Regulatory Impact Statement:
Regulations under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act

Agency Disclosure Statement

This Regulatory Impact Statement (RIS) has been prepared by the Ministry for the Environment (MfE) with input from the Environmental Protection Authority (EPA). It provides an analysis of options for regulations under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (the Act).

The regulations proposed classify some activities as "permitted" and enable the EPA to recover the costs of administering the regime established by the Act. More information on the Act and the activity classifications is provided in the Background and Context section of the RIS.

There are a number of limitations associated with the analysis. For example, there is a lack of comprehensive information about areas of the Exclusive Economic Zone (EEZ), particularly deep sea environments. This RIS relies on estimates of the potential risk of future activities across the EEZ where the impacts of those activities remain untested.

There is uncertainty about some of the quantifiable benefits and costs of the options assessed in the RIS. Costs have been quantified as far as possible but the actual costs will depend highly on the level of activity in the EEZ, which is uncertain. In addition, some of the cost estimates depend on a range of unknown factors. Most notably, the consenting costs have been based on estimates from nationally significant proposals under the RMA. Furthermore the analysis has been conducted in the context of uncertainty, such as how the size and nature of the activities in the EEZ will evolve over time.

Compared to the status quo, the options proposed are likely to reduce costs to businesses and improve incentives to invest in New Zealand's natural resources. They are also not likely to impair private property rights, impair incentives for businesses to innovate, override fundamental common law principles, or impact on market competition. This is because the status quo is an environmentally cautious legislative regime with high up-front compliance costs.

While substantial consultation has taken place, further work and consultation is recommended to ensure the regime is effectively and efficiently operationalised.

Kevin Currie – Director, Environmental Regulation

Date

Contents

OVERVIEW

1. The following sections apply to all proposals in this document:

    - Context and Background
    - Status Quo and Problem Definition for the EEZ regime
    - Consultation
    - Implementation
    - Monitoring, Evaluation and Review.

2. The rest of this RIS is split into two parts:

    - Part 1: Classification of Activities and Conditions
        - Subpart A1: Managing the effects of activities
        - Subpart A2: Classifying other activities
        - Subpart B: Notification, monitoring and reporting conditions on permitted activities
    - Part 2: Cost Recovery

3. Part one of the RIS analyses the impacts of classifying activities as either permitted or discretionary (i.e., requiring a marine consent). Part one also analyses the impacts of different conditions that might be applied in regulations to permitted activities. Where possible a preferred option has been identified. If the preferred option is a permitted activity, regulations will have to be written. A preferred option of a discretionary activity (the status quo) will not require regulations as the Act requires that a marine consent is obtained for any activity unless it is otherwise permitted or prohibited in regulations.

4. Part two of the RIS analyses the impacts of specifying what functions of the EPA will be cost recoverable and how the costs will be recovered through regulations. In accordance with the Treasury and the Office of the Auditor General guidelines on cost recovery, the decision to recover costs is determined by whether a function carried out by the EPA has public, private or mixed benefit. Where the function has a private benefit the costs will be recoverable. These functions and how they will be cost recovered will be set out in regulations.

5. Note, although petroleum drilling could come within scope of the regulations assessed in this RIS, Cabinet will be considering proposals about that activity at a later date. Therefore no options have been assessed in this RIS in relation to petroleum drilling, aside from routine activities that do not carry the risk of oil spill. However, seismic surveying, which is carried out in the prospecting stages of petroleum exploration, is in the scope of the regulations and will be considered in this RIS.

BACKGROUND AND CONTEXT

6. This Regulatory Impact Statement (RIS) summarises the regulatory impacts analysis associated with promulgating regulations under the Exclusive Economic Zone (EEZ) and Continental Shelf (Environmental Effects) Act (the Act).

7. The jurisdiction covered by the Act is New Zealand's Exclusive Economic Zone (EEZ) and continental shelf (CS). The EEZ is the water column extending from 12 to 200 nautical miles offshore and the CS is the seabed and subsoil beneath the EEZ, extending to the outer edge of the continental margin (the point where the shelf drops into deeper water).

8. New Zealand's EEZ and CS are one of the largest in the world and are almost 20 times the size of its land mass. Current levels of activity in the EEZ and CS are relatively low compared to its size. Seabed mineral resources in the EEZ are in the very early stages of exploration and have not progressed to the production phase. There are also three international submarine cables in place and marine scientific research occurring.[1]

9. The purpose of the Act is to promote the sustainable management of the natural resources of the EEZ and CS.[2] The Act is a gap-filling piece of legislation and will not duplicate other legislation (e.g., allocation of resources, oil spill response, fishing or conservation). Therefore the scope of the Act is restricted to managing those environmental effects of activities that are currently not subject to environmental regulations, namely:

    - placing a structure, cable or pipeline on or under the seabed
    - destruction, long-term mooring or anchoring of structures in the EEZ
    - damage or disturbance to, or the removal of, the seabed, and
    - causing vibrations or explosions in the water column of the EEZ.

10. The Act comes into force by Order in Council, or no later than 1 July 2014. It is intended that it is brought into force by Order in Council when regulations classifying activities are promulgated. If no regulations are made which state otherwise, the status quo set by the Act is that all activities are discretionary (requiring a marine consent, described further in paragraph 20). Because not all activities have the same environmental effects, the Act sets up a system for activities to be specifically classified in regulations as:
    - permitted – able to be undertaken as of right, without a marine consent, provided any conditions set in regulations relating to the activity are complied with (i.e., the EPA has no discretion to decline the activity). The regulations may also set conditions on permitted activities, such as requiring the operator to monitor and report on the activity
    - discretionary – able to be undertaken if a marine consent has been granted (even though this is the default classification, regulations may also be made to this effect)
    - prohibited – unable to be undertaken under any circumstances.

11. The United Nations Convention on the Law of the Sea (UNCLOS) is the primary international convention applying to the activities covered by the Act. UNCLOS provides coastal States with the sovereign right to explore and exploit the natural resources in their EEZ and CS as well as an obligation to protect and preserve the marine environment. However New Zealand does not have full sovereignty over its EEZ and CS; other States have freedoms and rights in New Zealand's EEZ and

1 New Zealand has three international submarine cables. Refer to http://www.submarinecablemap.com/

2 Like the Resource Management Act 1991, minerals are excluded from the definition of sustainable management in the EEZ Act because they are a finite resource and are managed under the Crown Minerals Act 1991.

CS under UNCLOS as well. In particular, other States have a clear right to lay international cables and pipelines and the right to carry out marine scientific research. These activities fall within the scope of the Act, so regulations are required to at the very least classify these activities as permitted.

12. This RIS recommends classifying more activities as permitted in the regulations than just those we consider our international obligations require us to permit. This is because the environmental effects of some activities can be sufficiently managed through standard conditions in regulations. The effects are not significant enough to warrant the compliance costs associated with the marine consent process for discretionary activities.

13. An important part of the context for the development of the regulations is that there is very limited information about our marine environment. To date only 24 percent of the seabed of the EEZ and continental shelf has been mapped and only 15 percent to a standard necessary to distinguish likely benthic environments, such as hydrothermal vents, and most of the mapped environments require further sampling to confirm the data. As such, there was limited empirical evidence available to inform the proposals in this RIS.

14. As required by the Act, consultation on initial proposals for regulations was undertaken through the discussion document *Managing our Oceans*. The discussion document proposed the activities carried out by the following industries be classified as permitted with certain conditions (such as numerical limits on the size of the activity):
    - submarine cabling
    - marine scientific research
    - petroleum – prospecting (primarily seismic surveying)
    - seabed minerals – prospecting, and
    - seismic surveying (used across all industries).

15. Under the proposals, all other operational phases, including exploration, production and decommissioning for petroleum and seabed mining, were proposed to be left as discretionary (the default classification for activities under the Act).

