

# How New Zealand's coastal and marine management compares with international 'best practice'<sup>1</sup>

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Raewyn Peart  
Senior Policy Analyst  
Environmental Defence Society  
rpeart@xtra.co.nz

## Introduction

New Zealand is a maritime nation, settled by some of the greatest seafaring peoples in the world. The country's oceans are large and are very rich in marine life and minerals. New Zealanders are passionate about their oceans and the use and management of ocean resources is an integral part of Māori culture and identity.

New Zealand has been an international leader in some aspects of oceans management. In many respects, however, oceans management in New Zealand has fallen behind. This paper investigates how well New Zealand is doing compared to international 'best practice' and what we might need to be done to improve the country's performance.

In order to identify what international 'best practice' oceans management might be, the paper explores the development of an international framework for oceans governance, the environmental obligations that this places on coastal countries, and how these might translate into an implementation framework. The paper then goes on to assess New Zealand's performance within this framework, identifies areas of weakness, and proposes strategic actions which could be taken to address some of these areas.

## Development of international framework for oceans governance

The dominant paradigm governing the world's oceans, prior to the end of World War II, was the doctrine of the freedom of the seas (*Mare Liberum*). This doctrine, developed during the 1600s, was founded on the idea that the oceans were not capable of being owned and that they needed to be open to all in order to enable free trade and communication between countries (Cicin-Bain and Knecht 2000:31).

During the 1700s, the need for coastal states to be able to protect their territory from seaborne attack became apparent. This resulted in the emergence of the concept of a protective territorial sea where, a country could police the area and control fishing but not inhibit the innocent passage of vessels. The commonly accepted width of the

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<sup>1</sup> The material in this paper has been drawn from a more detailed analysis of the issues contained in Peart R, 2005, *Looking Out to Sea, New Zealand as a model for ocean governance* which is available from the Environmental Defence Society, [www.eds.org.nz](http://www.eds.org.nz).

territorial sea was 3 nautical miles, being the range of seaborne cannon at the time (Cicin-Bain and Knecht 2000:32-33).

This state of affairs lasted for well on two centuries until, in the aftermath of World War II, the United States of America (USA) unilaterally asserted jurisdiction over its continental shelf following the identification of significant oil and gas reserves. Other nations, particularly in Latin America, followed suit and claimed jurisdiction over large areas of ocean. This oceans 'grab' created the need for a formal international framework governing ocean jurisdiction, and in 1958 the first Law of the Sea Conference was convened (Cicin-Bain and Knecht 2000:33-34).

Defining the jurisdiction of countries over ocean areas was a highly controversial process and it wasn't until more than 20 years later, in 1982, that agreement was reached on the size of various ocean jurisdictions, amongst other things, at the third Law of the Sea Conference. It took another twenty years for the United Nations Convention on the Law of the Sea (UNCLOS) to come into force in 1994. New Zealand ratified the treaty in 1996.

Under UNCLOS, countries exercise differing jurisdictional powers over various maritime areas. These areas include:

- The *territorial sea* which extends 12 nautical miles from the 'baseline' which is normally located along the low-water mark. A country's territorial sea is part of its territory and the powers it can exercise within this area are essentially the same as those that it can exercise over its land area.
- The *contiguous zone* which extends over an area adjacent to the territorial sea and extending up to 24 nautical miles from the 'baseline'. This area is not part of a country's territory and therefore not subject to full sovereignty, but UNCLOS gives a country the right to police the area to prevent or punish infringements (of customs, fiscal, immigration or sanitary laws and regulations) that have been committed or are threatening to be committed in the territorial sea.
- The *EEZ* is usually the largest of these maritime areas, covering an area adjacent to the territorial sea and extending up to 200 nautical miles from the baseline, thereby overlapping the contiguous zone. In New Zealand and some other countries, this area extends over the edge of the continental shelf into deep ocean areas. Although the EEZ is not part of a state's territory and thereby not within its sovereignty, countries have sovereign rights within their EEZs for the purpose of exploring, exploiting, conserving and managing all of its living and non-living natural resources, including marine life, oil, gas and minerals, and producing energy from the water, currents and winds. Other countries retain the freedom of navigation and overflight and the laying of submarine cables and pipelines within all EEZs.
- The *continental shelf* (including the continental slope and rise), where this extends beyond the EEZ. A country is entitled to sovereign rights for the purpose of exploring and exploiting the natural resources of the continental shelf. These natural resources consist of mineral and other non-living resources within the seabed and subsoil as well as living organisms belonging to sedentary species. Payments to the

International Seabed Authority established under UNCLOS are required in respect of mining resources from this part of the continental shelf.

New Zealand has declared a territorial sea, contiguous zone and EEZ by virtue of the Territorial Sea, Contiguous Zone and Exclusive Economic Zone Act 1977. It is in the process of delimiting the area of its continental shelf including concluding treaties with neighbouring countries whose potential ocean jurisdiction areas overlap New Zealand's.

