

Marine Environmental Management Stocktake

Summary

June 1999

This preliminary working paper has been prepared by the Ministry for the Environment, the Department of Conservation, and the Ministry of Fisheries, with input from a wide range of government departments.

1. Introduction

On 16 March 1999, the Minister for Food, Fibre, Biosecurity, and Border Control, the Minister of Conservation, and the Minister for the Environment directed their officials to investigate current arrangements for the management of New Zealand's marine environment. In particular, officials were directed to:

- describe the context within which New Zealand's marine environmental management regime operates, including current levels of departmental resourcing; and
- carry out a stocktake of management issues.

This report is a summary of two working papers (“Context” and “Issues”) produced by officials to fulfil this request.

2. Environmental context

New Zealand's EEZ¹ is the fourth largest in the world, with an area of 405 million hectares, which is 15.1 times that of the land mass. This vast marine environment spans over 30 degrees of latitude, from subtropical Raoul Island to south of subantarctic Campbell Island. Much of New Zealand's biodiversity is found in highly diverse marine and coastal habitats.

New Zealand is one of the world's most well-endowed coastal states.

- Over 90% of New Zealand's exports and imports by value and almost 99% by volume are carried by sea.
- Fisheries sales (including aquaculture) are currently worth around \$1.2 billion annually.
- Mineral deposits include: the Chatham Rise phosphoric deposit (substantial deposit but value only estimated); alluvial gold, salt, silica aggregates (estimated at \$30-40 million); and hydrocarbon resources (at \$600 million per annum).

In 1997, the Ministry for the Environment (MfE) published *The State of New Zealand's Environment*. This report intended to inform New Zealanders about the state of our environment and to help identify areas where our environmental management could be improved. Key conclusions in the report which relate to the marine environment included:

- New Zealand's environmental information needs considerable upgrading if the state of the nation's environment is to be accurately described and trends detected.

¹ Explanations of the statutory areas are found in Attachment 1.

- Biodiversity decline is New Zealand's most pervasive environmental issue².
- The main pressures on water quality are non-point source pollution (from diffuse pasture runoff and from paved surfaces in urban areas) and point sources (e.g. factories and sewage outfalls).
- The more difficult and pervasive problem of non-point source discharges has yet to be addressed and will require changes in land management.
- The status of more than half the exploited fish stocks (in relation to optimum levels of biomass) is unknown. The more important species are better known and about 70% of the catch, in tonnage, is from fisheries where the biomass relative to the level which will give the maximum sustainable yield is known.
- Pressures on marine life from fishing include direct harvesting as well as indirect pressures, including bottom disturbance by trawling and dredging and by-catch of non-target species (e.g. marine mammals, seabirds, fish) and dumping offal.
- Apart from the Kermadec and Auckland Islands, protected marine reserves are under-represented in both our coastal waters and our deep water ecosystems.

3. The institutional context

New Zealand has no over-arching marine environmental policy or management system, nor does it have a common set of goals for the marine environment. A variety of laws and agencies deal with management of the territorial sea and the EEZ (see Attachment 2). Hapu and iwi Maori are the Crown's partners in terms of the Treaty of Waitangi.

A variety of government and departmental strategies contribute to marine management and are listed in Attachment 3. The most significant Conventions and agreements affecting the management of New Zealand's marine environment are listed in Attachment 4. An overview of departmental resourcing in the marine environment is provided in Attachment 5.

Our knowledge of marine ecosystems and the impact of human activities on those ecosystems is limited. In 1999, the Ministry of Research, Science and Technology (MoRST) estimated that the total funding pool for marine science and technology is \$96 million. The Public Good Science Fund (PGSF) contributes 33% to the total funding pool while the Ministry of Fisheries (MFish) contributes 19% largely from a levy on the fishing industry. The industry also claims to spend a further 15% of the total on its own research. Land Information New Zealand (LINZ) contributes 23% and the Department of Conservation (DoC) 8% (includes a conservation services levy of approximately \$1 million paid by the fishing industry). The Ministry of Defence (MoD) spends about \$2m on the marine component of the Defence Scientific Establishment. The major structural change in recent years has been the transfer of the bulk of the hydrographic work from NZDF to LINZ.

The most significant recent trend has been a marked increase in PGSF funding through a greater priority being given to Outputs 6 (Fishing and Aquaculture Industries); 14 (Earth, Resources and Processes) and 16 (Marine Environments, Climate and Atmosphere). The Blueprint for Change³ outlines the process by which a new set of priorities will be developed to take effect in July 2000. As part of this process detailed sector strategies were submitted by

² This comment applies to New Zealand's environment, and is not restricted to the marine environment.

