishers in some lobstering communities in the state of Maine, USA, have been able to maintain extra-legal control on entry (i.e., through exclusion rights).[78] A common ingredient in TURF systems is the local solution of usage issues. For example, Brownstein and Tremblay report on the case of a small community in Nova Scotia, Canada, faced with a lobster poaching problem in the late 1800s. The problem was resolved by the local church Minister, who decreed marine use rights based on an extension of property lines out to sea. In addition, if a fisher was unable to obtain a reasonable harvest from his area in a given year, the fisher would be given temporary access to a fishing 'commons,' a reserve area designed to enhance equity in the fishery.[79] It is noteworthy that this management system has been maintained by the community to this day.

b. *Community-based Management*

The concept of community-based management has become increasingly popular across Canada in a wide variety of natural resource sectors, from fisheries to forestry to water resources. In the fishery sector, community-based management may be found on all three of Canada's coasts, involving both aboriginal and non-aboriginal participants. The key to this approach lies in its focus on the geographical unit of management, whether a specific coastal community or a logical (ecological or administrative) component of the coastal zone. Fishers in a defined location, and to a variable extent their communities, take on major responsibility for resource management and stewardship.

Another rationale for community-based management is reflected in a recent report on the management of fisheries in the Bay of Fundy. It recognized

> the imperative for fisheries-dependent communities to have control over the adjacent fishery resources and ecological processes that support them so they can sustain their economic well-being. This is the essence of community-based fisheries management, with fishermen, through their associations, playing the primary role in the stewardship and management of their fisheries and fishing grounds.[80]

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78. Jim M Acheson, "The lobster fiefs: Economic and ecological effects of territoriality in the Maine lobster fishery" (1975) 3 Human Ecology 183.

79. Jeff Brownstein & John Tremblay, "Traditional Property Rights and Cooperative Management in the Canadian Lobster Fishery" (1994) 7 The Lobster Newsletter 5.

80. Arthur Bull, David Coon & Maria Recchia, *Writing the Rules of Ecological Fisheries Management in the Bay of Fundy* (Cornwallis Park, Nova Scotia: Bay of Fundy Marine Resource Centre and Conservation Council of New Brunswick, 1999) at 7.

Nova Scotia's Coastal Communities Network has been an advocate in Canada's Atlantic region for community-based fisheries management in which both fishers and the communities play major roles.

> Community based co-management of the fishery is a system in which fishers, processors and the communities in which they live and work, all have a role to play in the management of the resource. Local community representatives will share in management responsibilities through a community board representing stakeholders in the local fishery and in the coastal community at large. The various roles will be defined by each local community through consultation among the representatives.[81]

The Coastal Communities Network has called for government to introduce the legislation necessary to delegate authority to community committees or co-management boards. The Network's concept of community-based co-management involves representatives of the fishing industry in the local community being the primary participants on the community boards, which also includes leaders of community groups and institutions. They see board decisions taking into consideration the sustainability of the industry and the community, and addressing social, economic and ecological factors. In addition, financial responsibilities and rewards from co-management are shared by industry, community and government as decided by the board.

On the Pacific coast, a number of community-based fishery and coastal management initiatives have been developed.[82] A particularly innovative example is that of the West Coast Vancouver Island Aquatic Management Board[83] which evolved from a grass-roots local initiative into a regional management body involving federal, provincial, municipal and First Nation representatives as well as local citizen members. Although the degree of government support, either organizational or financial, remains in question, this initiative has been strongly encouraged by some elements of the DFO as an important pilot project in the exploration of new direc-

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81. Coastal Communities Network, "Principles and Approaches for Community-based Co-management in the Fisheries" in Laura Loucks, Anthony T. Charles & Mark Butler, eds., *Managing Our Fisheries, Managing Ourselves* (Halifax: Gorsebrook Research Institute, Saint Mary's University, 1998) at 34

82. Evelyn Pinkerton, "Partnerships in Management" in Kevern L. Cochrane, ed., *A Fishery Manager's Handbook* (FAO Fish. Tech. Pap. 424: 159-173). See also Pinkerton, *supra* note 80

83. See generally West Coast of Vancouver Island Aquatic Management Board, online: WCVIAMB <http://www.pac.dfo-mpo.gc.ca/oceans/im/wcvi_e.htm>.

tions in decision making.[84] In addition, innovation in cross-scale integrated coastal zone management is an important aspect of pilot projects on British Columbia's Central and North Coasts, as part of Canada's oceans strategy.[85]

c. *Community Quotas*

The Scotia-Fundy administrative region of Atlantic Canada, encompassing the Bay of Fundy and the Scotian Shelf (Atlantic seaboard) of Nova Scotia, is home to an important set of experiments in community-based fishery management. In the mid-1990s, in response to major changes in the DFO's approach to fishery management in Atlantic Canada, inshore 'fixed gear' (hook and line, gillnet) fishers began developing an innovative mechanism for creating greater local control over fishing arrangements, through *community quotas*, i.e. fishing quotas (portions of the total allowable catch (TAC)) allocated by government to communities rather than to individuals or companies.[86] The idea is that once an overall TAC has been sub-divided into sector allocations (between inshore and offshore, and between 'fixed gear' and 'mobile gear'), the Scotia-Fundy small-boat fixed gear sector allocates its total quota on a community basis, based on a division of the coastline into self-identified sections (often on a county-by-county basis) so the available harvest can be managed locally. This approach, pioneered in the small community of Sambro, near Halifax, Nova Scotia[87] has since spread throughout the small-boat fixed-gear fishery in Scotia-Fundy.

Community quotas defined on a geographical basis tend to bring people together in a common purpose, with fishers in a given community managing themselves, perhaps also with the involvement of their community. The fishers create fishery management plans and divide up the quota (or other form of rights), to suit their specific local situation and to maximize overall benefits. This approach allows each community to decide for itself how to utilize its quota; decisions on use of the quota can explicitly reflect community values and objectives.

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84 Canada, *A Framework for Improved Decision-Making in the Pacific Salmon Fishery* (Ottawa: Department of Fisheries and Oceans, 2000) at 21.

85. Canada, *Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada* (Ottawa: Department of Fisheries and Oceans, 2002).

86. See Loucks *et al.*, *supra* note 81. The community quota approach is placed within a broader context in Anthony T. Charles, *Sustainable Fishery Systems* (Oxford: Blackwell Science, 2001).