## **International framework of oceans governance obligations**

There are numerous international conventions and non-legally binding documents that apply to the management of ocean areas within national jurisdictions. Of these, the most significant for oceans management are:

- UNCLOS and related agreements
- The Convention on Biological Diversity (CBD)
- Agenda 21
- The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
- The FAO Code of Conduct for Responsible Fisheries
- The Johannesburg Plan of Implementation

### *United Nations Convention on the Law of the Sea*

All countries which have ratified UNCLOS are subject to the general legal obligation to protect and preserve the marine environment. They are required to take all measures necessary to prevent, reduce and control pollution of this environment. These steps include adopting laws and regulations to address pollution from land-based sources, seabed activities, dumping and the atmosphere. Countries must endeavour, as far as practicable, to observe, measure, evaluate and analyse the risks or effects of pollution on the marine environment and to publish reports on the results obtained. There is also an obligation to carry out an assessment of the potential effects of planned activities which may cause substantial pollution of, or significant and harmful changes to, the marine environment.

UNCLOS also imposes on countries an obligation to ensure that the living resources in their EEZs are not endangered by over-exploitation and to maintain or restore populations of harvested species to levels that can produce the 'maximum sustainable yield'. This requires a country, among other things, to determine the allowable catch of living resources within their EEZ. Moreover, as part of the obligation to promote the objective of sustainable utilisation, where a country does not have the capacity to harvest the entire allowable catch, other countries must be given access to the surplus.

### *Fish Stocks Agreement*

In 1995 an agreement was adopted for the implementation of certain provisions of UNCLOS in relation to the conservation and management of straddling and highly migratory fish stocks (Fish Stocks Agreement). The Agreement builds on the provisions of UNCLOS by making them broader, stronger and more detailed. Among other things,

the Agreement establishes a set of general principles which are to be applied to the management and conservation of straddling and highly migratory fish stocks. These include:

- Applying a precautionary approach
- Protecting the biodiversity of the marine environment
- Minimising pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species and impacts on associated or dependent species
- Taking measures to prevent or eliminate overfishing and, where necessary, adopting conservation and management measures for species belonging to the same ecosystem

The Agreement strengthens obligations on coastal and high seas fishing states to cooperate in respect of straddling and highly migratory fish stocks. Such cooperation is preferably to take place within regional fisheries management organisations. The Agreement came into force in 2001 and New Zealand is a party to it.

#### *Convention on Biological Diversity*

The Convention on Biological Diversity (CBD) is aimed at the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. The Convention also applies to the marine environment, even though its obligations on components of biodiversity are not applicable beyond the limits of national jurisdiction (EEZ and outer continental shelf). Obligations on the parties include:

- Establishing a system of protected areas
- Promoting the protection of ecosystems and natural habitats and the maintenance of viable populations of species in natural surroundings
- Preventing the introduction of, and controlling or eradicating, those alien species which threaten ecosystems, habitats or species
- Integrating the consideration and sustainable use of biological resources into national decision making
- Introducing appropriate arrangements to ensure that the environmental consequences of programmes and policies that are likely to have significant adverse effects are taken into account

The convention was opened for signature at the 1992 United Nations Conference on Environment and Development (UNCED) and came into force in 1993. It currently has 188 parties, including New Zealand.

#### *Agenda 21*

Agenda 21 is a non-legally binding document endorsed by governments, including New Zealand, at UNCED in 1992. It sets out a vision and action plan for the sustainable development of natural resources. Chapter 17 of Agenda 21 deals with the protection of oceans and coastal areas and the protection, use and development of their living resources.

Countries are, among other things, urged to commit themselves to the integrated management and sustainable development of coastal areas and the marine environment under their jurisdiction. This includes:

- Providing for an integrated policy and decision-making process
- Applying preventive and precautionary approaches to project planning and implementation
- Providing opportunities for consultation and participation in planning and decision making at appropriate levels

This may be achieved through the implementation at appropriate levels of integrated coastal and marine management plans and programmes and the integration of sectoral programmes. Effective management is to be underpinned by good information, and countries are encouraged to conduct regular assessments of the state of the environment of their coastal and marine areas and to maintain databases and profiles.

With respect to the management of fisheries, many of the provisions of Agenda 21 reflect the requirements under UNCLOS. As an action plan, however, Agenda 21 goes further. Among other things, it promotes the establishment of marine protected areas by requiring nations to identify marine ecosystems exhibiting high levels of biodiversity and other critical habitat areas and providing necessary limitations on use in these areas. Priority is to be afforded to coral reef ecosystems, estuaries and temperate and tropical wetlands (including mangroves, seagrass beds and other spawning and nursery areas).

#### *Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities*

This programme of action, formally adopted in 1995, urges countries to develop comprehensive, continuing and adaptive programmes of action within the framework of integrated coastal area management. These are to include providing for the identification and assessment of problems, establishing priorities, setting management objectives for priority problems, and identifying, evaluating and selecting strategies and measures and evaluating their effectiveness.

