

OCEANS POLICY SECRETARIAT

WORKING PAPER FOUR
14 March 2003



OCEANS POLICY

ENVIRONMENTAL ISSUES

Contents

<i>Introduction</i>	2
<i>Environmental outcomes for an Oceans Policy</i>	2
<i>Current environmental management</i>	3
Resource Management Act	3
Fisheries Act	3
Maritime Transport Act	4
Marine Mammals Protection Act	4
Marine Reserves Act	4
Other controls beyond the territorial sea	5
Other marine functions within the context of international law	5
Protection mechanisms	5
<i>Problems with the current management</i>	6
Cumulative effects	6
Land-based activities	6
Fishing activities	6
Other economic activities	7
Beyond the territorial sea	7
Protection of marine areas	8
Clean-up	8
Biosecurity and the probability of breaches	8
<i>Assessment of the issues – why are problems occurring?</i>	8
Overarching reasons	8
Specific reasons	10
<i>Conclusions</i>	11

Introduction

1 This paper discusses the management of environmental effects of human activities on the ocean. It examines issues arising from the management of both current and foreseeable future activities.

Environmental outcomes for an Oceans Policy

2 The vision defined in Stage One of the Oceans Policy process reflects New Zealanders' desire for healthy seas. It is clear from Stage One that people expect to be able to use the ocean as a source of food and other economic benefits over the long term. They want their children to have similar opportunities to experience and enjoy the ocean as they have had. Without a healthy ocean environment, these expectations will not be met. This means that any policy relating to the oceans needs to ensure that the ocean environment has abundant biodiversity and can sustain a wide range of uses.

3 The Oceans Policy should reflect a sustainable development approach to oceans management. The Government's Sustainable Development Programme of Action highlights a commitment to considering the environmental consequences of its decisions through:

- addressing risks and uncertainty when making choices and taking a precautionary approach when making decisions that may cause serious or irreversible damage
- decoupling economic growth from pressures on the environment
- respecting environmental limits, protecting ecosystems and promoting the integrated management of land, water and living resources.

4 Similarly there are international imperatives stemming from the United Nations Convention on the Law of the Sea (UNCLOS), the International Convention for the Prevention of Pollution from Ships (MARPOL), the Rio Declaration and other agreements that place obligations to protect the marine environment from the harmful effects of human activity. For example, UNCLOS requires states to protect and preserve the marine environment, conserve its living resources, and promote the equitable and efficient use of marine resources.

5 Therefore, it is important to maintain and restore ecological integrity (including abundant biodiversity) within New Zealand's oceans. Achieving this should not preclude attainment of other elements of the oceans management system (e.g. respecting the Treaty, wealth creation and public use and enjoyment), but requires that such activities or values should not compromise the natural capital that underpins and enables those activities.

6 So what does "maintaining and restoring ecological integrity" mean? Key concepts are protection, restoration and ensuring that human activities (on land and sea, and those resulting in the introduction of alien species) do not compromise the quality of the marine environment. Protection and restoration does not necessarily prevent use – for example, the Leigh marine reserve is one of the most heavily utilised sections of the New Zealand coastline outside city beaches. Restoration, in this

context, means to facilitate recovery. In practice, restoration would primarily be passive, such as the removal of degrading influences, rather than active, such as restocking.

7 A key requirement of any ocean management system is the recognition of uncertainty, and the limits of our information about how marine ecosystems function. Marine ecosystems are constantly changing and do not always fit neatly within administrative boundaries. Achieving this recognition will require decision-making (management systems) that are cognisant of ecosystem processes and functions, and that can be tailored to draw upon our evolving understanding of how ecosystems work and how they respond to different human impacts.

8 Finally, a more consistent approach to environmental performance is required for all activities. This does not mean that exactly the same approach should be taken or that all decisions should be made centrally. Rather, when it comes to the assessment and management of environmental effects, different activities should be treated fairly and according to the magnitude of their potential effects on the environment. A range of methods could be used to implement defined levels of performance, including statutory limits, codes of practice, standards, or economic instruments.