16. Key issues raised by submitters were:

    - the numeric limits in the proposed conditions appeared arbitrary and would be overly restrictive in many cases compared to the likely effects from the activities
    - the proposals discriminated between different industries where the same activities are used. For example, the activities used in the prospecting and exploration phases of mineral mining, scientific research and cabling are all minor or less in effect but the discussion document proposed these activities be treated differently.
    - the main concern regarding the effects of activities was the degree to which they impact sensitive marine environments. Submitters suggested identifying sensitive environments where activities should be limited would both provide greater environmental protection and greater certainty for industry users.

17. In response to this feedback, officials reconsidered the proposals. Through targeted workshops with industry and scientists, officials re-investigated the environmental effects of activities to determine if there were discernible differences between industries. In particular, more detail was sought on how the scale and intensity of an activity impacts on the activity's level of effect. Officials also worked closely with Crown Research Institutes (CRIs) and government departments to identify sensitive environments in the EEZ and determine the best regulatory approach to them.

18. In reconsidering the proposals, it was found:

    - there are no numeric thresholds that can be uniformly applied to activities with confidence, as they are likely to be arbitrary (allowing for the largest sample size, for example), difficult to comply with (high risk of accidental breach) and difficult or impossible to monitor for compliance. Instead, behavioural and incentive requirements are likely to work better than numeric thresholds for controlling the scale and intensity of activities.
    - there is no need to set different standards for similar activities carried out by different industries. Even if there is some difference in scale and intensity of activities between industries, none of the activities are likely to have effects that cannot be managed to be minor or less.
    - there are specific environment types that are particularly sensitive ("sensitive" being a combination of vulnerability and recoverability) to disturbances from activities. There is not enough information yet to map the locations of all these environments and thus propose specific areas of the EEZ be closed off to activities. Instead, it was determined that impacts on these environments can be effectively managed by requiring a cautious approach to be taken when sensitive environments are encountered.

19. As a result of these findings, the proposed approach to the regulations was revised. The revised approach is described as options 3 and 4 in Part 1, section A of this RIS.

STATUS QUO AND PROBLEM DEFINITION FOR THE WHOLE REGULATIONS REGIME

20. Unless classified otherwise, activities will, by default, be considered "discretionary". Activities that are discretionary must receive a marine consent before proceeding. Table 1 below sets out the steps and potential costs involved in the marine consent process:

Table 1: Steps and potential costs of the marine consent process

Process	Potential cost
• The applicant submitting an environmental impact assessment (EIA) to the EPA outlining the likely impacts of the activity and proposals to mitigate them	$100,000 - $500,000 (all costs met directly by the applicant)
• The EPA assessing the adequacy of the EIA and requesting further advice if necessary	$250,000 - $700,000 (costs met initially by the EPA and recovered from the applicant)
• The EPA publicly notifying the application for consent	
• Hearings if deemed necessary by the EPA or requested by the applicant or a submitter	
• The EPA deciding to grant or decline a marine consent.	
	Total: $350,000 - $1,200,000

21. All costs for this process would be met by, or recovered from the applicant because the EPA's function of considering and granting a marine consent has a private benefit.

22. The EPA has discretion to set conditions on marine consents. They also have the power to monitor and enforce compliance with the conditions of the consent.

23. There are a number of benefits to classifying an activity (or component of an industry activity) as discretionary. Namely the ability to:

    - consider effects of activities on a case by case basis
    - take cumulative effects into account
    - tailor conditions of consent on a case by case basis
    - take a cautious approach to new activities or technologies, such as by applying adaptive management techniques
    - require acquisition of baseline data, thereby building knowledge.

24. However as described in Table 1 above, a discretionary classification will impose cost and time delays in obtaining information, compiling an application, having the application heard and having any potential appeals considered by the High Court on points of law.

25. Therefore the problem with the status quo is that it:

    - puts New Zealand at high risk of breaching its international obligations under UNCLOS (as described in paragraphs 11 and 27)
    - introduces unnecessary compliance costs for operators where activities could instead be managed by permitting them with prescriptive conditions or prohibiting them. The costs of an unnecessary discretionary classification could deter investment in New Zealand's natural resources.

26. The status quo and problem definition relating to cost recovery is described in Part 2 on page 26.

Magnitude of the problem

27. New Zealand has international obligations that require certain activities to be available as of right, or under prescribed conditions. For example, New Zealand can not unreasonably impede other States laying international submarine cables through the EEZ. If we did not promulgate regulations that permitted this activity there is a high risk we would breach our obligations as a signatory under UNCLOS, as described in paragraph 11.

28. If all activities in the EEZ had to get a marine consent before they could undertake an activity, this would introduce unnecessary compliance costs when the activity could be controlled through standard conditions or prohibited. This feature could be significant as it could be disproportionate to the level of environmental effect. For example, some marine scientific research methods have relatively low impact on the marine environment; requiring researchers to obtain consent before mooring a buoy in the EEZ could unnecessarily affect the growth of research in New Zealand.

29. There are currently five companies actively exploring the mineral potential of New Zealand's EEZ. Three seabed minerals companies are investigating the potential to mine and two are close to beginning production. CRIs often collaborate with foreign marine research organisations to understand the geology, mineral potential and ecology of the EEZ. All of these organisations and companies currently (and will continue to) carry out activities that will be classified as discretionary under the status quo (for example, production activities). However most of these activities have low levels of impact that do not warrant a full discretionary process in order to effectively manage their effects (these activities are described in Subpart A1: Managing the effects of activities, paragraphs 45 and 46).

30. If activities with minor effects are classified as discretionary under the status quo in the Act, this could potentially introduce costs high enough to discourage exploration and scientific research activity in the EEZ. This effect would deter future investment in the natural resources of the EEZ. The following paragraphs provide an indication of the potential value of this future investment.

31. The EEZ holds mineral resources of significant economic potential, such as phosphate nodules, iron sands and seafloor massive sulphides. Based on the modelling work undertaken as part of the review of mineral royalty rates, the potential value of royalties to be collected from the development of these three commodities over the lifetime of mine development is $250 million.

PART 1: CLASSIFICATION OF ACTIVITIES AND SETTING CONDITIONS

32. This part of the RIS analyses the options to classify activities and set conditions. It addressed the problems related to all activities being made discretionary by default under the Act (as described in paragraph 20 onwards).

OBJECTIVES

33. Drawing on the purpose of the Act and matters required to be considered when making regulations under the Act, the objectives of the EEZ regulations are to ensure:
    - New Zealand fulfils its obligations under relevant international conventions relating to the marine environment, such as UNCLOS.
    - the natural resources of the EEZ and CS are sustainably managed
    - classifications and conditions are cost-effective, with the cost to Government and users proportional to the level of environmental effects addressed
    - non-environmental impacts, including on existing interests, iwi and other matters set out in the Act, are effectively managed.

34. For the purposes of carrying out this analysis, these four high level objectives have been used to develop a number of assessment criteria with which to assess activity classification and conditions options. These criteria are set out in Table 2 below.

Table 2: Assessment criteria under each of the high level objectives

High level objective	**New Zealand fulfils its obligations under relevant international law (such as UNCLOS)**	**The natural resources of the EEZ and continental shelf are sustainably managed**	**Classifications and conditions are cost-effective, with the cost to Government and users proportional to the level of environmental effects addressed**	**Non-environmental impacts, including on existing interests, iwi and other matters set out in the Act, are effectively managed**
Criteria	New Zealand meets its international obligations	Users and the New Zealand economy are enabled to receive economic benefit	Costs are proportionate to the level of environmental effects	Public and iwi involvement is proportionate to the effects of an activity on their interests
		The potential of natural resources is sustained (excluding minerals) to meet the reasonably foreseeable needs of future generations	Limited compliance costs	Effects on existing interests are effectively managed
		The life-supporting capacity of the environment is safeguarded		
		Adverse effects to the environment are avoided, remedied or mitigated		

35. The criteria under objective 2 are based on the definition of sustainable management as set out in the Act. The last three criteria under objective 2 (in column 2) are similar, but have subtle differences. The criterion relating to future potential of resources is related but different to the first economic criterion. The first criterion assesses the immediate access to economic benefit, whereas the second - future potential consideration - looks at how accessing economic benefit now might impact future economic benefit (e.g., seafloor activities affecting future levels of fish stocks). The two environmental criteria (the last 2 criteria in column 2) are focused at different scales. The life-supporting capacity criterion is focussed at the ecosystem scale whereas the adverse effects criterion looks at the habitat scale (e.g., an activity may significantly affect a rare, sensitive habitat but have negligible effect at the bigger ecosystem scale).