#### *Food and Agriculture Organization of the United Nations Code of Conduct for Responsible Fisheries*

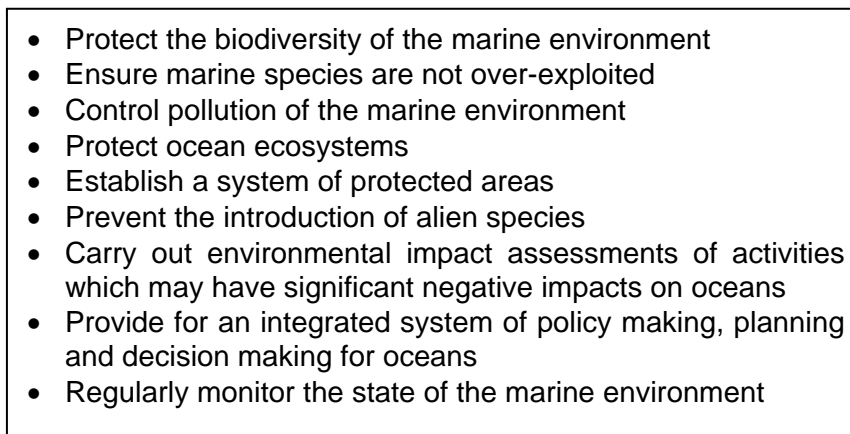
This voluntary code, also adopted in 1995, covers a wide range of matters related to fisheries, including fisheries management and operations, aquaculture, the integration of fisheries with coastal management, post-harvest practices and trade, and fisheries research. The principles set out in the code acknowledge that 'the right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources' (paragraph 6.1). Amongst many other things, the code promotes the integration of fisheries into coastal area management planning and development, and the establishment of procedures and mechanisms to resolve conflicts within the fisheries sector and between that sector and other users of the coastal area.

### *Plan of Implementation of the World Summit on Sustainable Development*

This plan, adopted at the 2002 World Summit on Sustainable Development in which New Zealand participated, is designed to speed up progress in reaching the goals set out in Agenda 21. The many provisions of the plan include the establishment of a series of target dates for oceans management. These include:

- Substantial progress on protecting the marine environment from land-based activities by 2006
- Encouraging the application of an ecosystem approach by 2010
- Establishment of representative networks of marine protected areas by 2012
- Action to maintain or restore fish stocks to their maximum sustainable yield by 2015

A summary of the key international environmental obligations placed on countries by these agreements has been compiled and is shown in Figure 1.

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- Protect the biodiversity of the marine environment
  - Ensure marine species are not over-exploited
  - Control pollution of the marine environment
  - Protect ocean ecosystems
  - Establish a system of protected areas
  - Prevent the introduction of alien species
  - Carry out environmental impact assessments of activities which may have significant negative impacts on oceans
  - Provide for an integrated system of policy making, planning and decision making for oceans
  - Regularly monitor the state of the marine environment

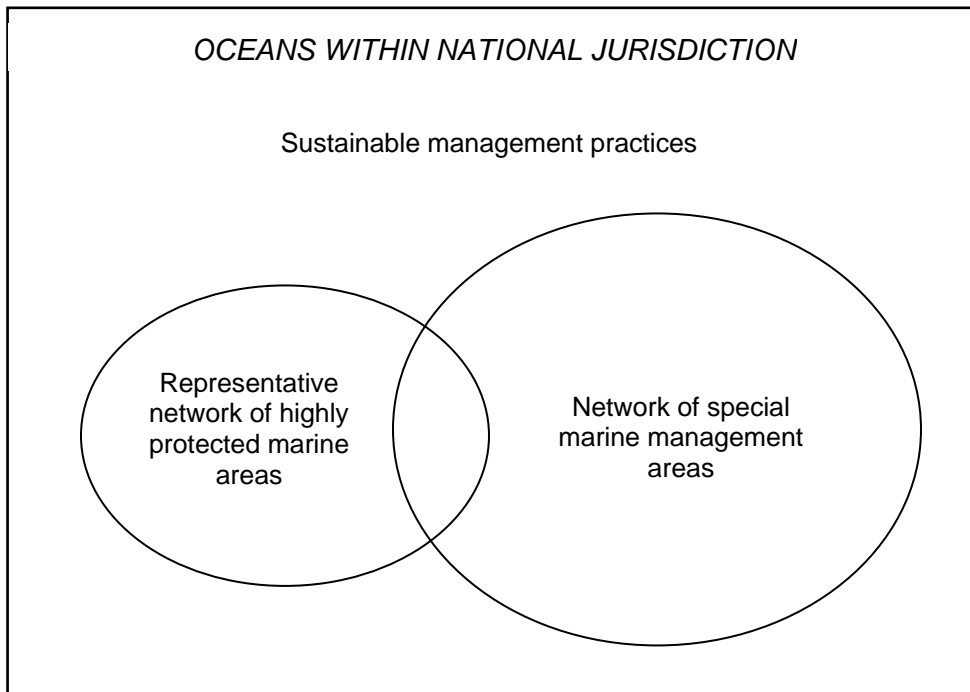
**Figure 1. Summary of key international environmental obligations.**

### **International ‘best practice’ oceans governance implementation framework**

From the above framework of international obligations, and the recent work carried out by an international technical expert group operating under the auspices of the Convention on Biological Diversity (Secretariat of the Convention on Biological Diversity 2004:15), a model of what a ‘best practice’ oceans governance implementation framework might consist of has been developed. It incorporates three key elements, which are illustrated in Figure 2:

- *Sustainable management practices* applied to all activities which impact on the marine environment to ensure that human activities do not undermine marine ecosystems
- A network of *special marine management areas* incorporating sensitive and important marine environments where additional management effort is required

- A representative network of *highly protected marine areas* where natural processes within the marine environment are able to operate undisturbed



**Figure 2. Elements of an oceans governance framework.**

In addition, in order for the oceans governance system to function effectively, there needs to be connectivity between the individual components so that they create a coherent whole, not simply a collection of individual marine protected areas and regulatory controls (Secretariat of the Convention on Biological Diversity 2004:20). It is also important that the system is adaptive, so that it can respond in a timely manner to new information and changing situations, and that it is supported by a strong constituency which endorses the work of oceans policy makers and managers.