³ released May 1999

the New Zealand Seafood Industry and by the Marine Environment (subsector of Environment Sector Strategy). These expand and diversify the conclusions reached in the State of New Zealand's Environment report.

4. Marine environmental issues

Working Paper Two presents the results of a preliminary analysis of the risks to, and issues in, the marine environment. It is intended to initiate discussion on marine management in New Zealand. An indicative rating of significance is assigned to the issues and is summarised in the table below. This attempts to summarise the overall current risk and pressure that the particular issue places on the marine environment.

This initial analysis identified several issues which require resolution. However, most of these issues do not occur in isolation and most are bound by common underlying or cross-cutting themes. These underlying themes are the need to:

1. co-ordinate policy development;
2. improve science and information;
3. enhance stakeholder involvement in decision-making; and
4. co-ordinate cross-agency service delivery.

These themes are described and analysed below. Their application to the environmental issues discussed in this report is illustrated in the table below. The ratings are subjective and, because of the limited time frame for this exercise, have been made without robust analysis or consultation with affected parties.

Notes for the table:

*: low (not a significant problem); **: medium; ***: high (more problematic).

Significance is the overall current risk and pressure that the particular issue places on the marine environment. This is based on the collective views of officials and may not reflect public perception. Note that the significance of a catastrophic event, such as a major oil spill will be high if it occurs, but the probability of occurrence, and hence the risk, of that event may be low.

Contribution of theme reflects the extent to which failures in the underlying theme contributes to the significance of the issue. It does not rank the extent to which the theme should apply. For example, policy co-ordination is desirable for the resolution of most of the issues. A score of "low" implies that either policy co-ordination is occurring satisfactorily or (more rarely) is not necessary for policy development. A score of "high" means that policy development is both not occurring and is necessary.

	Issue	Significance of issue	Contribution of Theme			
			Policy co-ordination	Information	Stakeholder participation	Cross-agency delivery
1a	Fish stock management	***	*	***	**	*
1b	Fish ecosystem mgmt	***	***	***	**	**
1c	Fishing: marine habitat impacts	***	**	***	***	***
2	Protecting natural areas	***	***	***	**	***
3	Stormwater & sewage	***	**	**	*	***
4	Rural land runoff	***	**	**	*	***
5	Ballast water & hull fouling	**	**	**	*	**
6	Protecting Maori values	**	**	**	**	**
7	Toxic algal blooms	**	**	***	?	*
8	Ocean warming	**	?	**	?	?
9	Pollution from boats	**	*	*	*	**
10	Sand dredging	*	*	*	*	*
11	Oil spills	*	*	*	*	*
12	Aquaculture	*	**	**	*	*
13	Seafloor mining	*	**	**	**	*
14	Ozone depletion	*	*	**	?	*

4.1 Coherent and Co-ordinated Environmental Management

Coherent and co-ordinated environmental management can be promoted through:

- Policy leadership;
- Clear policy goals and objectives; and
- Policy co-ordination.

- *Policy leadership*

As for land, no government agency has statutory responsibility for the overall leadership of marine environmental policy. The Minister of Conservation (and hence DoC) is responsible for the development of the NZ Coastal Policy Statement, which directs most non-fishery elements of marine management in the territorial sea. However, no Minister or agency has a similar role outside 12 nm, nor over our marine waters in general. MfE has broad functions under the Environment Act, but does not have specifically defined responsibilities to lead marine environmental policy. Note that policy leadership does not necessarily require one overall leadership agency for marine management where a common framework is established.

- *Clear policy goals and objectives*

The RMA and, more specifically, the NZCPS articulate clear goals and objectives for most aspects of marine environmental management within the territorial sea. Many of the Acts passed during the last decade have similar purposes often related to sustainable management. Nevertheless, there is still potential for conflict between goals, even those that differ only slightly, as there is no common overarching set of policy goals and principles and no mechanism to formalise trade-offs. Some legislation, particularly that applying beyond 12 nm, is bound by international conventions and is difficult to harmonise with domestic legislation.

- *Policy co-ordination*

Many statutes apply in New Zealand's marine environment, and a range of agencies is responsible for administering them. There are a number of examples of good collaboration between some agencies who have joint responsibility for parts of the marine environment: Examples of co-ordination include:

- MFAT and Mfish have quarterly meetings to discuss marine issues over and co-operate on matters such as the preparations to implement the UN Straddling Fish Stocks Convention;
- MfE and MSA collaborated to develop rules and regulations which ensured seamless coverage within and beyond the 12 nm limit enabling the implementation of MARPOL in New Zealand;
- DoC and Mfish have developed a Memorandum of Understanding to guide interactions between the two departments.
- There is a statutory requirement for the Minister of Conservation to seek the approval of Ministers of Fisheries and Transport when establishing marine reserves;
- Many departments co-operate in the production of the annual stocktake of progress towards the *Environment 2010 Strategy's* goals and in the development of environmental performance indicators;
- Department of Prime Minister and Cabinet has worked closely with the Research Vessel Committee and other marine committees such as those run by LINZ and MoRST.