APPROACH TO OPTIONS ANALYSIS

36. For consistency, the assessment criteria above have been used to assess the appropriate policy options for each of the set of options.

37. All four high level objectives were considered to be equally important. Similarly, except for objective 2, each second level assessment criterion was considered to be as important as the other assessment criteria under that objective. For objective 2, the first criterion was considered to carry more weight

because it is the primary objective in the purpose of the Act against which the other matters are balanced.

38. Each policy option was scored against each criterion compared to the status quo. A positive score meant the policy option was better at achieving a particular criterion than the status quo; a negative value meant it was worse.

39. In the interests of brevity, this RIS presents the assessment against the high level objectives rather than against the full criteria. This assessment is also presented in a summary table at the end of the section. A tick shows that the policy option is better at achieving a high level objective than the status quo; a cross shows it is worse. A dash shows it is no different to the status quo. The number of ticks or crosses indicates the scale of how much better or worse each choice is. This reflects the scoring approach explained above.

40. In addition to assessment against objectives, the options were assessed for their impacts (costs and benefits). Where possible, quantitative analysis was used to determine the magnitude of the impacts. Where this was not possible then judgement was exercised instead. Policy conclusions were based upon a combination of assessment of impacts and assessment against objectives.

POTENTIAL IMPACTS

41. Potential impacts associated with the classification of activities and potential conditions are listed below. These costs and benefits are likely to apply to a range of different sets of options. They are described in Table 3 below in a general sense and applied more specifically to options later in the analysis, including estimates of magnitude and likelihood where possible.

Table 3: Potential impacts

Impact areas	Potential costs	Potential benefits
Environment	Increased potential for environmental harm from activities in the EEZ. This cost might be incurred if activities are not managed in a way that appropriately limits their effects to the environment. Costs could potentially be incurred in two ways: 1. Rehabilitation costs if environments important for conservation purposes are severely damaged. This will be a cost to New Zealand citizens. 2. Cumulative effects that damage the life-supporting capacity of the environment. This cost would likely have flow-on economic and social costs (outlined below). This will also be a cost to New Zealand citizens.	Decreased potential for environmental harm from activities in EEZ. This benefit can be achieved by managing activities to reduce their immediate and long-term effects to the environment. The benefits apply to New Zealand citizens.
Economic	• Reduced potential to exploit natural resources (excluding minerals) from the adverse effects of activities managed under the EEZ Act. The most direct effects from activities managed under the EEZ Act are to minerals. However the future potential of minerals is not within the scope of the EEZ Act (refer footnote 2). Other possible effects to natural resources include damage to fish stocks and the genetic diversity of marine species (for bio-prospecting). • Reputational risk to New Zealand of not having environmentally sound business practices. This could result in reduced international investment in the New Zealand economy from environmentally concerned investors. It could	The potential economic benefits are the inverse of the costs including, in summary: • Sustained future potential of natural resources • Enhanced reputation of New Zealand as having environmentally sound business practices • Proportionate restrictions in

	also result in reduced earnings from tourism if New Zealand's "clean green" brand was compromised. • Disproportionately restrictive regulations could decrease the economic value of a mineral resource (due to higher costs to access it) and therefore decreased Crown royalties, tax revenue and flow on economic benefits from activities. These costs would apply both to users and the New Zealand Government and economy. The specific costs that can arise from restrictive regulations include: 1. Compliance costs 2. Foregone profits resulting from conditions restricting the scale and intensity of activities 3. Forgone profits resulting from delays in decision-making (particularly if marine consent is required for an activity to proceed). • Regulations that are unclear and difficult to comply with could introduce uncertainty for users (which may result in opportunity costs if uncertainty leads to loss of investment in a resource), and risk of judicial review for Government. • Adverse impacts on existing interests if the effects of activities are not sufficiently managed. Existing interests include other users of the marine environment, e.g. fishing, tourism, aquaculture, and current mineral extractors.	regulations that allow for reasonable economic gains from activities • Minimised compliance costs • Minimised adverse economic effects to existing interests.
Social	• Environmental degradation from poorly managed activities could impinge on New Zealanders' (particularly for tangata whenua) experience of the marine environment. Specifically for Māori, wāhi tapu could be negatively affected by activities. • If the classification of activities does not properly consider the desirability of allowing the public to be heard in relation to an activity (as is required in the Act) then regulations may not allow for an appropriate level of public participation in decision-making. One way of determining the desirability of allowing the public to be heard is to gauge the level of public interest in an activity. This can be determined, for example, on the basis of levels of responsiveness to consultation and levels of media coverage about the activity. Note: the relative scale and importance of social costs compared to environmental and economic costs will vary significantly depending on the risks associated with certain activities. For activities with minimal environmental or economic impact, the social costs of an option will not be significant. However, for activities with potentially significant impacts, the social costs of an option will be more important.	• Appropriately managed activities will sustain the positive public, including tangata whenua, experience of the marine environment. • Regulations could allow for an appropriate level of public participation in making decisions about activities.

REGULATORY IMPACT ANALYSIS

42. Section A1 considers options to manage the effects of activities where the effects are likely to be minor or less, or if the activity is subject to international obligations. Section A2 more briefly analyses the options for classifying activities with effects that are likely to be significant, and also activities that might possibly occur in New Zealand's EEZ in the more distant future (e.g., renewable energy generation, offshore aquaculture and carbon sequestration).

A1. MANAGING THE EFFECTS OF ACTIVITIES

Status quo and problem

43. As stated in the status quo and problem definition for the whole EEZ regime, some activities are subject to international obligations that New Zealand must abide by. The default discretionary classification for all activities in the Act would potentially put us in breach of these international obligations.

44. Also, some activities have effects that are minor or less, or can be managed to ensure their effects are minor or less. The default discretionary classification for these activities would impose a disproportionate level of control and introduce unnecessary compliance costs.

45. The activities covered by our international obligations under UNCLOS include:

    - international telecommunications cabling: this activity involves laying fibre-optic cables the size of a garden hose on the seabed, which carry 98 percent of our telephone, internet and banking data. Under UNCLOS, all States have the right to lay submarine cables on the continental shelf, unimpeded by the coastal State, subject to the coastal State's right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources. While the coastal State has an overall obligation to "protect and preserve" the environment, the low environmental impact of undersea cables is clearly reflected in UNCLOS and no general right to regulate cable laying on this basis is provided.

    - foreign marine scientific research. New Zealand has a duty under UNCLOS to allow certain foreign marine scientific research activities in our EEZ and continental shelf (which do not include prospecting and exploration for petroleum or minerals). We can however put in place reasonable environmental regulation to cover these activities when that is required.