Current environmental management

9 A brief summary of the key elements of current environmental management of the oceans is set out below. A more comprehensive description is set out in the Oceans Policy Stocktake¹.

Resource Management Act

10 The Resource Management Act (RMA) deals with a wide range of environmental effects on marine resources within the territorial sea, through provisions in plans and resource consents. In addition to these controls, marine pollution regulations under the RMA give effect to New Zealand's obligations under the International Convention for the Prevention of Pollution from Ships (MARPOL) and the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Dumping Convention) within the territorial sea². They deal with the dumping of waste at sea and the discharge of oil, sewage and harmful substances arising as a result of the normal operation of ships and offshore installations. However, in some cases the requirements are less onerous than those of the relevant international instrument (e.g. sewage discharge provisions).

Fisheries Act

11 The Fisheries Act regulates recreational, customary and commercial fishing throughout New Zealand's oceans. The Act requires the sustainable utilisation of fish stocks. There are currently no specified or structured environmental assessment

¹ Oceans Policy Stocktake – Legislation and Policy Review, November 2002. See www.oceans.govt.nz/resources/publicdoc.html.

² Strictly, the regulations apply to the coastal marine area, which is defined in section 2 of the RMA as the area extending (usually) from the line of mean high water springs (see footnote 4) to the outer limits of the territorial sea.

procedures (for instance, to assess the wider effects of fishing on ecosystems), although environmental information is taken into account when available. Some regulations under the Act are environment-related for specific activities, methods or areas (such as seamount closures).

12 The Ministry of Fisheries is about to release its draft Strategy for Managing the Environmental Effects of Fishing (previously known as the Environmental Management Strategy). The purpose of the Strategy is to make meaningful improvements in managing the environmental effects of fishing, to implement an ecosystem approach to fisheries and to allow MFish to meet its environmental obligations in an effective and coordinated manner. The draft Strategy sets out a high-level framework and approach. More detailed strategies will be developed within this framework to address specific environmental issues.

Maritime Transport Act

13 Marine protection rules promulgated under the Maritime Transport Act (MTA) work in combination with marine pollution regulations under the Resource Management Act to provide a relatively seamless regulatory framework for marine protection within New Zealand's jurisdiction. Just as marine pollution regulations under the RMA give effect to New Zealand's obligations under MARPOL and the London Dumping Convention *within* the territorial sea, marine protection rules under the MTA give effect to these same obligations *beyond* the territorial sea to the limits of the exclusive economic zone – and in some cases, to the limits of the continental shelf. In addition, marine protection rules cover design, construction and equipment requirements, and shipboard operational and emergency procedures relating to the prevention of pollution from boats, both within the territorial sea and beyond. The Maritime Safety Authority can also regulate and restrict international shipping to prevent transit through sensitive areas within New Zealand's ocean.

Marine Mammals Protection Act

14 This Act provides for the protection, conservation and management of marine mammals within New Zealand and New Zealand fisheries waters. Among other things, it allows the Minister of Fisheries to set maximum allowable levels of fishing-related mortality for threatened species or any other marine mammals – such as the Hector's Dolphin and New Zealand Sealion.

Marine Reserves Act

15 This Act sets out processes for establishing and managing areas of the sea and foreshore as marine reserves for the purpose of preserving them in their natural state as the habitat of marine life for scientific study. It is proposed to replace the present Act with new legislation that will³ address issues such as:

- the land-sea interface: marine reserves can currently extend landward as far as the mark of mean high water springs⁴, which means that land-based impacts can be hard to manage

³ The Marine Reserves Bill is currently before the Select Committee.

⁴ The average of high water heights occurring at the time of spring tides.

- the seaward boundary: the Bill proposes to allow establishment of marine reserves throughout New Zealand’s exclusive economic zone, whereas the current Act only provides jurisdiction to the limits of the territorial sea
- the exclusivity of purpose with respect to scientific study: this creates problems creating reserves for environmental or other purposes. The new purpose set out in the Bill is “to conserve indigenous marine biodiversity ... for current and future generations”.