*Sustainable management practices*

The first element of the oceans governance framework consists of sustainable management practices which extend over the wider marine environment. These typically include spatial planning and environmental constraints on activities such as mining, shipping, fishing and coastal development. Such management practices would be expected where possible to incorporate an ecosystems-based management approach, where the impacts of human activities are modified to ensure that they do not undermine marine ecosystems.

Sustainable management practices help to maintain healthy marine ecosystem functioning throughout the marine area. They serve to maintain the connective processes operating between special management areas and highly protected areas and therefore to link together the 'nodes' of the 'network'. They can also help address

human-induced impacts which are difficult to manage through spatially-specific measures (adapted from Secretariat of the Convention on Biological Diversity 2004:20).

A governance framework promoting sustainable management practices might have several key components including:

- A *fisheries management regime* that identifies and effectively manages the impacts of fishing activity on marine ecosystems
- A *catchment management regime* that effectively manages marine sedimentation and pollution from land-based sources.
- An *environmental impact assessment regime* that ensures that structures and activities which are established in the marine area - such as reclamations, wharves, exploration, mining, aquaculture and power generation facilities – do not disrupt marine ecosystems
- A *marine pollution management regime* that effectively manages the discharge of pollutants into the marine area from ships and marine structures
- An effective *bio-invasion prevention and response capability* to ensure that ecologically and/or economically damaging species are not introduced and established in a country's territory

Ensuring sustainable management practices across all activities impacting on the marine environment is critical, because they will influence the environmental health of the vast bulk of the oceans. Only a small percentage of the marine area is ever likely to be managed within special management or highly protected areas. And the spatial management of marine areas is not an effective tool to manage a range of impacts including bio-invasion, land-based sedimentation and pollution and marine pollution, all of which themselves can impact on specially managed or protected areas.

#### *Special marine management areas*

The second component of an oceans governance framework is a network of special management areas incorporating sensitive and important marine environments where additional management effort is required. This may include placing additional controls on activities to reduce their environmental impacts to an acceptable level. It may involve applying more focused management attention to an area including the development of specific policies, strategies and plans as well as monitoring change over time. Where there are multiple threats to, and/or conflicting uses of, a marine area it may involve developing specific mechanisms to help integrate the activities of the different management agencies. International examples of special management areas include the Great Barrier Reef Marine Park in Australia and National Marine Sanctuaries in the USA.

These areas are often large and may contain highly protected areas. They can help buffer highly protected areas from the impacts of intensive human activities (Secretariat of the Convention on Biological Diversity 2004:18). Special management areas are often subject to site-specific controls such as restrictions on fishing methods, controls on the



removal of particular species, rotational closures and/or measures to reduce pollution and sedimentation.

### *Representative network of highly protected marine areas*

A key element of an oceans governance framework is a representative network of highly protected areas, where extractive uses are prevented and other significant human pressures removed or at least minimised. These areas are often referred to as marine reserves or marine national parks. The aim of the highly protected network is to enable the integrity, structure, functioning and exchange processes of and between ecosystems to be maintained or recovered. To achieve this aim, the network needs to where possible encompass a full range of marine ecosystems, including both representative areas, and those that are unique or special.

There is no simple 'rule of thumb' to determine when enough has been highly protected, as this depends on local conditions such as the variability in habitats, but a few small highly protected areas are unlikely to be sufficient. Recommendations on the minimum area needed to achieve adequate coverage have ranged from 10 to 75 per cent of the total marine area. At least five governing entities or initiatives overseas have adopted targets ranging from 20 to 30 per cent (Secretariat of the Convention on Biological Diversity 2004:16).

The network of highly protected areas has the two key roles of (adapted from Secretariat of the Convention on Biological Diversity 2004:15):

- *Providing areas in which natural processes are able to operate undisturbed.* This establishes baselines against which impacts of human activities in other areas can be assessed. It provides areas where marine research can be undertaken to increase our understanding of the marine environment. Such undisturbed areas also provide opportunities for members of the public to learn about and enjoy the marine environment as well as providing recognition of the intrinsic value of marine ecosystems.
- *Providing protection for representative examples of all biodiversity.* This helps to ensure that management failures in other marine areas do not result in irreversible biodiversity loss.

Highly protected areas can also produce several spin-off economic benefits including increasing fishery yields and tourist returns.

The term 'marine protected areas' is often used to refer to highly protected areas such as New Zealand's marine reserves as well as areas where some activities are permitted but where there are additional controls, such as areas where there are restrictions on trawling or commercial fishing.

In this paper, two separate categories have been used (highly protected areas and special management areas), because each type of area performs a different function in the overall oceans governance system. They are therefore, in the author's view, not interchangeable. Highly protected areas are kept undisturbed (to the extent possible) by human activities, and as well as providing important areas for marine research and

public education, they act as a biodiversity insurance policy against management failures elsewhere. Special management areas (less highly protected marine areas), on the other hand, typically allow a range of human activities but in the context of more dedicated management and stricter controls. They are essentially a mechanism through which sustainable management practices, rather than total protection, is applied to an identified spatial area which has special characteristics.

The next section of the paper applies this framework to coastal and marine management in New Zealand.