46. The types of activities considered likely to have effects that are minor or less, or that can be managed to ensure they have minor or less effects include:

    - seismic surveying: this activity involves determining the shape of the seafloor and the layers beneath it by sending and receiving acoustic sound waves. Seismic surveying is conducted by different power levels of "air guns" and electronic acoustic sources and is used by various industries and activities operating in the marine environment.
    - marine scientific research: this activity involves projects that build our public knowledge of the marine environment and provide valuable information for industry. For example, geologists examine the inanimate material that makes up the seafloor and the layers below it and biologists focus on life forms. Research techniques involve taking samples by probes and coring devices, or by dredging or drilling areas of interest.
    - prospecting and exploration for seabed minerals and petroleum (excluding petroleum drilling): these activities also involve many of the same sampling techniques employed by marine scientists such as coring, dredging or drilling. Prospecting and exploration phases are limited in intensity, scale and duration and are used to determine whether an area is likely to be viable as a production site. Exploration for petroleum involves activities with routine effects such as placing a rig and any sampling needed to ascertain the stability of the seafloor. It also involves drilling for oil and this particular activity carries with it a risk of oil spill, which could be catastrophic if it occurred. Because other options are being considered for petroleum exploration drilling, it is not covered by this RIS.

- Both the foreign activities discussed in paragraph 45 have also been assessed to have effects that are minor or less, or can be managed to ensure they have minor or less effects.

47. The main alternative option to a discretionary classification is to expressly make an activity permitted through regulations. Permitted activities can be carried out as of right, and may be made subject to any conditions set in regulations. The Act states that conditions can specify standards, methods and requirements for operators. However, conditions on permitted activities cannot include an element of discretion. Users need to be able to clearly comply with the conditions without relying on approval from the EPA or a third party to proceed with an activity.

Objectives to achieve in addressing the problem

48. The objectives for addressing the problem as defined above have been outlined in Table 1 (see paragraph 34).

Options

Discounted options

49. The Act allows regulations to classify activities as permitted if they have up to a significant level of environmental effect. However, the Act also stipulates a cautious approach - favouring environmental protection when information is uncertain or inadequate. Prior analysis in the *Managing our Oceans* discussion document sought feedback on the proposal that activities should be permitted if they had minor or less effects, or where the effects could be managed to ensure they were minor or less. This threshold of "minor or less", rather than "significant", was determined appropriate because information about effects in the marine environment is uncertain and in many cases inadequate. Analysis of effects included an expert scientific risk assessment process conducted by the National Institute of Water and Atmospheric Research (NIWA).

50. Preliminary analysis also discounted the option of classifying all activities with minor or less effects as permitted without conditions. This option was discounted because it would not meet the Act's sustainable management purpose. If no conditions were set for permitted activities there would be no way to ensure the environmental effects of those activities were in fact minor.

Considered options

51. Options considered for reducing or increasing regulation included those that manage effects on particularly sensitive environments and provide mechanisms to limit the scale and intensity of activities to ensure their effects are minor or less.

Table 4: Options for managing the effects of activities

Option	Key features
Option 1: Status quo	• All activities are discretionary, requiring a marine consent • Significant compliance cost for anyone wishing to undertake an activity in the EEZ or CS • High risk of breaching our UNCLOS obligations in relation to international telecommunications cabling and international marine scientific research
Option 2: Classify as permitted all activities with minor or less effects, and those protected under	• Activities with up to a minor environmental effect, or where the effects could be managed to ensure they were minor or less, are permitted, subject to conditions • The conditions contain numeric limits, such as: ◦ a weight limit (e.g. a dredge of up to 2 tonnes of material in a

international agreements, and set numeric thresholds to limit the scale and intensity of effects on environments of different sensitivity	single dredging action) • a device size limit (e.g. a coring device of up to 15cm in diameter) • a percentage limit (e.g. take up to 1% of material in a given area) • a depth limit (e.g. a drill of up to 20m below the seabed) • These limits would become more restrictive in certain sensitive environments (e.g. drill to 10m instead of 20m; take 0.5% instead of 1%)
Option 3: Classify as permitted all activities with minor or less effects, and those protected under international agreements, and set behavioural conditions to manage effects to sensitive environments	• Activities with up to a minor environmental effect, or where the effects could be managed to ensure they were minor or less, are permitted, subject to conditions • Behavioural conditions are set in specific sensitive environments to manage environmental effects. The environments are: • biogenic habitats (habitats formed by organisms e.g., coral beds) • deep-sea hydrothermal vents • methane or cold seeps. • Behavioural conditions include requirements to: • relocate the activity, or • reduce the amount of contact with the seafloor, or • replace the intended activity with lower impact activities, or • refine the methods of the operation to lower the impact of the activity on the environment. • These mitigation methods would be set out in an "Initial Environmental Assessment" (IEA) – a desktop-based assessment of effects. Operators would be required to keep a logbook of activities, and submit it to the EPA weekly while the activity was taking place.
Option 4: Classify as permitted all activities with minor or less effects, and those protected under international agreements, and prohibit the sale of material removed during the activity in order to limit the scale and intensity of activities	• Activities with up to a minor environmental effect, or where the effects could be managed to ensure they were minor or less, are permitted • These activities are permitted anywhere in the EEZ or CS; there is no distinction between environment types • The only condition is that material removed cannot be sold (except for petroleum, discussed further in paragraph 63) • Based on anecdotal evidence that in other regimes such provisions prevent mineral explorers from extracting more material than necessary to prove the resource.

Impact assessment of each option

52. The most important impacts to consider in relation to these options are environmental and economic. Social impacts are less important because the activities in question are likely to be minor in effect and unlikely to impose significant social costs.

53. None of the options would be as effective as the status quo for ensuring environmental protection. This is because a discretionary process provides case-by-case assessment of environmental effects and

the opportunity to tailor conditions to the specific management needs of each case. However, activities with minor or less effects pose little risk to the environment so the environmental costs for each option will not be high.

54. Across all the options the compliance costs are lower than the status quo. For discretionary activities, the estimates from the EPA are that a marine consent process could cost an operator between $250,000 and $7,000,000 per consent. The costs to operators associated with processing a permitted activity have been estimated by the EPA in relation to two components (see Part 2 on cost-recovery for more information):
    1. Costs for receiving, reviewing and certifying information associated with permitted activities could range from $5,000 to $20,000
    2. Costs for reviewing monitoring reports for permitted activities could range from $10,000 to $100,000 (this includes an investigations).

    This gives a total range of $15,000 to $120,000. These costs are only indicative estimates by the EPA because the regime has not been tested. They are broad in range because of the potential wide range of complexity of permitted activities.

55. Option 2 has low up-front compliance costs because operators would not be required to do anything except stay within numeric thresholds. However, such conditions are likely to introduce significant uncertainty which could introduce costs for operators. Submissions on the *Managing our Oceans* discussion document and subsequent conversations with industry operators revealed it is very hard to set numeric conditions that can be easily complied with and monitored. This is because activities carried out in the ocean environment are inherently approximate. For example, it is difficult for an operator to determine if they have dragged a sampling dredge for 200 metres or 220 metres. In addition, there is no robust evidence to determine what the thresholds should be in order to limit the effects of an activity to minor. As a result, any thresholds would simply be the biggest footprint of any likely given activity. This would incentivise operators to carry out activities up to the maximum allowable limit rather than encouraging a smaller impact. Such limits would be arbitrary and likely to become obsolete if new methods were developed that did not fit the footprint descriptions. Therefore, such conditions would be uncertain (by being overly prescriptive) and potentially overly restrictive for users and would not provide strong assurance to the public that effects to the environment were being effectively mitigated.

56. Costs for operators could arise as a result of fines for breaching permitted activity conditions, or from operators spending significant time and energy trying to keep activities within overly prescriptive thresholds. It is difficult to quantify what these costs might be as the regime has not been tested. However, the costs for option 2 are not likely to be justified by the weak benefit compared with option 3.

57. Option 3 provides a method of minimising effects on sensitive environments that is easier to comply with and monitor than option 2. This is because operators would not be uncertain about whether they were working within arbitrary numeric thresholds. Instead they would be complying with mitigation methods they had defined themselves. It would therefore provide more certainty for users than option 2 and at the same time manage effects in sensitive environments (provided there is effective monitoring for compliance). It will impose higher compliance costs as operators would be required to prepare an Initial Environmental Assessment. Preliminary estimates of these costs include:
    - Initial environmental assessment to determine likelihood of impacting a sensitive environment, and plans to mitigate these impacts: up to $2000.