Some officials consider that this indicates a healthy level of policy co-ordination among departments. However, other officials consider that some mechanisms do not have sufficiently wide representation of affected departments and are reliant on goodwill between the organisations and sometimes individuals. There is no formal arrangement for

the co-ordination of marine environmental policy at a Ministerial or even Chief Executive level, and hence no formal mechanism for conflict resolution.

4.2 Science and information issues

The first conclusion of the report on the State of New Zealand's Environment is that “New Zealand’s environmental information needs considerable upgrading if the state of the nation's environment is to be accurately described and trends detected”. This report identified both a paucity and an incoherence of information about marine ecosystems and human impacts on them. Particular problems include:

- deficiencies in marine taxonomy and hence our understanding of our biodiversity resources;
- limited understanding of the impacts of fishing on target species, as well as non-target species and the wider marine environment;
- water quality issues, such as contaminant concentrations in marine and estuarine sediments;
- understanding Maori environmental concerns;
- quantifying climate change impacts;
- the impacts of human activities on the environment.

We need to recognise that the complex nature of the marine environment is such that it is unlikely that the marine environment will ever be fully understood, even with unlimited funding for research. However, opportunities exist to improve what we know about marine ecosystems and the impacts of human behaviour on these ecosystems. In addition we can improve the co-ordination of research and monitoring and the sharing of information so on-going improvements in management decisions can be made.

Some marine stakeholders have already contributed to sector strategy development for the Foresight Project. Agencies having responsibilities for marine issues need to be engaged in the next part of the process, which is the development of Strategic Portfolio Outlines. This implementation stage has the potential to improve the integration of the whole science envelope by co-ordinating the delivery of the priorities determined by operational agencies, end users and science providers. This is particularly important in the marine area where there is such a diverse range of groups involved.

4.3 Facilitating stakeholder participation

Public involvement in planning under the RMA and the Conservation Act has generated an expectation that processes under other Acts do not always meet. Many agencies, groups and individuals have legitimate interests in marine management, both in processes and outcomes. These interests have been equated with rights and parallels are often drawn to management processes within the territorial sea and on land. However, these parallels can be simplistic, as the context for management beyond 12 nm is quite different to that within:

- New Zealand's sovereignty is restricted to within the 12nm limit, and our jurisdiction outside is limited by international law which often places significant constraints on management processes;

- the impacts of human activities often decline with increasing distance from land, implying reduced need for a public overview of decision-making processes; and
- these impacts are less likely to be localised. A general principle of environmental management is decision-making by the affected community. For activities far from land, the affected community is the national, rather than local, community. Hence, processes based on local community participation will not always be appropriate away from land.

Determining appropriate levels of stakeholder participation in decision-making is a complex balance of efficiency and equity, and insufficient work has been carried out in this stocktake to be able to suggest where the balance should lie. A more fundamental issue is the wider issue of what the public wishes to see in respect of use and protection of our oceans. How stakeholders and the wider public can be effectively consulted on management of our oceans requires further thought.

4.4 Service delivery co-ordination

As with policy co-ordination, a range of statutes and management agencies cover the delivery of marine environment management services and activities. Again, there are examples of co-ordination such as the joint programme of observation of fisheries for conservation and fisheries management purposes, and co-ordination of responses to oil spills. Co-ordination is, however, selective rather than comprehensive. Mechanisms for increased co-ordination in service delivery could increase the effectiveness of marine environment management.

Attachment 1: Definitions of administrative domains

New Zealand's marine environment can be divided into six broad administrative domains:

1. The **Territorial Sea** extends out to 12 nautical miles (approximately 22km) from the low-water mark along the coast of New Zealand (often referred to as the "12 mile limit"). We enjoy sovereignty over the territorial sea and its resources but are bound to recognise the right of innocent passage.
2. The **Contiguous Zone** lies between the outer edge of the territorial sea out to 24 nautical miles. A coastal state may exercise such control as is necessary to *prevent* and to *punish* infringements of its customs, immigration, tax and sanitary laws.
3. The **Exclusive Economic Zone (EEZ)** extends out from the seaward edge of the territorial sea to a limit of 200 nautical miles (often referred to as the "200 mile limit"). We exercise sovereign rights over the resources of the EEZ and jurisdiction over scientific research, protection of the environment, and artificial structures.
4. Where the **continental shelf** extends beyond 200nm from the low-water mark, the sovereign rights we exercise over the resources of the continental shelf may extend further seawards than the sovereign rights we enjoy over the resources in the sea column above it which are confined to the 200 nautical mile mark⁴. Under the United Nations Convention on the Law of the Sea, New Zealand has to define the limits of our continental shelf by 2006.
5. The **deep seabed** beyond the outer edge of the continental shelf is vested in the international community and is administered by the International Seabed Authority.
6. The **high seas** (as opposed to the seabed) beyond the outer edge of the EEZ are open to all states, although the freedoms exercised on them must not undermine the rights of coastal states. The UN Fish Stocks Agreement 1995 provides a framework for managing the fish stocks of the high seas.

⁴ Moreover, we are required to share with the international community a proportion of any revenue earned from exploiting the resources of the continental shelf beyond 200 nautical miles.

Attachment 2: The main agencies with responsibility for marine environmental matters

Agency responsibilities and administrative area	Corresponding legislation and international agreements
<p>Department of Conservation (DOC)</p> <ul style="list-style-type: none"> managing and promoting conservation of natural and historic resources NZ coastal policy within the territorial sea approval of restricted coastal activities and coastal plans marine reserves inside the territorial sea marine mammal and wildlife protection out to the EEZ public ownership of all foreshore and seabed within the coastal marine area 	<ul style="list-style-type: none"> ⇒ <i>Conservation Act 1987</i> ⇒ <i>Resource Management Act 1991 (RMA) (coastal management)</i> ⇒ <i>Marine Reserves Act 1971</i> ⇒ <i>Marine Mammals Protection Act 1978 and Wildlife Act 1953</i> ⇒ <i>Foreshore and Seabed Endowment Revesting Act 1991</i>
<p>Ministry of Fisheries (MFish)</p> <ul style="list-style-type: none"> sustainable fisheries use within the EEZ establish and develop marine farming (aquaculture) within the territorial sea ballast water discharge within the territorial sea (note that powers to board extend to the contiguous zone) Treaty obligations 	<ul style="list-style-type: none"> ⇒ <i>Fisheries Acts 1983 and 1996</i> ⇒ <i>Marine Farming Act 1971</i> ⇒ <i>Biosecurity Act 1993</i> ⇒ <i>Maori Fisheries Act 1989</i> ⇒ <i>Treaty of Waitangi (Fisheries Claims) Settlement Act 1992</i>
<p>Regional Councils (RCs)</p> <ul style="list-style-type: none"> coastal management in association with DOC within the territorial sea sustainable land management and discharges from the land marine pollution regulations within the coastal marine area response to small to moderate oil spills within the territorial sea pest management strategies - could cover marine organisms within the territorial sea 	<ul style="list-style-type: none"> ⇒ <i>RMA and the New Zealand Coastal Policy Statement (NZCPS)</i> ⇒ <i>RMA and Maritime Transport Act 1994</i> <i>London Dumping Convention</i> <i>The International Convention for the Prevention of Pollution from Ships (MARPOL)</i> ⇒ <i>Biosecurity Act 1993</i>
<p>Ministry of Transport (MoT)</p> <ul style="list-style-type: none"> administration of the Maritime Transport Act administration of the Shipping (Nautical Publications) Regulations. 	<ul style="list-style-type: none"> ⇒ <i>Maritime Transport Act 1994</i> ⇒ <i>Shipping (Nautical Publications) Regulations 1988⁵</i>

⁵ The legislation that gave effect to these regulations has been repealed. However, the regulations remain in force until June 2000 when they will be replaced by rules made under the Maritime Transport Act 1994.