87. Laura Loucks, "Sambro Community Quota Fisheries Management: A Case of Innovative Community Based Decision-Making" in Loucks *et al.*, *ibid* at 55.

In the Scotia-Fundy region, the implementation of community quotas has strengthened the management role of regionally-based fishermen's associations, including those located along the eastern part of the Scotian Shelf (such as the Guysborough County Inshore Fishermen's Association, the Eastern Shore Fisherman's Protective Association and the Halifax West Commercial Fishermen's Association) and those within the Bay of Fundy (such as the Fundy North Fishermen's Association and the Bay of Fundy Inshore Fishermen's Association).

III. *First Nations' Aboriginal Fisheries*

1. *Canada's Indigenous Peoples and Fisheries*

The current state of aboriginal fishing in Canada has been driven by two key court cases, the *Sparrow* decision[88] and (particularly with respect to Atlantic Canada) the *Marshall* decision.[89] *Sparrow* was decided in 1990, when the Supreme Court of Canada issued a landmark ruling in a case involving a native fisher from British Columbia. In the *Sparrow* decision, the Supreme Court upheld the rights of aboriginal people to fish for food, social and ceremonial purposes. It stated that under the *Constitution Act* 1982, Aboriginal peoples' rights to the food, social and ceremonial fishery have priority over other uses of the fishery, including commercial fishing, but are subject to overriding considerations such as conservation. The court also said that it was necessary for the Government of Canada to consult with aboriginal groups when their rights might be affected.

The second court decision concerned a Mi'Kmaq harvester, Donald Marshall Jr., in Nova Scotia, who was charged with commercial fishing without a license. His defence was that the Mi'Kmaq have a treaty right to fish for commercial purposes. In September 1999, the Supreme Court of Canada ruled in favour of the defendant, thereby recognizing Mi'Kmaq treaty rights to the commercial fishery. The effect was to create a strong sense of vindication and hope within Mi'Kmaq communities, and a strong sense of fear and apprehension throughout the non-native fishery; this combination has led to considerable tension, conflict and confrontation in recent years.

While the development of native fishing activity following the *Marshall* decision has been a dominant aspect of Atlantic fishery policy in recent

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88. *R. v. Sparrow*, [1990] 1 SCR 1075 [*Sparrow*].
89. *R. v. Marshall*, [1999] 3 SCRR 456 [*Marshall*].

years, on a national scale a key ongoing aspect of federal government policy has been the Aboriginal Fisheries Strategy (AFS).[90] The DFO notes the following about the AFS program:

> The AFS program is applicable where DFO manages the fishery and where land claims settlements have not already put a fisheries management regime in place. Under the AFS, the Department enters into agreements with First Nations to establish a regulatory framework for the management of their fishery.
>
> The AFS seeks to provide for the effective management and regulation of the aboriginal fishery and ensures that the aboriginal right to fish is respected, through negotiation of mutually acceptable, and time-limited Fisheries Agreements between DFO and Aboriginal groups.[91]

The fisheries agreements negotiated between the federal government and native bands or aboriginal groups under the AFS have a set of common features:

- a harvest allocation to the Aboriginal group;
- terms and conditions which will be included in the communal fishing licence (enforcement provisions, data collection);
- arrangements for the co-management of the Aboriginal fishery by the group and DFO;
- cooperative management projects for the improvement of the management of fisheries generally, such as stock assessment, fish enhancement and habitat management; and
- a commitment to provide commercial fishing licences or other economic development opportunities.[92]

> . . .
>
> Funded annually at $32 million, about 125 AFS agreements have been signed each year since the implementation of the Program. Approximately

90. Canada Department of Fisheries and Oceans, Backgrounder, "Aboriginal Fisheries Strategy" (October 1997), online: Department of Fisheries and Oceans <http://www.dfo-mpo.gc.ca/media/backgrou/1997/aborig_e.htm> .
91. *Ibid.*
92. *Ibid.*

> two-thirds of these agreements are reached with the groups in DFO's Pacific Region, while the balance is made up in Atlantic Canada and Quebec.[93]

The filing by the Haida Nation of a court action that includes a claim to the sea and seabed surrounding Haida Gwaii (Queen Charlotte Islands) on Canada's Pacific Coast[94] is a new development in the continuing story of aboriginal title and the negotiation of modern treaties in Canada. On this matter the experience of Australia with 'Sea Country' as outlined below may prove interesting.

2. *Australia's Indigenous Peoples and Fisheries*

Utilization of Australia's fisheries resources extends back tens of thousands of years, with indigenous peoples around the Australian coastline harvesting finfish, shellfish and crustaceans. The fishery led to complex systems of customary tenure under which clans, estate or family groups had rights to resources that were recognized by other groups.[95] *Sea Country*[96] has the same characteristics as land; it has important spiritual as well as practical importance to indigenous peoples. A strong customary focus on stewardship is reflected in indigenous peoples' 'management' of current sea claims,[97] and is an important element in ongoing struggles over 'sea country.'

The 1990s witnessed a revitalization of the issue of customary marine tenure, spurred on by the *Mabo* case[98] and the enactment of the *Native Title Act 1993* (Cth.). The Act has been described as "one of the most significant pieces of legislation enacted since Federation."[99] The develop-

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93. *Ibid*

94. British Columbia, Treaty Negotiations Office, "First Nations and Tribal Councils in the Treaty Process," online: Treaty Negotiations Office <http://www.gov.bc.ca/tno/negotiation/First_Nations_in_the_process Haida_Nation.htm>. See also First Nations Drum, Archive, "Modern Treaties: Haida Launch Aboriginal Title Case in BC Supreme Court" (Summer 2002) *First Nations Drum*, online: First Nations Drum <http://www.firstnationsdrum.com/Sum2002/TreatyHaida BCCourt.htm>.

95. See Anthony Bergin, "Aboriginal Sea Claims in the Northern Territory of Australia" (1991) 15 Oceans and Coastal Management 171. See also Dermot Smyth, *A Voice In All Places: Aboriginal and Torres Strait Islander Interests in Australia's Coastal Zone, Report to Resource Assessment Commission* (Canberra: RAC, 1993).