- Post trip report detailing the outcome of the activity and measures taken to mitigate impacts: up to $2000.
- Total upper range of costs for a sensitive environments process: $4000.

These costs are based on an estimated time of 0.5 to 1 day of an operator's time to complete each task.

58. These costs, however, would be outweighed by the benefit of greater compliance certainty for operators and better environmental protection. Greater compliance certainty has been outlined in paragraph 57. Better environmental protection will be achieved because, with option 3, operators will be incentivised to minimise effects to sensitive areas. With option 2 they would be incentivised to operate at the maximum allowable threshold.

59. Option 4 will incentivise operators to carry out activities within their normal ranges of operation (which have been assessed to have minor or less effects in non-sensitive environments). It provides an incentive for operators not to undertake more sampling of the seafloor than is necessary. Taking samples in the ocean environment is expensive and scientific research and mining organisations have limited funds (mining companies do not begin making a profit until the resource is being commercially extracted).

60. No companies operating in the EEZ have ever sought to sell material removed during the prospecting and exploration phases. This is mainly because the New Zealand seafloor mining industry is in its infancy and also because current operators aim to conduct their activities in a transparent and environmentally sound manner. However, this does not guarantee future operators will abide by the same practices.

61. This condition will remove any opportunity for operators taking samples to fund a prolonged sampling regime by selling the minerals removed via sampling. It will introduce a barrier for irresponsible companies who may wish to extract material at a scale and intensity that has more than minor environmental effects during their prospecting or exploration programmes.

62. This condition will have the biggest impact on seabed mining companies who might extract saleable material while sampling and wish to sell it to recover some costs. They would need to apply for a marine consent if they wished to do this.

63. A benefit for companies is that this condition is clear, certain and less prescriptive than option 2. This option also has the social and environmental benefits of limiting the environmental effects of permitted activities. Petroleum products do not need to be restricted under this condition because there is no risk of petroleum exploration activities exceeding the normal range of operations. This is because the duration of petroleum exploration drilling is limited by regulations under the CMA.

Table 5: Summary impact assessment

Option	Impacts	Net impact
Status quo	ENVIRONMENTAL: Very low potential for environmental harm. ECONOMIC: Very high compliance costs. SOCIAL: High opportunity for public participation.	High compliance costs outweigh the benefits of low potential for environmental harm and opportunity for public participation.
Option 2: Classified as permitted with numerical conditions	ENVIRONMENTAL: Low potential for environmental harm. ECONOMIC: Low compliance costs but potentially significant uncertainty. SOCIAL: Proportionate level of public involvement. Low certainty about management of environmental effects.	Better than status quo but uncertainty means benefits may not significantly outweigh costs.
Option 3: Classified as permitted with behavioural conditions	ENVIRONMENTAL: Low potential for environmental harm. ECONOMIC: Proportionate level of public involvement. Medium compliance costs but greater certainty for users. SOCIAL: Greater certainty about management of environmental effects.	Better than status quo and certainty for users means benefits outweigh costs.
Option 4: Classified as permitted with sale of material prevented	ENVIRONMENTAL: Low to medium potential for environmental harm. ECONOMIC: Low compliance costs. Restrictions on users who may want to sell material. SOCIAL: Proportionate level of public involvement. Medium certainty about management of environmental effects.	Better than status quo due to low compliance costs. However, restriction on sale may impact some users.

How the impacts will apply to different groups

64. Users and the EPA will benefit from reduced compliance costs. Users and the Government will benefit from increased certainty in compliance with conditions. The public and iwi will benefit from increased certainty of environmental management; however, as discussed, social benefit is not as important as environmental and economic in this case.

Assessment of each option against objectives

International obligations

65. The status quo (i.e., requiring all activities to go through a marine consent process) will not meet our international obligations. Requiring a marine consent for operators wishing to lay international submarine cables would create onerous compliance costs which would be inconsistent with New Zealand's obligations under UNCLOS not to unreasonably impede submarine cabling. In this instance, maintaining the status quo is not justifiable on the basis of our right to preserve and protect our environment because cable laying is of very minor or negligible environmental effect.

66. The status quo (i.e., requiring a full marine consent) would similarly be inconsistent with our duty under UNCLOS to allow certain foreign marine research activities to take place in our EEZ and CS. Although New Zealand can apply reasonable environmental regulation to this activity, it needs to be related to the risk of environmental harm.

67. Option 2 would meet our international obligations, although compliance with numeric thresholds may prove difficult in practice and therefore place foreign operators at risk of unintentionally breaching

permitted activities. This would place New Zealand at risk of unreasonably impeding submarine cabling or not allowing foreign marine scientific research activities to take place (which would breach our UNCLOS obligations).

68. Options 3 and 4 would best achieve this objective as they would be unlikely to interfere with our international obligations.

Sustainable management

69. The status quo would not achieve the economic aspects of sustainable management. All activities would require case by case consideration under a marine consent process, which would be time consuming and costly, creating an unnecessary economic barrier for activities with a minor or negligible environmental effect.

70. Options 2, 3 and 4 offer less protection for the environment than the status quo, because they allow activities as of right. The status quo will always allow a more robust case by case assessment of environmental effects than permitted activity conditions. However, as long as only those activities with minor or less environmental effect are permitted, the effect on the environment can be managed to acceptable levels.

71. Option 2 was proposed in the *Managing our Oceans* discussion document. Option 2 achieves sustainable management better than the status quo because more activities would be allowed with fewer barriers. Originally, when drafting *Managing our Oceans*, officials thought option 2 would provide slightly more certainty of environmental protection than options 3 and 4. However, submissions on the discussion document were concerned that in practice, thresholds would be very difficult to comply with and accurately enforce. Officials now consider option 2 provides less certainty than options 3 and 4.

72. Option 3 will provide reasonable certainty of environmental protection and also reasonable certainty for users that they are able to comply with conditions. Therefore option 3 will achieve sustainable management by allowing for the development of marine resources while sustaining their future potential and the environmental integrity of the EEZ.

73. Option 4 will ensure activities are carried out within their normal ranges of operation (which have been assessed to have minor or less effects in non-sensitive environments). This option will not manage effects on sensitive environments, but it will set an incentive to limit the overall scale of permitted activities without inhibiting the development of resources. It would need to be combined with option 3 to contribute to achieving sustainable management.

Cost effectiveness and proportionality

74. The status quo is neither cost effective nor proportionate for managing the effects of activities with minor or less effects. Requiring a marine consent for all activities would be costly for operators (the consent process would be fully cost recovered from users, as described in Part 2 of this RIS). It creates a disproportionately compliance-heavy regime for users of the EEZ and CS. The status quo lacks finesse. It treats small-scale research activities the same as, for example, a production phase petroleum drilling. Obtaining a low complexity marine consent is likely to cost approximately at least $350,000. There is no discretion for regulations to prescribe a more flexible marine consent process because it is already established in the Act and cannot be changed through regulations.

75. Option 2 would not be cost effective for Government. Numeric thresholds could potentially be difficult and expensive to monitor and enforce. Given the arbitrary nature of the thresholds, the protection

offered to the environment in return for this potential high cost is doubtful. The need to amend regulations as new technologies are developed is also costly for Government. Option 2 could also be costly for operators if they accidently breach numeric conditions and are fined under the Act.

76. Option 3 is proportionate and cost-effective because restrictions are set according to the sensitivity of the environment the activity is carried out in. The behavioural conditions in option 3 are easier to comply with than the numeric thresholds in option 2.

77. Option 4 would be cost effective for Government to monitor and would not impose any compliance costs on users. On its own it might be insufficient to properly manage environmental effects, as it will not manage effects to sensitive environments.