Agency responsibilities and administrative area (cont'd)	Corresponding legislation and international agreements
<p>Maritime Safety Authority (MSA)</p> <ul style="list-style-type: none"> • vessel based discharges, all oil spills beyond the territorial sea, and large oil spills within the territorial sea • administering marine pollution rules beyond the coastal marine area • addressing relevant international marine pollution treaties in these areas • control of hazardous substances and new organisms on ships within the territorial sea 	<p>⇒ <i>Maritime Transport Act 1994</i>, including <i>London Dumping Convention</i> MARPOL</p> <p>⇒ <i>Hazardous Substances and New Organisms Act 1996</i> (HSNO)</p>
<p>Ministry of Commerce (MoC)</p> <ul style="list-style-type: none"> • granting prospecting, exploration and mining permits • granting prospecting or mining licences for minerals beyond the territorial sea • granting prospecting, exploration and mining permits for petroleum beyond the territorial sea • archiving and management of copies of data obtained from prospecting, exploration and mining, and from the Continental Shelf delineation project 	<p>⇒ <i>Crown Minerals Act 1991</i></p> <p>⇒ <i>Continental Shelf Act 1964</i></p> <p>⇒ <i>Crown Minerals Act 1991</i></p>
<p>Environmental Risk Management Authority (ERMA)</p> <ul style="list-style-type: none"> • approval of imported or manufactured hazardous substances and the deliberate introduction of new organisms within the EEZ 	<p>⇒ <i>Hazardous Substances and New Organisms Act 1996</i> (HSNO)</p>
<p>Land Information New Zealand (LINZ)</p> <ul style="list-style-type: none"> • Purchaser of Crown funded hydrographic and (some) bathymetric services • Steward of Crown hydrographic and (some) bathymetric information, including UNCLOS survey data • Lead Agency for Technical Survey programme for NZ's continental shelf claim under UNCLOS 	<p>⇒ Cabinet directive (Hydrography) CAB (95) M 48/35</p> <p>⇒ International Hydrographic & Maritime Organisations (IHO-IMO SOLAS Chapt 5 Reg 9)</p> <p>⇒ Cabinet directive (Continental Shelf) CAB(6) M32/11A⁶</p>

⁶ Detail of this Cabinet reference is provided in CIE (96) M 21/2

Agency responsibilities and administrative area (cont'd)	Corresponding legislation and international agreements
<p>Ministry of Foreign Affairs and Trade (MFAT)</p> <ul style="list-style-type: none"> • creation of exclusion zones around offshore installations • co-ordinating NZ participation on UNCLOS matters including the EEZ and continental shelf regimes, and on other international maritime law matters • Management of the EEZ through regulations where there are no other suitable regimes in place (s27 allows regulations for a number of purposes - controlling research, protection and preservation of the marine environment, construction of structures, exploitation of energy) 	<ul style="list-style-type: none"> ⇒ MARPOL and the <i>London Dumping Convention</i> ⇒ <i>Continental Shelf Act 1964</i> ⇒ <i>United Nations Convention on the Law of the Sea</i> ⇒ <i>Convention on Biological Diversity</i> ⇒ <i>Convention for the Conservation of Southern Bluefin Tuna</i> ⇒ <i>United Nations Convention on the Management of High Seas Migratory Fishes and Straddling Stocks</i> ⇒ <i>Convention on the Prohibition of Fishing with Long Drift Nets in the South Pacific</i> ⇒ <i>Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar)</i> ⇒ <i>Territorial Sea, Contiguous Zone, and Exclusive Economic Zone Act 1977</i>
<p>Ministry for the Environment (MfE)</p> <ul style="list-style-type: none"> • administration of the Resource Management Act • administration of Resource Management (Marine Pollution) Regulations 1998 • administration of HSNO • advice on procedures for the assessment and monitoring of environmental impacts • environmental overview functions • overview sustainable land management 	<ul style="list-style-type: none"> ⇒ <i>Resource Management Act 1991</i> ⇒ <i>Hazardous Substances and New Organisms Act 1996 (HSNO)</i> ⇒ <i>Environment Act 1986</i> ⇒ <i>Resource Management Act 1991</i> and Sustainable land management strategy
<p>Ministry of Agriculture and Forestry (MAF)</p> <ul style="list-style-type: none"> • Administering Part III of the Biosecurity Act concerning importing of risk goods. Power to board craft etc extend to the contiguous zone. 	<ul style="list-style-type: none"> ⇒ <i>Biosecurity Act 1993</i>
<p>Ministry of Health</p> <ul style="list-style-type: none"> • public health - threats in the marine environment include communicable diseases and toxic algae • administration of the Food Act 	<ul style="list-style-type: none"> ⇒ <i>Health Act 1956</i> ⇒ <i>Food Act 1981</i>

Agency responsibilities and administrative area (cont'd)	Corresponding legislation and international agreements
Ministry of Research, Science and Technology <ul style="list-style-type: none"> science policy including policy of marine science 	
Foundation for Research, Science and Technology <ul style="list-style-type: none"> purchasing of public good science outputs including marine science 	

Attachment 3: Relevant government and departmental strategies

Government's Strategic Goals and Priorities

The Government's strategic goal for the environment is:

"We treasure our clean, healthy and unique environment and will ensure it continues to sustain nature and people's needs and aspirations. The life-supporting capacity of soil, water, air and ecosystems will continue to be safeguarded and the biological diversity and spectacular scenery that make New Zealand special place will continue to be able to be enjoyed by future generations."