## **What coastal and marine resources are we managing in New Zealand?**

New Zealand consists of an archipelago of over 330 islands<sup>2</sup> surrounded by the world's largest ocean, the Pacific (Taylor 2000:16). New Zealand's coastline is over 19,000 kilometres long and the country has jurisdiction over some 4.2 million square kilometres of ocean area.

New Zealand's EEZ is large, varied and relatively deep with only a quarter being shallower than one kilometre. The deepest point, about 10 kilometres underwater, is located within the Kermadec Trench. Because New Zealand sits astride two colliding tectonic plates, it has spectacular underwater features including chains of underwater volcanoes and deep ocean trenches and ridges (Batson 2003:20, 24 & 29).

New Zealand's marine ecosystems and species are highly diverse due to the country's geological history, its isolation for millions of years, the range and complexity of habitats and the influence of major ocean currents (Department of Conservation (DoC) 2000:55). The greatest fish and invertebrate biodiversity in the country is located to the north-east of the North Island due to the presence of many warm-water species (Andrew and Francis 2003:34).

The oceans are thought to contain between one third and three quarters of all New Zealand's indigenous species. It is estimated that there are between 54,600 and 75,700 marine species within New Zealand's EEZ, of which only 11,202 or 15 per cent have been described. (Gordon 2004).

As well as supporting rich marine life, New Zealand oceans contain significant deposits of oil, gas and minerals. These ocean resources support substantial seafood and mining industries, marine biotechnology, shipping and marine tourism. The oceans are also very important to Māori culture and contribute to New Zealanders' way of life and well-being.

## **Development of oceans management framework in New Zealand**

Over the past forty years, New Zealand has put in place a substantial framework for coastal and oceans management. In 1964, the Continental Shelf Act passed into law, primarily to facilitate minerals exploitation. The 1970s saw the beginnings of specialized marine legislation with the adoption of the Marine Reserves Act 1971 and the Marine Farming Act 1971. The Town and Country Planning Act was substantially revised in

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<sup>2</sup> Larger than five hectares.

1977, and provided for a limited form of maritime planning. Also during 1977, as already indicated, New Zealand formally declared a 12 nautical mile territorial sea, a 24 nautical mile contiguous zone and a 200 nautical mile EEZ under the Territorial Sea, Contiguous Zone and Exclusive Economic Zone Act 1977.

During the 1980s the fisheries regime was revised with the Fisheries Act 1983. In 1986 individual transferable quotas which, for the first time created a form of private property rights over marine life, were introduced to manage some commercial fish stocks.

The 1990s saw a great flurry of legislative reform. This started with the adoption of the Resource Management Act 1991 and associated restructuring of local government. Thirteen regional councils were established to manage not only water catchments, but marine areas extending out to the edge of the territorial sea. Planning for the marine area is undertaken through the development of regional coastal plans which apply to the coastal marine areas extending from mean high water springs to the edge of the territorial sea. Regional councils are also charged with preparing regional policy statements which extend over both water and land areas and are intended to guide decisions of territorial authorities who manage land development. In 1994, the first New Zealand Coastal Policy Statement was promulgated at a central government level to guide coastal management at regional and local levels.

The 1990s also saw another revision of fisheries legislation, in the form of the Fisheries Act 1996, which has as its core purpose the sustainable utilization of fisheries resources, and the passage of the Biosecurity Act 1993 and Maritime Transport Act 1994 to address marine biosecurity and marine pollution respectively.

In 2000, the government commenced an initiative to develop a national oceans policy, but this was put on hold in 2003 due to the dispute over the ownership of the seabed and foreshore. The initiative was recently revived in late 2005.

## **Current governance of New Zealand's oceans**

The extent to which the current coastal and oceans management framework, which has evolved over the years, jointly comprise a cohesive and effective oceans governance system is explored in the following sections.

### *Sustainable management practices*

The key legislation and mechanisms which contribute to sustainable management practices applied to New Zealand's coastal and oceans area are summarized in Figure 3.

<b>Mechanism</b>	<b>Empowering legislation</b>	<b>Area</b>	<b>Managing body</b>
Sustainability mechanisms	Fisheries Act 1996	Territorial sea and EEZ	MFish
Regional plans and resource consenting	Resource Management Act 1991	Territorial sea and land	Regional councils
District plans and resource consenting	Resource Management Act 1991	Land	Territorial authorities
Marine protection rules	Maritime Transport Act 1994	Territorial sea and EEZ	Maritime Safety Authority
Licensing	Continental Shelf Act 1964	Continental shelf	Minister of Energy
Protected species	Wildlife Act 1952 Marine Mammals Protection Act 1978	Territorial sea and EEZ	DoC
Import Health Standard	Biosecurity Act 1993	Territorial sea and EEZ	Biosecurity NZ

**Figure 3: New Zealand’s coastal and oceans sustainability mechanisms**

It is difficult to effectively assess the extent to which the management practices described above are sustainable in terms of ensuring that human activities are not significantly disrupting marine ecosystems. This is because of the lack of monitoring information. However, at least four weaknesses are evident, as follows:

- Management of fisheries activity has yet to seriously grapple with understanding and managing environmental impacts and, in particular, addressing the impacts of trawling and dredging on benthic habitats. This is of particular concern because a large proportion of New Zealand’s benthic marine species are endemic and they are also the species about which least is known and of which the smallest percentage has been discovered or described. The Ministry of Fisheries (MFish) has recently released a Strategy for Managing the Environmental Effects of Fishing (MFish 2005) which will hopefully help focus attention on this key issue.
- The management of land-based activities under the RMA has been weak in addressing the high levels of sedimentation and pollution entering marine areas. Such high levels can significantly impede the important ecosystem functions these areas perform, including providing nursery grounds for commercially important fish species. Dedicated efforts are urgently required to get on top of this problem before the problem rapidly deteriorates, as the numbers of people living on and visiting the coast, and the consequent development, continues to increase.
- For areas outside territorial waters, there is no consistent environmental assessment regime with which to manage the environmental effects of activities such as the exploration for, and mining of, petrochemicals and minerals, and the establishment of offshore wind and marine farms.