78. A combination of options 3 and 4 would best achieve this objective.

Management of non-environmental impacts

79. The status quo would involve full consideration of all non-environmental impacts with each activity having to go through the resource consent process. This would include public notification. This option would also fully allow for any effects on existing interests to be managed. However, the level of public interest and effects to existing interests from activities with minor or less effects is not likely to be significant.

80. Options 2, 3 and 4 only allow for public participation through government consultation on the regulations. However, this is proportionate to the likely level of effects on the interests of the public and iwi from activities with minor or less effects. Also, as noted above, effects to existing interests from activities with minor or less effects are not likely to be significant.

81. Options 2, 3 and 4 would be equally better than the status quo for achieving this objective.

Table 6: Summary assessment of the policy options against the high level objectives relative to the status quo

	Status quo	**Option 2: Classified as permitted with numeric conditions**	**Option 3: Classified as permitted with behavioural conditions**	**Option 4: Classified as permitted with sale of material prevented**
International obligations	N/A	✓	✓✓	✓✓
Sustainable management	N/A	✓	✓	✓
Cost effectiveness	N/A	✓	✓	✓
Non-environmental impacts	N/A	✓	✓	✓

Key: ✓ = better than status quo; ✓✓ = much better

Conclusions

82. Compared to the status quo (option 1), options 2, 3 and 4 would address the problem of a blanket discretionary classification introducing unnecessary costs, deterring investment and putting New Zealand at risk of breaching its international obligations. This is because all of the options would manage activities in proportion to their level of environmental effects.

83. Options 3 and 4 combined would be easier to comply with and monitor, while providing a similar level of environmental protection to option 2. For this reason, a combination of options 3 and 4 is the preferred option.

A2. CLASSIFYING OTHER ACTIVITES

84. This section briefly considers options for classifying two categories of activities:
    - Those with effects that are likely to be significant, and
    - Those that will possibly operate in New Zealand's EEZ in the future, but not likely in the next 10 years.

Status quo and problem

Activities with potentially significant effects

85. Petroleum production and production-scale seabed mining were not assessed in the previous section (petroleum exploration drilling will be considered at a later date). This is because their effects are considered likely to be significant.

86. The Act states in section 29, "The regulations must not provide for an activity to be a permitted activity if, in the Minister's opinion, that activity has or is likely to have adverse effects on the environment or an existing interest that are significant in the circumstances, and it is more appropriate for the adverse effects of the activity to be considered in relation to an application for a marine consent." For this clause to take effect it needs to be shown the activities have, or are likely to have significant effects.

87. If petroleum production and production-scale seabed mining maintain their discretionary classification under the status quo this will have economic impacts on operators wishing to undertake either activity, owing to the costs imposed on marine consent applicants (as discussed in previous section). However, if the activities are permitted through regulations and it can be shown their effects are, in fact, clearly significant, the regulations would be *ultra vires* the Act.

Future activities

88. Offshore renewable energy generation, offshore aquaculture and carbon capture and storage are all activities that may possibly occur in New Zealand's EEZ. However, none of them are likely to occur within the next 10 years and the technology to carry them out has currently not been developed. (Note, carbon capture and storage will likely involve pumping carbon dioxide into used petroleum wells and then decommissioning the rig and capping the well).

89. Because the technology has not been developed it is uncertain what the environmental effects of these activities might be. However, NIWA has made an initial assessment of the risks based on expert knowledge of current comparable activities and the likely effects of potential future activities. The risk assessments range from negligible to high.

90. The problem is if these activities maintain their discretionary classification under the status quo this could reduce incentives to test and develop these activities in the New Zealand's EEZ. This would reduce economic benefit to those wishing to undertake the activity in the future and also reduce any flow-on benefits to the New Zealand economy. However, the Act requires the Minister to favour caution and environmental protection when making decisions under the Act if the information available is uncertain or inadequate. If the Minister decides to classify these activities as permitted on the basis of uncertain information the regulations could be *ultra vires* the Act.

Objective

91. The objective for addressing these policy problems is ensuring the classification of activities reflects the known level of effects and is in line with the Act.

Options

92. For both categories of activities the options are the status quo (left as discretionary) or permit through regulations with appropriate conditions.

Analysis

Activities with potentially significant effects

93. Petroleum production has a similar risk profile to petroleum exploration drilling. The effects related to petroleum exploration drilling are difficult to define because they are primarily based on the unlikely event of a catastrophic oil spill. Exploration rigs are usually in place for a matter of months. However, production rigs are usually left in place for decades at a time, depending on the size of the oil reservoir. This extended timeframe increases the window of opportunity for a major incident, which, by definition increases the risk (even though the most risky time is when a new well is being established).

94. Because of the long-term nature of petroleum production and the possibility (even though low) of a catastrophic oil spill it would be difficult to argue the likely effects of the activity were less than significant. Similarly, the risks of the activity suggest it would be more appropriate for the activity to be considered in relation to an application for marine consent. The consent process would allow the possible effects and risks to be fully assessed and mitigation measures put in place, or consent declined if necessary. On this basis, making the activity permitted would not be better than the status quo as it is not likely to meet the objective.

95. The costs of the status quo would fall on petroleum operators. As discussed in the previous section a marine consent is estimated to cost applicants up to $1,200,000 (petroleum production consents are likely to be at this upper range of costs). Additionally operators would face the uncertainty and time delays associated with the EPA decision making process. However, petroleum operators have consistently stated they expect to face these costs. The *Managing our Oceans* discussion document proposed petroleum production is left as discretionary. No submissions objected to this proposal.

96. Seabed mining in all forms has been rated by NIWA to have high-extreme environmental risks. The costs of the status quo could be high and will fall on marine consent applicants. However, classifying seabed mining as permitted would clearly not achieve the objective of being in line with the Act. Therefore the status quo is preferred.

Future activities

97. The NIWA report made an initial assessment of the risks of all possible activities in New Zealand's EEZ. Offshore renewable energy generation, offshore aquaculture and carbon capture and storage were included in this assessment. The potential risks and levels of information uncertainty are set out in table 7 below:

Table 7: Risks and unknown factors of future activities

Activity	Primary risk	Unknown factors
Offshore renewable energy generation	Disturbance of benthic fauna, marine mammal entanglement and near-shore impacts on wave climates were all risks identified as medium to high.	The technology used and the size of an energy farm.
Offshore aquaculture	Installation of surface and subsurface floats could lead to the entanglement of marine mammals. Medium risk to protected species and high risk in terms of recovery period for the species if the event happened.	The size of a farm, and therefore the overall risk to marine mammals in terms of exposure to cables.
Carbon capture and storage	Effects related to decommissioning a rig rated highly in terms of effect to the immediate area affected. However, proportion of habitat likely to be affected is low.	No petroleum wells have been decommissioned in New Zealand to date. However, the effects are relatively predictable.

98. For offshore renewable energy generation and offshore aquaculture the effects have been initially assessed to be medium to high. Additionally, unknown factors may possibly increase this risk. Accordingly, classifying the activities as permitted would not meet the objective as this would not be in line with the Act's requirement for the Minister to favour caution and environmental protection if information is uncertain or inadequate.

99. Because these two activities are not likely to occur in the next 10 years there is not likely to be any direct costs or benefits associated with the status quo or permitted option. However, future impacts of the status quo applying to these two activities would fall on those wishing to invest in developing and testing the technology to implement them. A discretionary classification may deter such investment because of the high costs for a marine consent application. This also may mean the New Zealand economy forgoes any economic benefit associated with the activities.

100. Carbon capture and storage, however, has been initially assessed to have low effects in relation to the proportion of habitat affected (even if the effects on the immediate area of the seafloor are high). The effects are also reasonably predictable and therefore this activity does not have the same level of uncertainty as the other two.