Relevant Strategic Priorities include:

SP 3: *"Improve the quality of our regulatory environment"*.

SP 6: *"Safeguard indigenous biodiversity by protecting habitats and controlling introduced pests"*.

New Zealand Coastal Policy Statement (1994)

The Minister of Conservation is required under the RMA to produce the NZCPS. The purpose of the NZCPS is to state policies to promote the sustainable management of natural and physical resources in relation to the coastal environment of New Zealand. The NZCPS guides local authorities in their day to day management of the coastal environment. Regional coastal plans cannot be inconsistent with the NZCPS.

The Environment 2010 Strategy (MfE, 1995).

The Government's statement on the environment does not have an explicit marine section but the marine environment is covered in goals and action plans relating to water management, and is addressed by elements of the biodiversity, fisheries, pests, weeds and diseases, and transport goals.

Changing Course -Towards Sustainable Fisheries 2010 (MFish, 1996).

- This document is the Ministry of Fisheries' preferred direction for managing fisheries out to 2010 but is not the Government's strategy. Ecosystem-based management is the cornerstone of the strategy.

Ballast Water and Ship's Hull De-fouling: A Government Strategy (MFish, 1998).

The desired outcome of this strategy is that New Zealand's territorial seas are kept free, to the maximum practical extent, from new harmful species and disease. A secondary goal is to contribute to the development and implementation of the MARPOL Ballast Water Annex under the auspices of the International Maritime Organisation (IMO) within three years. The Strategy builds on the provisions of the Biosecurity Act, the RM Act and the NZCPS.

New Zealand Marine Oil Spill Response Strategy (MSA, 1996)

The aim of the strategy is to efficiently and effectively minimise the impact of oil pollution on the marine environment, from ships and oil transfer sites.

National Transport Statement (MoT, 1998)

The overall transport policy objective is that the New Zealand transport system must contribute maximum benefit at minimum cost to New Zealand, consistent with sustainable development.

New Zealand Hydrographic and Bathymetric Information Strategy (LINZ, 1997).

The strategy establishes a framework to underpin decisions related to the purchase of core Crown hydrographic and bathymetric information.

RS&T 2010: The Government's Strategy for Research, Science and Technology to the Year 2010 (MoRST).

This strategy has a variety of goals which apply to marine science.

Public Good Science Fund (PGSF) strategy documents (Foundation of Research, Science and Technology).

The primary function of the Foundation is the allocation of funds for the production of science and technology outputs.

Statement of Science Priorities (MoRST, 1999)

Four goals have been identified which will assist targeting research, science and technology investment. The three that relate to the environment are:

- Innovation goal: Accelerate knowledge creation and the development of human capital, social capital, learning systems and networks in order to enhance New Zealand's capacity to innovate
- Economic goal: Increase the contribution knowledge makes to the creation and value of new and improved products, processes, systems and services in order to enhance the competitiveness of New Zealand enterprises
- Environmental goal: Increase knowledge of the environment and of the biological, physical, social, economic and cultural factors that affect it in order to establish and maintain a healthy environment that sustains nature and people.

While decisions on the detailed principles and criteria for articulating priorities have not yet been made, it is probable that science investment will focus on outcomes. In focusing on outcomes, the emphasis of policies and management practices will shift from rules to results, flexibility will increase, and the emphasis on tightly defined investment categories and pathways will diminish.

Fourteen outcomes have been developed, including⁷:

⁷ MoRST (1999) *Blueprint for change - Government policies and procedures for its research, science and technology investment*. Ministry of Research, Science and Technology, Wellington.

- **Healthy, diverse, resilient ecosystems**
New Zealand has healthy, diverse and resilient living systems that sustain nature and people. We understand and value our ecosystems, are environmentally responsible and have assured the long-term quality and capacity of land, marine, freshwater and air resources.
- **Sustainable use of natural resources**
New Zealand understands the valuable contributions natural resources make to wealthy creation. Innovative and efficient methods are used to maximise the long-term value from these resources and sustain the ecosystems that support them.
- **Wealth-creating food and fibre industries**
New Zealand recognises that wealth creation from food and fibre resources requires consumer-oriented, value-added products, processes and services. These wealth-creating activities are built on innovative, efficient and sustainable use and development of these resources.

Priorities for 2001: Public Good Science Investment (Science Priorities Review Panel)

This report specifically mentions opportunities and obligations relating to UNCLOS (Law of the Sea).