96. See Austl., Commonwealth, National Oceans Office, *Sea Country: An Indigenous Perspective, South East Regional Marine Plan Assessment Reports* (Hobart, Australia: National Oceans Office, 2002)

97. Bergin, *supra* note 95.

98. *Mabo and Others v Queensland (No. 2)*, [1992] 175 C.L.R. 1 (H.C.A.).

99. Austl., National Oceans Office, *Ocean Management: The Legal Framework* (Hobart, Australia: National Oceans Office, 2002) at 25 [*Ocean Management*].

ments following the enactment of the *Native Title Act* have been equally significant, with the result that "[n]o area of law has seen such significant change in the past ten years as that relating to indigenous land rights."[100] It is important, however, to note that prior to the enactment of the *Native Title Act*, indigenous groups in the Northern Territory were able to develop sea claims and undertake customary based fisheries based on the path-breaking *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth.). The *Aboriginal Land Grant (Jervis Bay Territory) Act 1986* (Cth.) also addresses marine issues central to the concerns of indigenous groups in the Jervis Bay Territory.

The presence of native title offshore was confirmed in the *Croker Island* case, (also known as *Yarmirr*).[101] Following a lengthy legal battle the High Court found that there "was no necessary inconsistency with the recognition of native title rights and interests" offshore.[102] The High Court did note, however, that native title at sea is not an exclusive title, being subject to "rights of innocent passage under international law and, as a matter of domestic law, the public rights to navigate and fish."[103] Therefore, it is not inconsistent with other interests and uses of the sea. The right of indigenous peoples to fish is also a component of a number of fisheries regimes in Australia, enabling "indigenous peoples to take fish without a license for personal or cultural use."[104] These arrangements have been subject to criticism from indigenous groups. For instance, Rodney Dillon wrote "under the current arrangements our people have to share the resources with existing commercial fishing license holders and accept other user groups rights ... [where] moreover, all other interest groups competing on a commercial or economic stake in the sea take priority over indigenous rights."[105]

The management arrangements established to facilitate industry involvement do not have specific provisions to incorporate indigenous interests, except on an *ad hoc* basis. Management Advisory Committees (MACs) do not give formal representation to these interests, with the exception of the Northern Prawn Fishery where representatives of the Northern Land

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100. *Ibid.*
101. *The Commonwealth v. Yarmirr; Yarmirr v. Northern Territory* [2001] H.C.A. 56 (11 October 2001).
102. *Ibid.*
103. *Ocean Management*, *supra* note 99.
104. *Ibid.* at 30.
105. Rodney Dillon, "Exercising Your Culture: Indigenous Cultural Heritage and the Environment" (Paper presented at ACORN meeting Canberra, 31 May – 2 June 2002) [unpublished].

Council are members. The complexities arising from 'jurisdictional patchworks'[106] in areas such as the Torres Strait fisheries can also affect the ability of indigenous groups and their interests to be represented in management of these resources. Dillon notes that indigenous peoples "are concerned about the lack of consultation with local communities on sea issues and the lack of opportunities for us to participate in decision making about the sea and its resources."[107]

IV. *Recent Developments: Sustainability Principles*

At least since the 1980 publication of the World Conservation Strategy,[108] academics, associations and international organizations have been developing principles to govern human activities in the pursuit of sustainability. Some of the work goes back even further, for example, to the negotiation of the UN *Convention on the Law of the Sea*[109] and forward to the UN General Assembly's 1982 *World Charter for Nature*.[110] The Brundtland Report in 1987[111] achieved substantial media penetration and established a clearer set of core principles, further refined in the Rio Declaration in 1992.[112] Canada's *Green Plan* released in 1990[113] and Australia's *National Strategy for Ecologically Sustainable Development* released in 1992,[114] set out similar guiding principles. More recently the so-called Bellagio Principles[115] arose in 1996 at a conference organized by Canada's Interna-

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106. Stuart Kaye, "Jurisdictional Patchwork: Law of the Sea and Native Title Issues in the Torres Strait" (2001) 2.2 Melbourne Journal of International Law 381

107. *Supra* note 105

108. International Union for Conservation of Nature and Natural Resources, *Caring for the Earth: a Strategy for Sustainable Living* (London: Earthscan Publications, 1991).

109. *Supra* note 50

110. *World Charter for Nature*, GA Res. 37/7, UN GAOR, 48th plenary meeting (28 October 1982).

111. World Commission on Environment and Development, *Our Common Future* (Oxford: Oxford University Press, 1987)

112. *Rio Declaration on Environment and Development* UNCEDOR, 1992, Annex 1, UN Doc. A/CONF.151/26 (Vol. 1), online: United Nations <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>.

113. Canada, Environment Canada, *The Green Plan: A National Challenge* (Ottawa: Minister of Supply and Services, 1990)

114. Aust., Commonwealth, Australia's *National Strategy for Ecologically Sustainable Development* (Canberra: Australia Government Publishing Service, 1992).

115. See International Institute for Sustainable Development, Measurement and Assessment, "Bellagio Principles," online: International Institute for Sustainable Development <http://iisd.org/measure/principles/bp_full.asp>.

tional Institute for Sustainable Development.[116]

The growing public demand in Australia for information and assurance on harvesting practices has been satisfied by independent certification processes such as those offered by the The Marine Stewardship Council (MSC).[117] The MSC has developed principles and criteria to assess the sustainability of an individual fishery.[118] According to the Marine Stewardship Council sustainable fishing is defined, for the purpose of certification, as fishing that is conducted in such a way that:

- allows target fish populations to recover at healthy levels from past depletion;
- maintains and seeks to maximise the ecological health and abundance of marine fish;
- maintains the diversity and structure of the marine eco-system on which it ultimately depends; and
- conforms to all local, national and international laws and regulations.[119]

Fisheries are tested against these criteria by an independent assessment team, accredited by the MSC. The first major commercial fishery to gain international MSC accreditation is the Australian Western Rock Lobster fishery certified in March 2000. This fishery is the most valuable single

116. For updates on developments in Canada see, online: *The Sustainability Report - The Issues and Trends Shaping Canada's Health, Economy and Environment* <http://www.sustreport.org/home.html> These developments include initiatives by provincial governments. In British Columbia, a new provincial government has embraced a fundamentally different approach to consultation in resource use planning and in regulatory philosophy.