101. It is more likely classifying carbon capture and storage as permitted would be in line with the Act. Additionally, there would be little environmental risk and increased potential for economic benefit if the carbon credits were able to be sold as a result of the activity. For carbon capture and storage the permitted option would be better than the status quo.

Conclusion

102. Although the costs of the status quo in relation to petroleum production and seabed mining are likely to be high, these activities are likely to have significant effects. If these activities were permitted it would likely be *ultra vires* the Act and therefore would not meet the objective.

103. Of the three future activities, offshore renewable energy generation and aquaculture could potentially have medium to high effects. Given the information about their effects is uncertain and currently inadequate the Act requires decisions about their classification favour caution and environmental protection. The status quo is preferred in relation to these two activities.

104. Carbon capture and storage has been rated to have potentially low effects and these effects are reasonably predictable. It is preferable to make this activity permitted as the benefits of this option

outweigh the costs. However, because this activity is not likely to occur within the next 10 years it has not been considered in scope for this round of regulations development. Any potential dynamic effects of deterring future investment by not permitting this activity in this round of regulations could be mitigated by reviewing the activity when the regulations are reviewed (proposed to be 5 years after commencement) to determine if the activity is likely to occur. The Ministry for the Environment would also need to communicate to likely operators that the activity is not likely to remain discretionary if interest is shown in carrying out the activity.

B. NOTIFICATION, MONITORING AND REPORTING CONDTIONS ON ACTIVITIES CLASSIFIED AS PERMITTED

Status quo and problem

105. The preferred option from section A is being considered as the status quo for this section. The status quo, therefore, is that activities with minor or less effects are permitted on condition that behavioural processes are followed to mitigate the impact of activities on sensitive environments, and that any material removed from the seafloor in the course of a permitted activity must not be sold (except petroleum).

106. The problem is there is no way to know if conditions on these activities are being complied with. This is a problem because the government, public and iwi cannot be assured the environmental impacts of permitted activities are not exceeding a minor level.

Objectives to achieve in addressing the problem

107. The objectives for addressing this problem have been outlined in Table 2 (see paragraph 34).

Options

Table 8: Options for notification, monitoring and reporting

Option	Key features
Option 1: Status quo	• No requirements for notification, monitoring and reporting in regulations. Standard conditions related to discretionary activities, as set out in the Act and summarised in the status quo on page 6, would apply.
Option 2: Notification and reporting to demonstrate compliance	• Notification to the EPA about intended activity including an initial environmental assessment to determine the activities' effects on sensitive environments and an outline of plans to mitigate these effects in line with the four "Rs" from option 3 in section A. • Logbook required to be filled out and submitted to the EPA. Logbook would capture measures taken to avoid and mitigate effects to sensitive environments. • Provision of post-trip report detailing the actual outcomes of the activity and sensitive environments process (checked by the EPA to monitor compliance). • Requirement to notify iwi and then prepare a report to the EPA on any iwi engagement. Note: Under the Act, conditions on a permitted activity cannot include an

	element of discretion. This consequently rules out the option for public submissions and hearings in relation to permitted activities.
Option 3: Option 2 plus a requirement for the EPA to set random observers on voyages to check compliance	• A requirement in regulations for the EPA to set random observers on voyages to check compliance with conditions from section A. • Most costs borne by operators in the form of a standard fee for notifying a permitted activity. • Costs would be shared across operators and weighted according to the scale and type of activity.

Impact assessment for each option

108. Environmental, economic and social impacts need to be treated relatively equally when assessing these options. Social impacts are more important in this section than for section A. The options assessed here have higher potential consequences for the public and iwi, primarily in terms of assurance of environmental protection and contact with iwi.

109. The status quo has low compliance costs because no notification or reporting would be required. However it carries high environmental and social risks because there is no way to verify users' compliance with environmental conditions.

110. Option 2 will impose compliance costs on operators but these are outweighed by the environmental and social benefits of greater certainty of environmental protection. The conditions set in regulations under option 2 will need to be clear and well supported by guidance to ensure operators can easily comply with them. If this is the case option 2 will have the added benefit of certainty for operators.

111. A risk with this option is that users both do not comply with conditions and then do not report their non-compliance. So certainty of compliance for the Government and public will rely on good self-reporting by users. This arrangement would need to be periodically reviewed to ensure it is achieving the intended environmental protection.

112. The costs of option 3 are not clear and widely variable. The high costs would heavily outweigh the extra benefits associated with observers and would be worse than the status quo. However, at a low cost, observers would provide significantly higher environmental and social benefits than the status quo or option 2.

113. Estimated costs for observers range between \$500/day[3] for low-skill officials observing proper practice, to \$5000/day[4] for trained marine scientists making accurate judgements of compliance with proposed mitigation measures. The length of trips can vary between two days and seven weeks. Therefore the potential low-end range of costs is between \$1000 and \$24,000 per trip, and the high-end range of costs is between \$10,000 and \$245,000 per trip. If the EPA assumed a median of \$12750 at the low-end and \$127,500 at the high end and budgeted for 5 observer trips a year this would equal between \$63,750 and \$637,500 to spread across all permitted activities for the year.

[3] Based on costs for observers used in the Department of Conservation's Conservation Services Programme

[4] Based on estimates by the Department of Conservation of three marine mammal observers costing around \$16000/day. Additionally the hourly rate for a New Zealand senior marine scientist ranges from \$190 - \$245 (a person with these skills would be required to fulfil an observer role). \$16000 divided by three is \$5333 and \$200 times 24 (hours) is \$4800. Therefore we assumed a daily rate of \$5000.

114. These costs would be recovered from individual users by the EPA through fees related to notification for permitted activities. The high costs could potentially make permitted activities uneconomical for small minerals exploration companies or marine scientific research organisations. Until more accurate costs of this option can be determined it is hard to determine what the exact impacts would be.

Table 9: Summary impact assessment

Option	Impacts	Net impact
Option1: Status quo	ENVIRONMENTAL: Potential for environmental harm as there would be no way to verify compliance ECONOMIC: No compliance costs. Reduced ability to manage future potential of resources. SOCIAL: Cost from lack of certainty for public and iwi about environmental management.	Environmental and social costs outweigh benefit of no costs to users.
Option 2: Notification and reporting to demonstrate compliance	ENVIRONMENTAL: Increased certainty of compliance with environmental conditions. ECONOMIC: Some compliance costs. Increased ability to managed future potential of resources. SOCIAL: Greater public certainty about environmental management. Appropriate opportunities for iwi involvement in management of activities.	Better than the status quo because benefits outweigh compliance costs to users.
Option 3: Option 2 plus a requirement for the EPA to set random observers on voyages to check compliance	ENVIRONMENTAL: High certainty of compliance with conditions. ECONOMIC: Potentially higher compliance costs to users SOCIAL: High certainty about environmental management.	Unclear about whether it would be better or worse than status quo because financial costs are not clear.

How the impacts will apply to different groups

115. The benefits of certainty in compliance would accrue to users, the government and the public and iwi. Public participation benefits would accrue primarily to iwi. Compliance costs will fall on users. Iwi will bear the cost of responding to notification.

Assessment of each options against the objectives

International obligations

116. None of the options is likely to be better or worse than the status quo for ensuring New Zealand acts within its rights under international obligations. None of the options would be likely to unreasonably impede submarine cable laying, nor restrict access to foreign marine scientific research.

Sustainable management

117. Option 2 would be better than the status quo for achieving sustainable management. It will provide a reasonable level of assurance environmental conditions in regulations are being complied with. It will not impose such high costs as to deter investment in New Zealand's natural resources.

118. Option 3 would be unlikely to achieve sustainable management as high costs for observers could deter investment in New Zealand's natural resources. However, if costs are lower it could achieve sustainable management better than the status quo and option 2 because it provides more stringent monitoring of compliance.

Cost effectiveness and proportionality

119. Option 2 would be better than the status quo for achieving proportionate cost effectiveness. The costs involved are justified to ensure a reasonable amount of information is available to assess and check the environmental impacts of permitted activities.