Other controls beyond the territorial sea

16 There are few explicit requirements for management of environmental effects beyond the territorial sea. Provisions under the Fisheries and Maritime Transport Acts are discussed above. The Continental Shelf Act covers most seabed activities beyond the territorial sea (at the discretion of the Minister) although environmental requirements are not specified. Regulations can be made – however none have been made so far. Recent environmental impact assessments under the Continental Shelf Act have been carried out through an ad hoc process.

Other marine functions within the context of international law

17 The Maritime Safety Authority derives significant environmental functions through mandates conferred upon it by the Crown to head New Zealand’s participation in various international instruments and associated forums concerned with protection of the marine environment (and the safety of navigation). As an example, the MSA is currently leading the New Zealand application to the International Maritime Organisation for a shipping exclusion zone to be put in place around the Poor Knights Islands to limit the risk of environmental impacts from vessel-related incidents in the area.

Protection mechanisms

18 Current protection tools and strategies include:

- the Biodiversity Strategy, which sets a goal of 10% of the area of New Zealand’s exclusive economic zone to be set aside as protected marine areas
- marine reserves (e.g. Goat Island, Tonga Island, Kapiti, Kermadecs)
- fisheries regulations and notices – method or area closures (e.g. seamounts, Separation Point) and fishing season closures to limit bycatch of protected species (e.g. squid fishery/New Zealand sealions)
- mataitai, taiapure, and rahui closures to protect customary fishing areas and values (e.g. Rapaki Bay, Palliser Bay, Koukourarata, Pukerua Bay)⁵
- marine mammal sanctuaries (e.g. Banks Peninsula)
- population management plans under the Marine Mammals Protection Act
- whale sanctuary status of New Zealand’s exclusive economic zone⁶

⁵ See sections 186A and 186B of the Fisheries Act.

⁶ A large proportion of New Zealand’s EEZ lies within the Southern Ocean Whale Sanctuary administered by the International Whaling Commission, with the remainder lying within the proposed

- marine protection rules under the Maritime Transport Act⁷
- marine pollution regulations under the Resource Management Act⁸
- cable protection zones/offshore installation exclusion zones (e.g. around the Cook Strait cable)
- marine parks (e.g. Sugar Loaf Island, Hauraki Gulf)
- international protection measures promoted by the Maritime Safety Authority, such as shipping exclusion zones like the one proposed for the Poor Knights Islands (see paragraph 17 above)
- sites of special significance identified under the Resource Management Act.

19 The Ministry of Fisheries and Department of Conservation are also developing a Marine Protected Areas Strategy to provide direction on priorities for protecting important marine areas and values, and on the range of protection measures currently available.

Problems with the current management

20 Environmental problems in the oceans reveal themselves in a number of ways discussed below.

Cumulative effects

21 Effective management of the cumulative effects of activities is a major challenge. The marine environment is vast, dynamic and only partly understood by marine managers, making it difficult to gauge the environmental impacts of many different activities over time.

22 Effective identification and management of cumulative effects is a problem for management of most marine-related activities. For example, it is difficult to assess the overall effects of quota stock fishing on the wider ecosystem, and it is hard to manage the many diffuse discharges that pollute waterways flowing to the sea.

Land-based activities

23 Land-based activities can have significant adverse impacts on the sea. The problems relating to the land–sea interface are discussed in Working Paper Five.

Fishing activities

24 There are a number of adverse environmental impacts and concerns stemming from fishing activities. They include:

- the problem of fisheries by-catch for some species, notably the Hector’s dolphin, albatrosses and petrels, and the New Zealand Sealion

South Pacific Whale Sanctuary. New Zealand has a clear international obligation to ensure that decisions affecting our oceans do not have adverse impacts on the great whales, including impacts on their potential recovery from the currently depleted populations.

⁷ These can be made under Part XXVII of the Act for wide-ranging purposes – see ss 386 and 388.