117. For details of the MSC principles and process, and fisheries currently certified or seeking certification see, online: The Marine Stewardship Council <http://www.msc.org>.

118. The MSC was initially established in 1996 as a joint venture between the World Wide Fund for Nature (WWF) and Unilever. Its mission is to become a global accreditation board that, through its label, will let consumers know which seafood products come from sustainable fisheries. The use of market mechanisms through such eco-labelling schemes is seen as a means to promote sustainable fisheries. The MSC is now a charitable trust, independent of either of its founding joint venture partners.

119. Marine Stewardship Council, "MSC Principles and Criteria for Sustainable Fishing," online: Marine Stewardship Council <http://www.msc.org/assets/docs/fishery_certification/MSCPrinciples&Criteria.doc>.

species fishery in Australia. The MSC is currently in the process of discussing possible certification with more than 20 fisheries around the world.[120]

The development of sustainability indicators for fisheries is closely linked to the development of external reviews of fisheries management by environmental agencies. To be effective the concept needs to be translated from its broad principles into practical and measurable outcomes.[121] The fisheries sector has embraced the concept of sustainability but its implementation has presented a significant challenge for decision makers. Sustainability indicator systems (SIS) represent a means of implementing 'strategic' principles into operational fisheries management actions.[122] The purpose of an indicator system is to enhance communication, transparency, effectiveness, and accountability in natural resource management.[123] Indicators perform this task through summarising and communicating information on complex sustainability issues to key decision-makers, stakeholders and the public. The intention is to provide a means of interpreting multiple sets of information so practical decisions can be made about managing the resource. In theory, appropriate indicators could provide a direct link between higher level objectives and management action.[124] Nevertheless, the practical challenges are immense.

The development of these approaches heralds a shift from a traditional focus on a 'single stock' to a broader assessment concerned with ecosystems and socio-economic issues. Ecosystem and precautionary management approaches have generally been accepted as key components at the policy development level but these concepts are ill defined at the opera-

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120 In addition to the Western Rock Lobster, MSC certified fisheries include Alaska Salmon, New Zealand Hoki, Bury Inlet Cockles, and Thames Herring. Currently South Georgian Patagonian Toothfish, South African Hake, BC Salmon and Alaskan Pollock are under assessment. See *supra* note 115

121 Hartmut Bossel, *Indicators for Sustainable Development. Theory, Method, and Applications* (Winnipeg: International Institute for Sustainable Development, 1999) at 124.

122. See e.g., Derek Staples, "Indicators of Sustainable Fisheries Development" in Don A. Hancock *et al.*, eds., *Developing and Sustaining World Fisheries Resources. The State of Science and Management. 2nd World Fisheries Congress* (Collingwood, Victoria: CSIRO Australia, 1997); Food and Agriculture Organization of the United Nations, *Indicators for Sustainable Development of Marine Capture Fisheries. FAO Technical Guidelines for Responsible Fisheries*; 8 (Rome: Food and Agriculture Organization of the United Nations, 1999) at 62; Serge Garcia & Derek Staples, "Sustainability Reference Systems and Indicators for Responsible Marine Capture Fisheries: A Review of Concepts and Elements for a Set of Guidelines" (2000) 51:8 Marine and Freshwater Research 385.

123. Garcia & Staples, *ibid.*

124 *Ibid.*, see also Simon Bell & Stephen Morse, *Sustainability Indicators: Measuring the Immeasurable?* (London: Earthscan, 1999).

tional level of management.[125] It is important to stress that single stock approaches remain critical for generating information for science and management that is central to the construction of sustainability indicators. Recent attempts in Australia and Canada to give operational expression to these general principles of sustainability show a number of parallels, as the outlines below reveal.

1. *Australia*

a. *A New Fisheries Policy Statement*

As indicated above Australian fisheries and fisheries management have undergone significant change since the release of the *New Directions* statement of 1989.[126] In late June 2000 the Minister for Agriculture announced a major policy review to 'ensure the fisheries can meet new challenges and changing environmental expectations.'[127] In November 2000, industry and other stakeholders met at the "*Looking to the Future*" conference, a conference designed to launch and establish the parameters of the Review.[128] The Review Steering Committee was soon established and released an Issues Paper on 16 January 2001.[129] This Paper highlighted the need to recognize the growing trend towards ecosystem-based management, to ensure Australia's involvement in important international agreements and to establish security of access to fisheries resources for all user groups.[130] The primary focus of the Issues Paper, however, was ecologically sustainable development.[131] As a 'whole of government' process, the Fisheries Policy Review will assess the functioning and management of all relevant government departments including the Australian Department of Agriculture, Fisheries and Forestry (AFFA), the Australian Fisheries Management Authority (AFMA), the National Oceans Office and the Department for Environment and Heritage.[132]

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125 Austl., Commonwealth, State of the Environment Committee, *State of the Environment Report 2001* (Canberra: Scientific and Industry Research Organization Publishing, 2001).

126. *Supra* note 19

127. Hon. Warren Truss, MP: Minister for Agriculture, Fisheries and Forestry, Media Release, AFFA00 120WT, "Review of Commonwealth Fisheries Policy" (23 June 2000), online: Hon. Warren Truss MP <www.affa.gov.au/ministers/truss/releases/00/00120wt.html>.

128. Austl., Commonwealth, Review Steering Group, *Commonwealth Fisheries Policy Review* (30 April 2001), online: Department of Agriculture, Fisheries and Forestry <http://www.affa.gov.au/corporate_docs/publications/cover_page/fisheries/fish_policy/fishpol_review.html>.