New Zealand Biodiversity Strategy (Draft) (DoC and MfE, 1998)

The strategy is being produced as part of our obligations under the Convention on Biological Diversity. The draft strategy has an explicit marine biodiversity chapter and states that in its “Agenda for Action” we must “manage the marine environment to sustain biodiversity”. The draft strategy recognises that this task cannot be left to central and local government. It suggests that iwi, farmers, fishers, foresters and rural and urban communities who manage natural resources must also become involved.

Sustainable Land Management Strategy (MfE, 1996)

This strategy has as one of its priorities for action the agricultural impacts on aquatic ecosystems, which include coastal waters. The strategy places the primary responsibility for achieving sustainable land management on individual land users.

National Agenda for Sustainable Water Management (MfE, 1999)

This is currently under development by MfE. It includes coasts and estuaries, but most of the actions relate to freshwater.

Minerals Programme for Petroleum (1995), Minerals Programme for Minerals (1996), and Minerals Programme for Coal (1996)

These are issued under the Crown Minerals Act 1991 by the Governor-General and set out the policies, procedures and provisions for permit allocation. The policies, procedures and provisions must be adhered to by the Minister and the secretary of Commerce.

Attachment 4: International laws, conventions and agreements

- The *United Nations Convention on the Law of the Sea (UNCLOS)* – ratified by New Zealand in 1996 this comprehensive treaty codifying the law of the sea recognises, amongst other things, sovereignty over 12 nautical miles of territorial sea, and sovereign rights over the resources in the EEZ and on the continental shelf. It imposes obligations on states to protect and preserve the marine environment to the defined limit of its continental shelf.

Under this convention, New Zealand may gain exclusive rights to explore and exploit mineral resources (but no further rights to fisheries resources) of the continental shelf beyond the EEZ. The convention requires New Zealand to define the outer limits of its continental shelf and submit its claim by 2006.

- The *International Convention for the Prevention of Pollution from Ships 1973/78 (MARPOL)* - The legislation necessary to enable New Zealand to become a party to MARPOL was passed in 1998. MARPOL is now binding in New Zealand. The annexes are prevention of pollution: by oil (I); by harmful substances carried by sea in packaged form (III); by sewage from ships (IV); by garbage from ships (V); and control of pollution by noxious liquid substances in bulk (II).

A further annex (Annex VI) considers air pollution from ships. This annex is not yet in force internationally. The IMO is developing a another annex regarding the disposal of ballast water. Regulations under the RMA and marine protection rules under the Maritime Transport Act have been developed to control discharges of pollutants specified under MARPOL.

- *Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal*. New Zealand ratified this in 1995. The convention aims to both reduce the amount of waste being produced by signatories and regulate the international traffic in hazardous wastes (especially to developing countries).
- The *Convention on the Prevention of Marine Pollution by Dumping⁸ of Wastes and Other Matter 1972* (the London Convention). Ratified and implemented initially by the Marine Pollution Act 1974⁹. The MTA rules and RMA regulations that enable New Zealand to implement the 1996 Protocol to the London Convention came into force in 1998. Cabinet has agreed to New Zealand implement the 1996 Protocol.
- The *Convention on Biological Diversity (CBD)*. New Zealand has signed and ratified this convention and is currently developing its Biodiversity Strategy (see above). The CBD requires New Zealand, as a party, *inter alia*, to take action to protect components of coastal and marine biodiversity within its jurisdiction. It also requires co-operation to achieve conservation and sustainable use of biodiversity outside its national jurisdictions,

⁸ Dumping is the deliberate disposal of waste carried on board for the purpose of disposal. It does not include operational discharges, such as sewage, which are addressed by MARPOL

⁹ The Marine Pollution Act 1974 was repealed on 20 August 1998 and was replaced by the Maritime Transport Act 1994.

on the high seas and on the deep sea bed. The draft New Zealand Biodiversity Strategy has a chapter on marine biodiversity.

- *The Commission on Sustainable Development (CSD)* was established by the UN General Assembly after the Rio Earth Summit (1992). Chapter 17 of Agenda 21 addresses high seas fishing issues, sustainable use and conservation of marine living resources, and the sustainable development of small islands. CSD provides political impetus and an institutional focal point for the implementation of Agenda 21, co-ordinates and catalyses action on issues related to sustainable development; and provides a forward-looking forum for emerging sustainable development issues.

The New Zealand Minister for the Environment was the Chair of the Seventh Meeting of the CSD in 1999. Oceans and seas was the main theme of CSD VII. The need for improved co-ordination and co-operation in the way the UN system deals with the Oceans was a focus of the meeting. An outcome of the meeting was that the CSD recommended that “an open-ended informal consultation process” be established to provide focus for the General Assembly’s annual debate on Oceans and to provide a genuine impetus for improved inter-agency co-ordination.