- Mechanisms currently in place to control the arrival of invasive marine species on the fouling of vessels' hulls appear weak. This is of concern because it is estimated that about 70 per cent of exotic marine species accidentally introduced into New Zealand arrived on vessels' hulls.

#### *Special marine management areas*

There are at least ten different mechanisms providing, either directly or indirectly, some special management for marine areas as shown in Figure 4. These include measures taken under nine pieces of legislation, with areas administered by ten different types of management bodies. The legislative framework has only sought to apply an integrated management approach within two of the areas - the Hauraki Gulf Marine Park and the Fiordland (re Moana o Atawhenua) Marine Area.

Until a comprehensive analysis is undertaken of the location of these special management areas, and their contribution to the management of the oceans, it is difficult to comment in a meaningful way on their adequacy. Such an analysis will hopefully be produced from the work to be undertaken under a Marine Protected Areas Policy Statement and Implementation Plan currently being finalised by government. Some initial observations can, however, be made on current information:

- There appears to be little coordination between the management bodies in designating and managing these areas, and the overall system is highly fragmented. The implementation of the Marine Protected Areas Policy Statement and Implementation Plan should help to establish common priorities and a common information base for the establishment of a more cohesive network of marine protected areas. However, it will not serve to rationalize the plethora of legislation in this area. Ultimately each managing authority must operate within the jurisdiction of its own governing legislation, which has its own purposes and processes, irrespective of whether these are consistent with non-statutory government policy documents.
- Although there are numerous areas closed to certain types of fishing activity within harbours and along some areas of the coast, there is little protection for the rest of the marine area, particularly that outside the territorial sea, with the notable exception of the recent closure to trawling of 19 seamounts.

<b>Mechanism</b>	<b>Empowering legislation</b>	<b>Area</b>	<b>Managing body</b>
Marine mammals sanctuaries	Marine Mammals Protection Act 1978	Territorial sea and EEZ	DoC
Areas closed to fisheries	Fisheries Act 1996	Territorial sea and EEZ	MFish
Mataitai reserves	Fisheries Act 1996	Traditional fishing grounds	Tangata tiaka (Māori Committee)
Taiapure-local fisheries	Fisheries Act 1996	Estuarine or littoral coastal waters	Management Committee (nominated by local Māori community)
Foreshore and seabed reserves	Foreshore and Seabed Act 2004	Foreshore and territorial sea	Foreshore and seabed reserve board
Marine parks	Harbours Act and fisheries regulations	Areas prescribed by regulation	Regional councils and MFish
Special legislation	Sugar Loaf Islands Marine Protected Area Act 1991	Area prescribed by legislation	DoC
	Hauraki Gulf Marine Park Act 2000	Area prescribed by legislation	Hauraki Gulf Forum (integrative body only)
	Fiordland (Te Moana o Atawhenua) Marine Management Act 2005	Area prescribed by legislation	Fiordland Marine Guardians (integrative and advisory body only)
Areas of conservation value	Resource Management Act 1991	Territorial sea	Regional councils
Areas to be avoided by shipping	Maritime Transport Act 1994	Territorial sea and EEZ	Maritime Safety Authority
Protected areas	Submarine Cables and Pipelines Protection Act 1996	Territorial sea and EEZ	Ministry of Transport

**Figure 3: New Zealand's special marine management area mechanisms**

### *Highly protected marine areas*

Marine reserves can be established in New Zealand under the Marine Reserves Act 1971. This legislation only applies within the territorial sea and marine reserves are managed by DoC. There are currently 28 marine reserves in New Zealand covering 12,595 square kilometres, being around 7 per cent of New Zealand's territorial sea but only 0.3 per cent of the marine area under New Zealand's jurisdiction.

The first marine reserve, at Cape Rodney-Okakari Point, was established 30 years ago and was hailed as the first no-take reserve in the world. The number of marine reserves being established has increased significantly in the past 15 years. Although only one was established during the 1970s and one during the 1980s, 14 were established during the 1990s and 12 in the first half of the 2000s, including eight (totalling 94.3 square kilometres) recently established in Fiordland, under the Fiordland (Te Moana o Atawhenua) Marine Management Act 2005.

These marine reserves are concentrated around parts of the northern east coast of the North Island, the northern end of the South Island and Fiordland. Apart from two large reserves, comprising 98 per cent of the total marine reserve area and covering offshore island groups, most of the reserves extend over small marine areas.

The small size of many existing marine reserves is illustrated by the fact that, although there are five marine reserves in the Hauraki Gulf, they protect less than 0.3 per cent of the Gulf's marine area (Hauraki Gulf Forum 2005: 118).