129. *Ibid.*

130. *Ibid*

131. *Ibid.*

132. *Ibid.*

Following a series of stakeholder consultations in the first half of 2001 a draft report was presented to the then Minister for Fisheries, the Hon. Wilson Tuckey, by the Steering Committee in July 2001. Minister Tuckey then personally conducted another series of stakeholder-consultation meetings. The process was halted with the announcement of the federal election, and subsequent election campaign in late 2001. Following the re-election of the Howard government the information from the series of port visits was presented to the new fisheries Minister, Senator Ian Macdonald. Senator Macdonald reviewed this information, together with the report of the disbanded Review Steering Committee.[133]

A policy statement was released by Senator Macdonald on June 25, 2003. *Looking to the Future: A Review of Commonwealth Fisheries Policy*[134] aims to address "proactively the issues that are emerging for Commonwealth fisheries — laying down the foundations for future work."[135] The Review notes the changing policy environment affecting fisheries in Australia since the 1989 *New Directions* Statement, and is clearly designed to build on the framework established by this earlier initiative, rather than to seek a radical departure from it. Areas that have increased in salience since the 1980s, such as international fisheries, aquaculture, addressing the needs of indigenous interests in the fisheries, recreational and charter fishing, are identified. Collaboration between different stakeholders, including commitments to work with the states over management arrangements, is a key focus of the review. Current Commonwealth policy and management frameworks remain in place, particularly in relation to commitments to ecologically sustainable development, economic efficiency and adjustment in fisheries, the provision of statutory fishing rights and "a preference for output controls in the form of individual transferable quotas."[136] In terms of fisheries management arrangements the review sees fisheries as being integrated into other "strategic initiatives" such as "ecosystem-based fisheries management, by-catch, regional marine planning, [and] marine protected areas."[137]

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133. Glenn Hurry, Fisheries and Aquaculture Branch, AFFA. Personal Communication, February 2002 (on file with authors)
134. *Supra* note 18
135. *Ibid.* at iii.
136. *Ibid.* at 48, 51.
137. *Ibid.* at 48.

b. *Marine Protected Areas in Australia*

Australia's Oceans Policy contains a commitment for a representative system of Marine Protected Areas (MPAs) designed to protect marine biological diversity.[138] Area and time closures are a historically successful management tool if used at the right time in the target species' life cycle and in the right areas,[139] with MPAs being promoted as "insurance" zones against the uncertainty inherent in fisheries management and science.[140] Under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth.) the Minister for Environment and Heritage has the power to declare, after extensive stakeholder and general community consultation, MPAs in Commonwealth waters. This is reiterated in the Oceans Policy. The Oceans Policy, consistent with its primary objectives, promotes multiple-use, rather than no-take, marine areas by integrating sectoral interests whilst attempting to maintain ecosystem health and integrity.[141] MPAs have the potential to impact fishing operations, but these impacts remain unknown until the parameters of the Oceans Policy and the representative system of MPAs is established.[142] A recent study by the Bureau of Rural Sciences provides important material on the role of MPAs as management tools. This information will be important in drawing fisheries management and environmental management together.[143]

As in Canada, the declaration of MPAs, and even the development of proposals for such areas, has led to significant political disputes. These disputes generally center on fishing industry concern over access and compensation for loss of such access. This lack of agreement over the role of MPAs is one factor contributing to the slow pace of implementation of these areas. Despite these well-publicized difficulties there have been some

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138. *Australia's Oceans Policy*, *supra* note 9.

139. Kearney, Andrew & West, *supra* note 70.

140. Tony J. Pitcher, "Fisheries Managed to Rebuild Ecosystems? Reconstructing the Past to Salvage the Future" (2001) 11:2 Ecological Applications 601.

141. *Australia's Ocean Policy*, *supra* note 9

142 The Commonwealth Government has established a framework to develop a 'National Representative System of Marine Protected Areas' that involves all Australian governments "working together to expand the existing system of marine parks and reserves" See Austl., Commonwealth, Environment Australia, *Strategic Plan of Action for the National Representative System of Marine Protected Areas: A Guide for Action by Australian Governments (ANZECC Task Force on Marine Protected Areas)*, (Canberra: Environment Australia, 1999), online: Department of Environment and Heritage <http://www.deh.gov.au/coasts/mpa/nrsmpa/spa.html>.

143. Trevor J. Ward, Dale Heinemann & Nathan Evans, *The Role of Marine Reserves as Fisheries Management Tools. A Review of Concepts, Evidence and International Experience* (Canberra: Bureau of Rural Sciences, 2001).

important successes. Environmental groups, the fishing industry and government have worked together to establish the South Tasman Rise Sea Mounts MPA.[144]

c. *Environmental Assessments of Fisheries and Development of Sustainability Indicators*

Under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth.) all Australian Fisheries Management Authority (AFMA) managed fisheries are required, by 2005, to undergo a Strategic Environmental Assessment process to ascertain whether the fishery is run in accordance with the provisions under the Act.[145] If a fishery's management arrangements are accredited by the Commonwealth Environment Minister, individual fishers will be exempt from having to apply for separate environment permits or approvals. Schedule 4 of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982* (Cth.) requires that the Commonwealth Minister for Environment approve exports based on an assessment of the sustainability of the activity. All state and Territory managed fisheries with an export component are to undergo a Strategic Environmental Assessment by the end of 2003. If a fishery is deemed ecologically sustainable under these Assessments, it will continue to be exempt from export controls after the end of 2003. Indicator systems are currently being developed for several Australian fisheries under three different models (1) the non-government sector, (2) environmental legislation, and (3) industry-government cooperative approaches.

The development of the Oceans Policy with subsequent reforms to environmental legislation has been the driving force in the development of sustainability indicators for Australian fisheries. The Oceans Policy contains two key commitments to developing indicators:

- to establish performance and operational sustainability indicators to take account of broader ecologically sustainable development objectives and make them a part of harvest, strategic and management plans;

- to continue to implement monitoring programs to ensure that fisheries management arrangements achieve long term sustainability.[146]

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144 Di Tarte, (Marine and Coastal Community Network) personal communication June 2002 (on file with authors). Such collaboration was also evident in discussions over the Macquarie Island MPA and the Heard and McDonald Islands MPA.

145 *Supra* note 128.

146 *Australia's Ocean Policy*, *supra* note 10 at 48

d. *Industry–Government Approaches*

The Standing Committee on Fisheries and Aquaculture Ecological Sustainable Development Project (SCFA-ESD) has identified the need for a reporting system that meets community, government and industry expectations. The project aims to develop a nationally agreed approach to reporting that can meet the requirements of other agencies, legislation, certification schemes and community expectations. The SCFA comprises representatives of state and Commonwealth fisheries management agencies combined with a broad reference group for the ecological sustainable development project. The system is initially based on a framework developed by the Bureau of Rural Sciences.[147] The concept of sustainable development has been broken down into eight theme areas that are relevant to fisheries. The themes form the basis of the sustainability assessment.[148] Each theme area is further subdivided into component trees which address specific fisheries management outcomes and set relevant indicators.[149] The broad themes are as follows:

- contribution of the fishery to ecological wellbeing:
  retained species;
  non retained species, and
  other aspects of the environment.