⁸ These are made under section 15B of the RMA – see RM Amendment Act 1997, s6.

- constraints on the effectiveness of monitoring and compliance. Discrepancies are sometimes found between the data gathered at sea by official fisheries observers and the returns lodged by fishing company staff. Under-reporting of by-catch in the absence of fisheries observers poses a particular problem
- the pressure of harvesting from customary and recreational fishing which has led to overfishing and a shortage of shellfish in some areas
- a concern that enforcement officers are few and far between, with poaching identified as a major problem (particularly paua).

Other economic activities

25 Mechanical activities such as trawling, dredging, dumping and the extraction of oil, gas and minerals can have adverse effects on some marine habitats, including seamount communities and coral, bryozoan, sponge and other benthic communities (dredging in Golden Bay has been cited as an example of this).

Beyond the territorial sea

26 Beyond the territorial sea there is a lack of consistent controls on the environmental impacts of activities, and ad hoc responses to new activities.

27 The Continental Shelf Act and Fisheries Act allow for some types of ‘new’ seabed activities (e.g. mining and bioprospecting) but the decision-making processes with regard to permitting activities and assessing environmental effects are not specified. New Zealand’s only gas field beyond the territorial sea, Maui, did go through an environmental assessment – but there was no statutory requirement to do this. The assessment was completed by the Parliamentary Commissioner for the Environment. Impact assessment provisions will need to be strengthened and consistently applied as new cases arise in the future (for instance, as the Maari oil field is projected to come on line, probably within the next few years).

28 New technologies may not be covered effectively under existing legislation, except in the broadest sense under the Continental Shelf Act – which relies on official and Ministerial discretion for the management of environmental effects. For example, tidal and wave power could alter tidal currents, affecting the habitat of seabirds and fish, but there are no specific requirements to assess these effects.

29 Similarly deep-sea aquaculture (beyond the territorial sea) is becoming more technologically feasible, yet there is no statutory framework to authorise this activity and regulate its environmental effects. Environment Canterbury (Canterbury Regional Council) is currently considering an application for a marine farm more than 12 nautical miles long. Although in this case the farm would be oriented so that it is located wholly within the territorial sea, it seems only a matter of time before an application is tendered for a farm that spans the boundary of the territorial sea. Such an operation would be subject to very different environmental controls on each side of the boundary.

30 Dumping of dredge spoil occurs in most regions of New Zealand and is generally managed through Resource Management Act processes. However, disposal

of dredge material beyond the 12-mile limit does occur in one location in New Zealand (Auckland) due to a perceived prohibition on the activity within the coastal marine area of Auckland.

Protection of marine areas

31 While a large number of tools are available for protecting the marine environment, problems still persist with degraded areas – particularly in hot spots of usage around the country. One example is Spirits Bay, which has one of the highest known levels of marine biodiversity. There is limited protection from the effects of fishing and other activities in the area (including regulations to prohibit trawling and dredging).

32 A key issue is that we still have limited knowledge about what should be protected and where. The Biodiversity Strategy's 10% goal for marine protected areas is a clear objective. Developing a series of genuinely representative marine protected areas within the territorial sea and the exclusive economic zone will require careful consideration of where priority sites and values are, and how they should be protected. Both the draft Marine Protected Areas Strategy and the Marine Reserves Bill will help to address these issues.

Clean-up

33 There are administrative gaps in clean-up requirements relating to things like ammunitions dumps and sunken vessels. Also, heavy metals from land use can contaminate the ocean; there is little information about how effectively clean-up bonds are working; contingency plans for some activities are non-existent (there are differences in planning, for example; and beyond the territorial sea, contingency plans are not required for activities such as aquaculture, bio-mining and mineral (but not petroleum) extraction). A further problem is a lack of management of exclusion zone removals (for example, when petroleum wells are removed, rendering exclusion zones redundant). Although the Ministry of Foreign Affairs and Trade has responsibility for this under the Continental Shelf Act, they do not have the expertise or capacity to enforce removals. Changes to the Maritime Transport Act are being considered to remedy this problem.