In terms of the adequacy and representativeness of New Zealand's current marine reserve network, a detailed analysis has yet to be undertaken. It is abundantly clear, however, that New Zealand's marine reserves do not contain representative areas of all habitats or protect all the country's important marine biodiversity hotspots. Large areas of the coastline, including most of the west coast and all of the northern tip of the North Island, the east and south coasts of the South Island and the central portion of the west coast of the South Island have no marine reserves. In addition, there are no marine reserves outside the territorial sea, as the marine reserve legislation does not currently apply in this area. None of the area which is considered to be *the* New Zealand marine biodiversity hotspot, the Three Kings Islands and shelf, Spirits Bay and Pandora Bank (extending to the north of North Cape), is fully protected (Arnold 2005: 51).

Recent initiatives, including the Marine Reserves Bill and the Marine Protected Areas Policy Statement and Implementation Plan, should facilitate the establishment of additional marine reserves. The Marine Reserves Bill, if passed by Parliament in its current form, will enable marine reserves to be established within the EEZ, outside the territorial sea, thereby removing the current legal impediment to the establishment of a representative highly protected network. It should also streamline and shorten the statutory process for establishing marine reserves.

### *Functioning of oceans governance system*

In terms of the effective functioning of the current governance system, a key weakness is the lack of a common purpose or set of principles which applies to the whole governance system. Oceans management is currently undertaken within the jurisdiction of many pieces of legislation, each with its own specific purpose.

There are few integrative bodies or processes, although there have been some innovative initiatives at a regional level in relation to the Hauraki Gulf and Fiordland. There are also few incentives to integrate coastal and marine management efforts such as dedicated funding or legislative requirements. Some management tools in key areas have provide inflexible, especially in respect of regional and district planning

There is currently no comprehensive programme to monitor the state of the oceans and no system for regularly reviewing management performance. There is also poor public availability of accessible information on oceans.

#### *Summary of New Zealand's oceans governance record to date*

New Zealand has been a leader internationally in a number of areas coastal and marine management including:

- Being the first country to establish a no-take marine reserve (Cape Rodney – Okakari Point)
- Introducing individual transferable quotas as a mechanisms to manage the exploitation of commercial fish stocks
- Establishing regional councils as integrated management bodies for catchments and marine areas
- Being one of the first countries in the world to control ballast water in national waters
- Establishing the first mandatory area to be avoided by shipping (around the Poor Knights Islands)

The country has done poorly, however, in the following areas:

- Failure to effectively address the environmental impacts of fishing activity
- Failure to reduce land-sourced sedimentation of marine area
- Failure to effectively manage the loss of natural character within the coastal areas through cumulative impacts of development
- Little environmental assessment regulation outside territorial sea
- No control on organisms arriving on vessel hulls
- Inadequate coverage of marine reserves
- Poorly coordinated and inadequate coverage of special management areas

#### **Strengthening New Zealand's coastal and marine governance**

New Zealand is in an excellent position to substantially strengthen its coastal and marine governance efforts. The government's oceans policy initiative provides an excellent opportunity to redesign the country's ocean governance for the 21<sup>st</sup> century. It needs to be urgently revived.

New Zealand is in a unique position to 'get it right'. It is a relatively small country where there is close interaction between policy makers and stakeholders. It has a unicameral parliamentary system which avoids the complexities of the federal and state constitutional arrangements encountered in many other countries.



At the same time, the country governs a large area of ocean and is experiencing many of the same marine management issues that are being grappled with by larger states. The oceans policy initiative provides New Zealand with the opportunity not only to improve outcomes for its own oceans, but also to become an exemplar of best practice oceans governance for the rest of the world.

Strategic actions which could be taken to strengthen oceans governance in New Zealand include:

- Support the passage of the *Marine Reserves Bill* and provide substantial dedicated funding to speed up the identification and establishment of marine reserves to ensure a viable and fully representative network. The dated provisions in the Marine Reserves Act 1971 are proposed to be reformed under the Marine Reserves Bill. The passage of this Bill needs to be supported. Marine reserves could possibly be renamed 'Marine National Parks' to more closely align them with the existing land-based national park system and to avoid any negative connotations which may have become associated with the marine reserve concept. New Zealand led the world in 1975 when it established the first no-take marine reserve and it is time to retake a leadership position in this area.
- Undertake legislative reform to rationalise the statutory provisions for the establishment of *special marine management areas*. There is currently a myriad of pieces of legislation, which have been progressively increasing in number, for the management and protection of particular spatial areas of the oceans. This field of law is ripe for review and rationalisation. Legislative reform is required to provide for the establishment of special management areas within the marine environment within a clearly defined framework based on current international best practice.
- Undertake a national investigation into the impacts of trawling and dredging on benthic habitats and identify effective mitigation measures to be adopted, incorporating the precautionary principle. Little current action is being taken to manage the impacts of such fishing activity and this area needs urgent action to ensure irreversible damage is avoided. New Zealand became an international leader in fisheries management when it established the Individual Transferable Quota system. The management of the impacts of trawling and dredging, an issue which many other countries are also grappling with, provides an excellent opportunity for New Zealand to cement its position as an innovator in fisheries management.
- Prepare a *Guide to Sustainable Coastal Development* and give key provisions statutory force through incorporation into the NZCPS. Many land-based impacts on marine areas are caused by the way coastal settlements and related infrastructure are designed and located. There is a jurisdictional mismatch in this area, because territorial authorities control land use and development but have no direct responsibility for the marine environment. Regional councils that manage the marine environment have little control over the land-use decisions of territorial authorities. A national guide could usefully define what constitutes sustainable coastal development and require key elements to be adopted as mandatory provisions by incorporating them into the NZCPS.