- contribution of the fishery to Human wellbeing;
  indigenous wellbeing;
  local and regional wellbeing; and
  national social and economic well being.

- ability to achieve:
  governance; and
  impact of the environment on the fishery.

The framework is being applied to several fisheries which are serving as case studies. As each fishery is different, the component trees start in a

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147. Austl., Commonwealth, Department of Agriculture, Fisheries and Forestry, *A Framework for Assessing Fisheries with Respect to Ecologically Sustainable Development* by Jean Chesson (Canberra: Bureau of Rural Sciences, 1998) at 60.

148. Austl., Commonwealth, Standing Committee on Fisheries and Aquaculture ESD Project Team, *SCFA-FRDC ESD Project: Case Study Information Package* (Sydney: Standing Committee on Fisheries and Aquaculture and Fisheries Research and Development Corporation, 2000) at 64.

149. *Ibid.* The component trees can be found online: Ecologically Sustainable Development – Catching Sustainability <http:/www.fisheries-esd.com.au/c/implement/implement 0200. cfm>.

generic fashion but are progressively adapted to each case. It is envisaged that after the case studies are concluded specific design issues will be addressed and a national application will be generated to assess fisheries across Australia with the agreed criteria. It is noted that the framework may not drive fisheries management decisions, but will act as a tool to explicitly recognize the fisheries system and therefore improve management.

2. *Canada*

As noted in various sections above, there are many challenges involved in bringing to life the commitments made to integrated, inclusive, precautionary, ecosystem-based management of human activities as they affect coastal and ocean ecosystems. Threats to the integrity of ecosystems have given rise to a vast array of 'sacred text' drafted at international meetings[150] to which meaning is expected to be given in domestic policy. The *Convention on Biological Diversity*[151] is only one of many such international covenants to which Canada is committed, but it drives much contemporary debate in Canada. The federal *Species at Risk Act*[152] is directed toward protection of threatened or endangered marine as well as terrestrial species, and includes habitat protection as a mechanism. This Act may be seen as an attempt to deal with the range of threats to ecosystem integrity (and to capture a range of normative and ethical obligations).

Although Canada has signed the *Convention on Biological Diversity*, major problems have been encountered in the attempt to achieve Parliamentary approval for a *Species At Risk Act* (SARA). Twice the legislation introduced into the House died on the order paper as elections were called; the bill was recently passed by Parliament[153] and remains highly controversial and divisive, both among stakeholders and within the governing Liberal party caucus itself, which remains divided on issues of scope, scrutiny and particularly of compensation.

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150 In Douglas M. Johnston & David L. VanderZwaag, "The Ocean and International Environmental Law: Swimming, Sinking, and Treading Water at the Millennium" (2000) 43 Ocean & Coastal Management 141, the *United Nations Convention on the Law of the Sea 1982* is depicted as a 'sacred text.'

151. *United Nations Conference on Environment and Development: Convention on Biological Diversity*, 5 June 1992, 31 I.L.M. 818 (entered into force 29 September 1993).

152. S.C. 2002, c. 29. Proclaimed June 2003. Provision for MPAs is another measure, and targeted conservation initiatives offer a third approach.

153. For details, see online: Environment Canada, "Species at Risk" <http://www.speciesatrisk.gc.ca>.

a. *Marine Protected Areas*[154] *in Canada*

With the passage of the *Oceans Act*, the DFO identified the need to "lead and facilitate the development and implementation of a national strategy for the management of estuarine, coastal and marine ecosystems."[155] *Canada's Oceans Strategy* was released in July 2002,[156] based on the principles of sustainable development, integrated management and the precautionary approach. In addition to this strategy, the *Oceans Act* identifies three complementary initiatives for the conservation and protection of the oceans: the Marine Protected Areas program; the Integrated Management Program; and the Marine Ecosystem Health program.[157] These programs are as yet in their early stages but some progress is evident. In particular, the Government of Canada has formally established a small number of Marine Protected Areas, such as the Endeavour Hydrothermal Vents in British Columbia and the Gully Marine Protected Area on the Atlantic coast.[158]

In addition to the DFO programs for Marine Protected Areas which are designed to conserve and protect marine species habitats and ecosystems,[159] Parks Canada is pursuing the designation of Marine Conservation Areas to protect representative examples of natural and cultural heritage.[160] Environment Canada's Canadian Wildlife Service also plays a role because it has responsibility for identifying Marine Wildlife Areas, National Wildlife Areas, and Migratory Bird Sanctuaries,[161] thus protecting major marine and near-shore areas for wildlife, research, conservation and public education. These initiatives do not necessarily fit seamlessly together — for example, it is not always easy to reconcile a legislative mandate to assure the integrity of protected areas (under the *National Parks Act*)[162] with the legislative obligation to pursue ecologically sustainable use (under the *Canada National Marine Conservation Areas Act*).[163] Neither is it

154 Includes marine conservation areas, and ecological reserves.

155. *Supra* note 46, s. 29

156. *Canada's Oceans Strategy*, *supra* note 10.

157. *Supra* note 46.

158. See online: Department of Fisheries and Oceans <http://www.dfp-mpo-gc.ca/canwaters-eauxcan/oceans/mpa-zpm/index_e.asp>.

159. See online: Department of Fisheries and Oceans <http://www.dfompo.gc.ca/oceanscanada/newenglish/htmdocs/cos/cos.htm>.

160. *Canada National Marine Conservation Areas Act*, S.C. 2002, c. 18.