- *Convention for the Protection of the Natural Resources and Environment of the South Pacific Region 1986 (SPREP)*. New Zealand ratified this convention in 1990. It provides for the control and prevention of marine pollution in the South Pacific region and has Protocols on Combating Pollution Emergencies and Prevention of Pollution by Dumping.
- *International Convention on the Regulation of Whaling 1946 (ICWR)*. New Zealand ratified this Convention in 1949. It provides for the regulation of whaling activities. A moratorium on commercial whaling has been in place since 1982.
- *UN Convention on the Management of High Seas Migratory Fishes and Straddling Stocks*. New Zealand has signed but not ratified this agreement. The Government has approved ratification and legislation (amending the Fisheries Act) which will implement this is being drafted. The legislation necessary to enable New Zealand to become party to this Convention is under preparation. Ratification will oblige New Zealand to protect biodiversity in the marine environment, apply the precautionary approach, take into account the interests of artisanal and subsistence fishers etc. The Agreement provides for implementation through regional management arrangements. It gives participating states strong enforcement powers.
- *Convention for the Conservation of Southern Bluefin Tuna (CCSBT)*. New Zealand has signed and ratified this convention. The objective of the convention is to ensure, through appropriate management, the conservation and optimum utilisation of southern bluefin tuna.
- *Convention on the Prohibition of Fishing with Long Drift Nets in the South Pacific (Wellington Convention)*. New Zealand ratified this in 1991. It bans the use of driftnets over 2.5 kilometres long in the South Pacific.

- *Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)*. New Zealand has signed and ratified this convention. The Convention's objective is to safeguard the environment and protect the integrity of the ecosystems of the seas surrounding Antarctica, and to conserve Antarctic marine living resources. The Ministers for the Environment, Conservation, and Food, Fibre and Biosecurity have recently expressed concerns about the illegal and unregulated fishing of Patagonian toothfish in the Southern Ocean.
- *The Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention)*. New Zealand ratified the convention in 1984. New Zealand has five sites listed as wetlands of importance under the Convention.
- *UN Global Action Plan on Marine Pollution from Land Based Sources*. New Zealand contributed to the development of this Plan. Its prime focus is on regional seas initiatives, such as those promoted by the South Pacific Regional Environmental Programme. It also led to a process which may culminate in a convention controlling the use of persistent organic pollutants.
- Australian and New Zealand Environment and Conservation Council (ANZECC) - *Working together to reduce impacts from shipping operations: ANZECC strategy to protect the marine environment 1996*.¹⁰ The strategy hooks into MARPOL and provides useful background research for future policy work as well as a framework for current work programmes in several areas. MfE and MSA are working together on several strands of work related to the Strategy.

¹⁰ See the document *Working together to reduce impacts from shipping operations: ANZECC strategy to protect the marine environment*, ANZECC, 1997.

Attachment 5: Departmental Resourcing in the Marine Environment

Outputs	\$Million - other	\$Million - Crown
Maritime Safety Authority		
Safety regulation and monitoring	10.9	3.1
Marine environmental protection	2.0	
Sub total	12.9	3.1

Department of Conservation		
Marine mammal protection		1.42
Implementation of marine protection		0.33
Management of marine reserves		1.09
Coastal Policy		0.47
Fisheries Act Conservation Services		1.58
Marine species conservation (seabirds)		2.50
Sub total		7.39

Ministry of Fisheries		
Marine management	31	60.0
Biosecurity		0.50
Subtotal	31	60.50

LINZ		
Hydrography		19.82
Geodesy		0.030
Policy		0.035
Sub total		19.885

Ministry of Defence		
Hydrographic survey work and Fisheries patrol		<i>information to come</i>

Ministry for the Environment		
Marine environment indicators (EPI Programme)		0.18
Marine bathing guidelines		0.03
Marine pollution regulation (development and implementation)		0.03
Other policy involvement (fisheries, biodiversity)		0.1
Sustainable management fund		0.18
Sub total		0.46

MoRST		
Public Good Science Fund* and policy involvement		<i>information to come</i>

Ministry of Health¹¹		
Marine Biotoxin Program & Aquaculture guidelines		<i>information to come</i>
Other policy involvement		0.05
Sub total		0.05
Total expenditure	43.9	91.385

Note: expenditure includes estimates of internal staffing and overhead costs and is for the 1998/99 year

* This figure is approximately \$33 million.

¹¹ The Health Funding Authority has individual contracts with the Medical Officers of Health (MoH) in the regions. The Ministry of Health is not party to the details of these contracts. Where necessary, policy decisions made by the Ministry are usually implemented by the MoH's.