- Undertake an investigation into coastal planning under the RMA, at both regional and territorial authority levels, and identify reforms to increase both the effectiveness of planning in managing coasts and its ability to respond quickly to changing information and circumstances. Current planning efforts are failing to sustainably manage impacts on the marine area, are very costly to prepare and lack flexibility. New Zealand was world-leading in establishing regional councils with jurisdiction over both water catchments and marine areas. Both review and reform of current planning practices are urgently required to maximise the advantages of these regional institutional structures and to re-establish New Zealand's international position in respect of resource management.
- Develop a *National Agenda for Sustainable Estuaries Management* which scopes the problem, develops solutions, and targets resources to improve the management of estuaries and harbours of national ecological importance. Regional councils are struggling to manage the ongoing sedimentation and pollution of estuaries and seem unlikely to get on top of the issue in the near future. This is an area requiring centralised government support, perhaps drawing from the experience of the Lake Taupo water quality initiative.
- Develop and resource the implementation of a *Marine Biosecurity Strategy* which identifies the key sources of marine bio-invasion risks and effective actions to manage those risks.
- Develop an environmental regime for the management of activities outside the territorial sea. New Zealand currently lacks any such coherent environmental system, so this provides an excellent opportunity to develop a world-leading regime drawing on experiences in other countries and current international thinking.
- Establish a contestable *Oceans Constituency Fund*. The constituency for the implementation of an effective oceans governance system is currently weak and dedicated efforts are needed to strengthen it. Non-governmental organisations can be more effective at reaching a wide group of stakeholders than government agencies. A contestable fund could usefully support such initiatives. Potential projects could include establishing stakeholder networks, preparing and disseminating information on oceans issues and convening workshops, seminars and conferences.
- Prepare a *State of the Oceans Report* and regularly update it (at least five-yearly). This would provide a touchstone of how well the oceans governance system is doing, in a manner that is accessible to both stakeholders and the public more generally.
- Task the Parliamentary Commissioner for the Environment with undertaking regular (three-yearly) independent reviews of progress in implementing the oceans policy. The PCE is an appropriate person to undertake such reviews, being independent of government through reporting directly to parliament, and having already undertaken an investigation into oceans governance.

## Conclusions

New Zealand governs an expansive area of the world's oceans. It is an area rich in biodiversity as well as oil, gas and minerals. It supports major export earners for the country, including commercial fishing, aquaculture and marine tourism. These oceans also provide significant economic, social and cultural opportunities as well as governance obligations.

An international 'best practice' coastal and marine governance framework is likely to consist of three key elements: sustainable management practices applied to activities impacting on the marine area, a network of special management areas where management is integrated and/or focused on key threats and a representative network of highly protected areas.

The current governance of New Zealand's oceans falls short of this standard in several key areas, including providing adequate protection for marine biodiversity, effectively managing the environmental effects of fishing, reducing sedimentation and pollution of the marine area, managing the environmental impacts of activities outside territorial waters and preventing damaging bio-invasion. A national oceans policy could provide significant assistance in addressing these problems, and others, through providing an improved organizational, legal and policy framework and focusing coordinated efforts and resources on key areas.

Preparing a national oceans policy provides an opportunity to strengthen New Zealand's international reputation as an innovator in natural resource governance. Setting a new benchmark for international best practice in oceans governance will enhance New Zealand's reputation as an environmental leader. This will, in turn, reinforce the country's 'clean and green' brand which helps sell our goods overseas and attract tourists. It is an opportunity not to be missed.

## References

Andrew N and M Francis, 2003, *The living reef: The ecology of New Zealand's rocky reefs*, Nelson, Craig Potton Publishing.

Arnold A (ed), 2005, *Shining a spotlight on the biodiversity of New Zealand's marine ecoregion: Experts workshop on marine biodiversity 27-28 May 2003, Wellington, New Zealand*, Wellington, WWF-New Zealand.

Batson P, 2003, *Deep New Zealand: Blue water, black abyss*, Christchurch, Canterbury University Press.

Cicin-Bain B and R W Knecht, 2000, *The future of U.S. Ocean Policy: Choices for the new century*, Washington, D.C., Island Press.

Department of Conservation, 2000, *The New Zealand biodiversity strategy*, Wellington, Department of Conservation.

Gordon D, 2004, unpublished notes, Wellington, National Institute of Water and Atmosphere.

Hauraki Gulf Forum, 2005, *The Hauraki Gulf State of the environment report*, Auckland, Auckland Regional Council.

Ministry of Fisheries, 2005, *Strategy for managing the environmental effects of fishing*, Wellington, Ministry of Fisheries.

Secretariat of the Convention on Biological Diversity, 2004, *Technical advice on the establishment and management of a national system of marine and coastal protected areas*, Montreal, Secretariat of the Convention on Biological Diversity.

Taylor G A, 2000, 'Action plan for seabird conservation in New Zealand, part A: Threatened seabirds', *Threatened Species Publication No 16*.