161. See generally the *Canada Wildlife Act*, R.S.C. 1985, c. W-9.

162 R.S.C. 1985, c. N-14, as rep. by *Canada National Parks Act*, S.C. 2000, c. 32, s. 46.

163. S.C. 2002, c. 18.

clear how these areas relate to designation by provincial or federal governments of areas open or not to development initiatives such as offshore hydrocarbon production, or indeed, to claims with respect to aboriginal title or treaty rights.

b. *Certification and Codes of Conduct*

Canada has undertaken considerable work to establish industry-based codes of conduct and certification initiatives. A recent DFO statement notes that:

> The Canadian fishing industry has taken the lead in applying the International Code of Conduct for Responsible Fisheries adopted in 1995 by the United Nations Food and Agriculture Organization.... The Canadian Code of Conduct for Responsible Fishing Operations was developed as a grassroots initiative by fishermen for fishermen and represents a fundamental change in Canada's approach to achieving sustainable, conservation-based commercial fisheries across the country. The grassroots development of the Code remains unique in the world, with the broad-based involvement of all Canadian fishing organizations being the driving force behind the development process.... It is estimated that the Code has now been ratified or endorsed by fisheries fleets and organizations that account for over 80% of Canada's commercial fish harvest.[164]

On the other hand, in response in part to the marketing pressures arising from the international Marine Stewardship Council (MSC) certification of Alaskan salmon, a MSC fishery certification process has been undertaken for the British Columbia Salmon Fishery and for Pacific Halibut (in B.C. as well as in Alaska).[165] Given the independent process just mentioned above, however, the extent of the DFO support for the British Columbia industry in its MSC initiative remains uncertain.

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164 Canada, Department of Fisheries and Oceans, Backgrounder, "Canadian Code of Conduct for Responsible Fishing Operations" (May 2001), online: Department of Fisheries and Oceans <http://www.dfo-mpo.gc.ca/media/backgrou/2001/hq-ac37-163_e.htm>. Details of the Code and its constituent principles can be found at <http://www.dfo-mpo.gc.ca/communic/fish_man/code/eng/con_eng.htm>.

165 The certification body that was contracted to assess these fisheries was Scientific Certification Systems (SCS) of California. As of summer 2003, principles and criteria had been negotiated and an evaluation team named to carry out the review of the BC salmon fishery. See online: Marine Stewardship Council <http://www.msc.org/html/content_493.htm>.

c. *Sustainability Indicators — Reporting on Progress*

Codes of conduct and certification programs offer scrutiny and attestation to practices and performance at the level of individuals or individual organizations. A number of indicator initiatives attempt to assess and report on progress at regional or aggregate levels. Many of these are based on the growing recognition in policy discourse of the importance of natural (and other forms of) capital, and the life support services of natural cycles in ecosystem dynamics.

A decade ago, Canada's National Round Table on Environment and Economy issued a Report to the Prime Minister, *Reporting on Progress Toward Sustainability*,[166] urging that the national statistical agency extend its activities to coordinate a broad statistical effort to undertake regular reporting for this purpose. Now, as a result of an initiative invited and funded by the Minister of Finance of the day (in the 2000 Budget), the Environment and Sustainable Development Initiative,[167] the National Round Table recommended development of a new system of national accounts and annual publication of a small number of indicators reporting on environmental health and depletion of natural capitals. Although an expert panel worked on developing fisheries indicators for these new accounts, the final set of indicators include none relating to fisheries and marine resources.[168]

Another approach to indicator development for fisheries has been carried out under the auspices of GPI Atlantic,[169] a nongovernmental research organization based in Nova Scotia. Its recent report[170] reflects the need for a comprehensive assessment of the ecological, socioeconomic,

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166. Canada, National Round Table on Environment and Economy, *Toward Reporting Progress on Sustainable Development: Report to the Prime Minister* (Ottawa: NRTEE, December 1993), also reprinted as Part I of Tony Hodge *et al.*, eds., *Pathways to Sustainability: Assessing our Progress* (Ottawa: NRTEE, 1995).

167. The ESDI is one of a small number of national projects around the world to measure the sustainability of a country's economy, not just in financial but in human and ecological terms. It is also only one of a number of sustainability reporting and measurement projects in Canada. More information on the ESDI initiative and its final report can be found Online: National Round Table on the Environment and the Economy <http://www.nrtee-trnee.gc.ca/eng/programs/Current_Programs/SDIndicators/index.html>.

168. Another example, this time from the shared waters of the semi-enclosed international sea that makes up the busiest corner of Western Canada, can be found online: Government of British Columbia <http://wlapwww.gov.bc.ca/cppl/gbpsei/species/index.html>.

169. See online: Genuine Progress Index for Atlantic Canada <www.gpiatlantic.org>.

170. Anthony T. Charles, *et al.*, GPI Atlantic, *The Nova Scotia GPI Fisheries and Marine Environment Accounts: A Preliminary Set of Ecological, Socioeconomic and Institutional Indicators for Nova Scotia's Fisheries and Marine Environment* (Tantallon, Nova Scotia: GPI Atlantic, 2001).

community and institutional aspects of well-being in fisheries and the marine environment. It also builds on an understanding in the fishery sector that traditional yardsticks of well-being in the fishery (such as the fishery's contribution to GDP or the level of exports) failed to fully reflect the state of the fishery - GDP and exports were strong, as natural capital declined. The diverse set of indicators in the GPI Atlantic report led to diverse results, with a spectrum from upward to downward trends in the indicators. This leads to one of several challenges faced in the study: while for some indicators it may be clear what 'progress' represents, for others it may be the subject of debate. Two additional challenges should be noted, both data-related. First, a universal issue is the lack of data needed to produce time series of certain indicators of interest; there are clear research implications in this regard. The second challenge, one of widespread and growing interest in fisheries, is that of combining 'scientific' data with information that does not fit easily into statistical analysis, namely the traditional knowledge of fishers and other coastal residents.[171]

Thus, a wide range of codes of conduct, monitoring approaches, indicator systems and certification initiatives has been launched to scrutinize and attest practice and performance at corporate or individual levels. An even wider range of indicator system initiatives is in process in the widespread attempt to assess progress toward sustainability at regional or aggregate levels. These approaches to measuring outcomes at micro, meso or macro scales are also being developed in Australia, as noted above.

Operationally, however, there are serious difficulties to be faced, not just in the management of mixed stocks and multi-species ecosystems, but in fully integrated management spanning other conflicting or potentially conflicting uses. Behind the operational issues are fundamental shifts in thinking which are necessary to support the values and implement the principles set out in either Canada's *Oceans Act* or *Australia's Oceans Policy*. First among these, of course, is understanding what is meant by the 'precautionary approach'.[172] There is also growing pressure to broaden both

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171. The importance of linking scientific research with traditional local knowledge in fisheries was brought to the fore by Robert E. Johannes in *Words of the Lagoon. Fishing and Marine Lore in the Palau District of Micronesia* (Berkeley: University of California Press, 1981). Publications that include Canadian examples include the comprehensive book by Fikret Berkes, *Sacred Ecology: Traditional Ecological Knowledge and Resource Management* (Philadelphia: Taylor and Francis, 1999) and the collection of papers in Nigel Haggan, Claire Brignall & Louisa Wood, *Putting Fishers' Knowledge to Work: Conference Proceedings August 27-30, 2001*, Vol 11(1) (Vancouver, B.C.: University of British Columbia Fisheries Centre, 2003).