Biosecurity and the probability of breaches

34 Problems relating to biosecurity are discussed in more detail in Working Paper Six.

Assessment of the issues – why are problems occurring?

Overarching reasons

35 There are some overarching reasons why the problems set out above are occurring. These relate to the institutional arrangements for environmental decision-making and the way that information is used to make decisions.

Institutional arrangements

36 Institutional problems appear to arise mainly as a result of the complex, and sometimes difficult, relationships and mandates of different agencies. This may be

partly because of conflicting legislative purposes which lead, for example, to the conflict between the Department of Conservation's 'preservation' approach and the Ministry of Fisheries' 'sustainable use' approach.

37 Institutional arrangements for managing the environment are not focused on managing ecosystems as a whole. Administrative boundaries (regions, aquaculture management areas, iwi and hapu, fisheries management areas, and regional conservancies) inevitably range across ecosystem boundaries. Problems arise as a result of administrative boundary locations; however, shifting these boundaries would probably only result in shifting the problem.

38 Some boundary issues, especially relating to the mean high water mark, are causing day-to-day confusion. In some cases, illegal structures are being built across the line of mean high water – and because administrative roles and responsibilities are not clear, the courts sometimes allow this to happen. The 12 nautical mile boundary creates a further set of problems; councils are reporting increased activity in applications that have the potential to cross the line – with very different regimes and requirements in place to regulate the same activity either side of the line. Confusion also arises as a result of differing definitions of 'inland water' and 'internal water' boundaries under the Maritime Transport, Resource Management, and Fisheries Acts.

Information

39 The lack of information about the marine environment makes it hard to know where management should be focused to address key threats to ecosystems. Even where information is available, knowledge about the actual effects of proposed activities is not always utilised in decision-making (e.g. attention is often focused on the adverse effects of mineral prospecting, but the effects of some types of fisheries research or aquatic environment research may have as much effect as some types of mineral prospecting). This results from limited sharing between agencies of information that can be used to assess the relative values of activities so that the 'best' use can be determined. Information issues are discussed further in Working Paper One.

40 The dynamic and complex nature of ocean ecosystems, and the limits of knowledge about how they function, can make it hard to predict and prevent irreversible impacts on ecosystems. The diversity of ocean ecosystems also complicates protection and restoration initiatives, making it difficult to diagnose values or sites in need of protection or restoration, identify the best protection measure in any particular case, and prioritise work between sites.

41 Inadequate monitoring of the marine environment (and the effects of activities) is a significant issue for regional and district councils, as well as the Ministry of Fisheries. Lack of monitoring makes it difficult to enforce environmental responsibilities, and to direct research, management and policy efforts most effectively. The high costs of monitoring in the marine environment add to the need for a better understanding of where to monitor and how (see Working Paper One for further discussion of this issue).

42 Finally, the lack of awareness about existing marine protection measures and a lack of education about the effects of their activities is a key issue for the public and other users of the sea.

Specific reasons

43 There are some specific reasons why certain problems are occurring relating to different elements of the management system.

Biosecurity and land/sea effects

44 The reasons for ongoing land effects on the sea and the risk of a breach in biosecurity are discussed in Working Papers Five and Six.

Fisheries

45 In the case of environmental management of fisheries, while the quota management system manages specific fish stocks, we lack a comprehensive ecosystem-based approach for managing the environmental effects of fisheries within territorial waters. Until recently, section 12 of the Resource Management Act has been taken to prevent councils from imposing controls on the harvesting of any plant or animal (which includes fisheries) – for instance to mitigate adverse impacts on ecosystems. However, the Environment Court has recently ruled that fishers (and others harvesting plants and animals) could be subject to direct control under the RMA in addition to controls under fisheries legislation.⁹ This may significantly strengthen councils' powers to control the environmental effects of fishing and other harvesting activities.