172. The precautionary approach is discussed in detail in the recent Canadian position paper, online: Government of Canada Privy Council Office at <http://www.pco-bcp.gc.ca/default.asp?Language E&page=publications&doc=precaution/precaution_e.htm>.

the scientific and the decision-making processes. Efforts to bring traditional and local knowledge together effectively with conventional science are underway. The efforts are also reflected in the spread of academic networks which are attempting themselves to extend their reach and become both more diverse and more inclusive.[173]

Conclusion

Recent Australian and Canadian initiatives (*Australia's Oceans Policy* and *Canada's Oceans Strategy*) are based on commitments to integrated, precautionary, ecosystem-based management. These policy initiatives provide platforms for future management of each country's marine domain, and can be expected to have an important influence on the ongoing development and management of fisheries and aquaculture operations. The focus on sustainability and external assessment of fisheries and aquaculture operations reflects current concerns and provides an important impetus for the future. Furthermore, the incorporation of external environmental assessments, facilitated by the development of sustainability indicators, is a critical element in establishing an integrated approach to fisheries management.

While it is too soon to evaluate the impact of either the Oceans Policy or the *Oceans Strategy* on fisheries policy and management, a number of measures have already had a more immediate impact. These measures, including co-management, recognition of First Nations Aboriginal interests, MPAs and sustainability indicators are harbingers of the future. It is likely, too, that these developments will give rise to some conflict, both within the fisheries sector, and between the sector and other uses and users. Such conflicts are not new, and indeed are often seen as inherent in fisheries management.[174]

In Canada, as in Australia, the search for a comprehensive oceans strategy and inclusive integrated fisheries management has embraced the aca-

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173. The devolution of responsibilities to communities adjacent to the resources—a fundamental issue in co-management—also poses fundamental problems of governance. It raises dramatically the contradiction between a search for certainty in regulatory affairs and the reality of changing understandings of complex ecosystems. One consequence may be the need for adjustment of fundamental concepts of property rights—rights to participate in harvest management, rights to claim a share of harvest and, most controversial, rights to control use or dispose of rights beyond the community. See de Young, *supra* note 73; Rod Dobell, "Amending Rights to Nature," online: University of Victoria <http://web.uvic.ca/~rdobell/portfolio.html>; Daniel W Bromley & Jouni Paavola, *Economics, Ethics and Environmental Policy* (Oxford: Blackwell, 2002).

174. Charles, *supra* note 12.

demic vision of sustainability, and captured it in the language of policy. But researchers interested in marine resources and oceans ecosystems now themselves face the much tougher challenge of outlining persuasively and operationally how such covenants and texts can be translated into decisions and action that will be fair to both current players and future generations.[175] There are many skeptics as the call for sustainable, integrated, ecosystem-based and precautionary management of human activities on or at the margins of the oceans is sounded. Consider for example the observation that

> 'Sustainability' and the 'precautionary approach' are essentially buzz words that will have as many definitions as the number of people sitting around the table. Therefore, these notions are useless in the real life of decision-makers because they do not refer to precise standards, precise objectives or precise deliverables... .[176]

Part of the challenge facing both Australia and Canada will be to make operational important policy prescriptions, such as community-based and ecosystem-based decision and management. A second significant challenge will be to improve decision-making methods for fisheries management and to incorporate such methods, in the face of serious opposition, into a more integrated approach to oceans governance. These challenges are not unique, as noted by the United Nations:

> The protection of the oceans, seas and coastal areas, including their living resources, requires a multi-sectoral but integrated approach that addresses all dimensions of ocean-related issues. The various elements include the

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175. The DFO set out ambitious goals for Canada in this respect, notably in relation to its targets within the World Summit on Sustainable Development (WSSD) held in Johannesburg, South Africa, August and September 2002:

> Going into the WSSD, Fisheries and Oceans Canada will promote Effective Oceans Governance as an overarching theme to promote the health and sustainability of the world's oceans. Effective Oceans Governance means ensuring the sustainability and productivity of oceans by improving our understanding and protection of the oceans; building coherence and capacity to better manage oceans, particularly at the regional level; and securing the economic potential of oceans.

DFO plans to contribute to the global dialogue on sustainable development and take forward key messages for ocean governance including: The importance of ocean stewardship and shared decision-making, the need to apply an integrated and precautionary approach to ocean management based on sound science

176. Yves Bastien, DFO Commissioner for Aquaculture Development, September 2000, as quoted in an interim report on aquaculture by the Standing Senate Committee on Fisheries, 2001.

> management and sustainable development of coastal areas, the protection of the marine environment, the sustainable use and conservation of marine living resources in both the high seas and areas under national jurisdiction, and research on critical uncertainties including climate change...
>
> A large number of legal and voluntary agreements have been elaborated in recent years regarding sea-based as well as land-based sources of marine pollution. Problems remain, however, in the implementation of those agreements and in addressing emerging issues...
>
> Fully protected reserves, or "no-take" areas have seen an improvement in the number, diversity and productivity of marine organisms. But such results are limited by the fact that less than 1 per cent of the world's oceans are protected in reserves... .[177]

As mentioned above it is too soon to evaluate the impact of *Australia's Oceans Policy* and Canada's *Oceans Act* and *Canada's Oceans Strategy* on fisheries management. Nonetheless, the policy and legal instruments derived from them open up opportunities to address the many challenges in moving to an integrated approach to fisheries management and towards principled ocean governance. We have to hope they can be made to work.

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177. Commission on Sustainable Development acting as the preparatory committee for the World Summit on Sustainable Development, *Implementing Agenda 21: Report of the Secretary General*, UNESCOR, 20 December 2001, UN Doc. E/CN.17/2002/P.C.2/7, paras 122, 124 and 127, online: United Nations <http://www.un.org/jsummit/html/ documents/compsgf2.pdf>.