46 We also lack a comprehensive ecosystem-based approach to deal with the cumulative effects of customary and recreational fishing; setting catch limits alone may not be effective enough to control the effects on the stock and connected ecosystem. Fisheries plans enabled under legislation have been slow to eventuate, as has the use of customary fishing tools (although there are some examples of these).

47 The Ministry of Fisheries is working on an environmental management strategy¹⁰ to rectify this problem, but (as with all strategies that are not incorporated into law) it is unclear how effective this will be and whether the enforcement elements of the fisheries legislation will apply in the event that the Strategy is not complied with. There may be a need for additional controls to give more teeth to the Strategy.

48 Illegal activity is extremely difficult to monitor and control over such a large area, and while there are significant powers of enforcement, fisheries officers have a difficult task and have to deal with progressively more violent offenders.

⁹ See *Golden Bay Marine Farmers v Tasman District Council* W42/2001, chapters 10 and 11. The Environment Court (Kenderdine J) ruled that the exemptions under section 12(1)(c) and (e) for 'lawful harvesting' are not limited to meaning 'lawful' under the fisheries legislation only. It found that if it was intended to limit the term 'lawful' to having approvals under the fisheries legislation only, the section would have specifically referred to both Acts.

¹⁰ Draft Strategy for Managing the Environmental Effects of Fishing.

Protection

49 The lack of protection for some areas and ‘hot spots’ does not appear to relate to the lack of tools, but rather to the lack of a strategic approach to selecting the *right* tools for the job. For example, a marine reserve may be ineffective if the main reason for degradation is an adjacent sewage discharge. In addition there is a need for a strategic approach to identifying priority values and areas for protection. The Marine Protected Areas Strategy (if implemented effectively) should provide some strategic direction on which sites to protect and the most appropriate tool in any particular case.

Beyond the territorial sea

50 Discharges from installations and vessels, and dumping are controlled under the Maritime Transport Act and associated marine protection rules. The Maritime Safety Authority is drafting a new rule to manage discharge of waste and hazardous substances from offshore oil and gas installations more effectively. However most environmental effects of activities beyond the territorial sea are assessed on a case-by-case basis at the discretion of officials and ministers. This is largely because the Continental Shelf Act does not contain any explicit references or regulations for environmental management (although there are broad regulation making powers). At this stage, a limited number of activities are being managed under the ad hoc system in place at present, although some stakeholders consider that they are unable to participate in this system, and commercial activity is constrained by lack of knowledge about the system they will face. Officials are ensuring that there is some level of assessment of effects before allocating licences and permits.

51 The differences in legislative requirements on either side of the 12-nautical mile limit are significant, and lead to questions about fairness and the adequacy of environmental risk management controls beyond the territorial sea.

Clean-up

52 Within the territorial sea, liability for clean-up is an issue – that is, who pays to clean up. Similar problems are faced in relation to contaminated sites on land. Once a marine structure such as a shellfish farm becomes redundant, it is unclear who is liable for clean-up if there are no specific provisions in the resource consent. Beyond the territorial sea, gaps in the legislative requirements and lack of capacity of agencies responsible appear to be the key causes of clean-up problems.

Conclusions

53 The discussion above indicates a need for immediate action to address the following key environmental problems:

- adverse effects of land use and management on the sea (see Working Paper Five)
- significant risks of a breach in marine biosecurity (see Working Paper Six)
- gaps in protection and management of special marine areas and ‘hot-spots’
- inadequate management of the environmental effects of fishing activities.

- 54 Problems that will need to be addressed in the near future include:
- the need for better management of the cumulative effects of activities on the marine environment
 - the need for more effective environmental management controls on activities beyond the territorial sea (including environmental assessment provisions)
 - the need for clarity around clean-up liability.
- 55 Overarching drivers behind these specific areas include:
- the lack of communication and connection between different management systems, caused by factors such as different purposes in legislation and lack of clarity around some management boundaries
 - the need for management systems to better reflect ecosystem processes and functions
 - a lack of coordinated information and monitoring to inform decision-making, and a need for better marine environmental education.