120. Option 3 would provide strong assurance environmental conditions were being complied with but its costs to users would be higher than the status quo or option 2. If the costs are at the low end of the scale they will be proportionate, but disproportionate if they are high.

Management of non-environmental impacts

121. Option 2 would be better than the status quo for ensuring iwi concerns are addressed in relation to permitted activities. A specific concern of iwi is wāhi tapu could be adversely affected even by permitted activities. Option 2 provides an opportunity for iwi to be notified by users intending to undertake permitted activities, and for iwi to respond. This will impose a cost on users but these costs are outweighed by the social benefit of engaging with iwi on matters of interest to them.

122. The extra requirements for observers in option 3 would not provide any extra benefit in relation to this objective.

Table 10: Summary assessment of the policy options against the high level objectives relative to the status quo

	Status quo	Option 2: Notification and reporting conditions	Option 3: Option 2 plus observers required to be placed by EPA
International obligations	-	-	-
Sustainable management	-	✓	?
Cost effectiveness	-	✓	?
Non-environmental impacts	-	✓	✓

Key: ✓ = better than status quo; x = worse than status quo; ? = unsure

Conclusion

123. Option 2 is preferred because the costs are likely to be proportionate to the benefits of higher certainty of environmental protection. It is also better than the status quo for achieving the objectives. Note option 2 does not preclude the EPA posting observers on vessels if they suspect non-compliance as a result of reviewing post-trip reports. The costs for this would be split between the EPA and the user (as outline in Part 2 – Cost Recovery). However, further work is being done to investigate the potential costs of option 3. If the costs for this option turn out to be low it will likely be preferred because it offers stronger compliance monitoring and therefore greater assurance that the effects of activities are being minimised.

PART 2: COST RECOVERY

Status quo and problem

124. Under the Act, the Environmental Protection Authority (EPA) must perform a number of functions, including processing marine consents and monitoring compliance with conditions on permitted activities, and thus incur costs. The Act provides that the EPA may recover the costs it incurs fulfilling these functions from users and provides for a range of methods by which this may be done. The Act does not specify how these methods will be applied or what charges will result for specific activities. Regulations are required to ensure clarity of processes or methods for costs to be recovered from applicants.

125. The status quo is there are no regulations in regard to cost recovery. This is problematic as the Act states the EPA must take all reasonable steps to recover the direct and indirect costs associated with its functions and services under the Act where money is not appropriated by Parliament for that purpose. Without cost recovery regulations the EPA has no clear process or methods to recover its costs from applicants.

Objectives

126. Regulations are needed to set up a cost recovery regime. In line with the Act's focus on cost recovery, proposals are based on operators bearing the costs of monitoring their activities.

127. Section 143(3) of the Act sets out the criteria for determining the method of cost recovery. Among other factors, this section requires regard to equity, and that the funding of a service or function is recovered from the person who benefits from the performance of the function; or whose action or inaction gives rise to the need for that function.

128. With this in mind, and in accordance with Treasury guidelines, we have divided the functions of the EPA into three classes depending on where the benefit lies:

- Private benefit
- Public benefit
- Mixed benefit.

Options

129. For each function there are essentially three options:

- full cost recovery
- partial cost recovery
- no cost recovery

130. We have arrived at a preferred option for each function based on where the benefit from the function lies, as follows:

- Private benefit – full cost recovery
- Public benefit – no cost recovery
- Mixed benefit – partial cost recovery.

Analysis

131. The following tables show which EPA functions associated with the Act are of public, private and mixed benefit, and therefore who will bear the cost for the EPA's functions. Figures are indicative and have been provided by the EPA as a guide only. There is a large variation in the estimated annual figures.

The lowest figure is based on a low number of low complexity processes per year, and the high figure based on a high number of high complexity process.

132. The first table, looking at the functions with mixed benefit, sets out a split of costs at 80% private and 20% public. Other options for this split include 20% - 80% private/public and 50% - 50%. These alternative options are not considered to represent the true balance of benefit from the mixed benefit functions. The assumption is operators are gaining private benefit from access to public natural resources. Therefore the financial burden for ensuring activities are operating within environmentally sound limits should fall primarily on those directly benefiting from the resource. However, the EPA does need to bear some costs to incentivise the EPA to limit monitoring functions to only what is necessary to ensure compliance (rather than collecting excess information, for example). We do not have sufficient information to provide more in-depth analysis on this option.

Function	Rationale for/impact of the benefit classification	Cost per activity/event ($)	Estimated cost per year ($)
Table 11: Mixed benefit functions – costs split between the EPA and industry			
Reviewing monitoring reports for permitted activities	Monitoring has both public and private benefits. Public benefits include assurance that: - operators are monitoring their own compliance with conditions. - information gathered and provided by the operator is being reviewed independently (by the EPA). - knowledge of the interaction between activities and the environment in the EEZ and continental shelf will be gained from the information provided by operators. This will inform better decision making at both the operational and policy level. Monitoring of individual marine consents and permitted activities will feed into the EPA's monitoring of cumulative effects. However, monitoring is part of the suite of conditions which provide operators with their social license to undertake an activity. Monitoring will also likely result in greater regulatory certainty for operators in the long term through an enhanced understanding of the environmental effects of activities. Monitoring also gives the operator information about the environmental effects of their activities which will assist them with their future compliance obligations. There are also reputational benefits for the operator in knowing that they are meeting the required environmental standards. Given the magnitude of the potential financial gain to operators, we consider the private benefits outweigh the public benefits, and this should be reflected in the portion of costs recovered. **We consider a split of 80% cost recovered and 20% funded by appropriations is appropriate. How this split affects the costs covered by the EPA and industry respectively is reflected in the following tables.**	10,000-100,000 NB: large variation due to potential need to contract technical experts for high complexity permitted activities	50,000-2,000,000
Reviewing monitoring reports for marine consents	As above	12,000-100,000 NB: as above	24,000-400,000

Function	Rationale for/impact of the benefit classification	cost per activity/event ($)	Estimated cost per year ($)
Table 12: Public benefit functions – not cost recovered			
Education and public awareness	Education and public awareness will mean the public are better informed about issues relating to the environmental management of the EEZ and continental shelf. There is no private benefit.	N/A	500,000-1,500,000
Internal government and international reporting	The public benefit is around demonstrating transparency of process. There is no private benefit.	N/A	100,000-225,000
Enforcement action (abatement notices and enforcement orders)	The public will benefit from the assurance that conditions on marine consents and permitted activities are being enforced.	160,000-225,000 NB: where enforcement orders are obtained from the Environment Court, the Crown will seek to reimburse its costs.	160,000-450,000
Prosecution of operators who commit an offence (such as not complying with an abatement notice or enforcement order)	The public will benefit from the assurance that those behaving unlawfully under the Act are being held to account.	150,000-300,000 NB: where prosecution is successful, the Crown will seek to reimburse its costs.	150,000-600,000
Planned and unplanned investigations which do not amount to enforcement action (may consist of EPA routine monitoring investigations and investigations as a result of public concern)	The public will benefit from the assurance that conditions on marine consents are being investigated.	15,000-75,000	15,000-225,000
Additional monitoring (e.g. for cumulative effects)	Additional monitoring, such as for cumulative effects, will provide the public with a level of assurance. Knowledge of the interaction between activities and the environment in the EEZ and continental shelf will improve with time, informing better decision making at both the operational and policy level, and informing future iterations of regulations.	N/A	300,000-800,000
EPA processing for submarine cables and foreign marine scientific researchers, not cost recovered because of international obligations. EPA processing for publicly funded domestic research not cost recovered because one part of government would effectively being paying another, leaving less money for research.	We have been advised by the Ministry of Foreign Affairs and Trade that it would be difficult to legally justify charging submarine cable layers in our EEZ because of the rights afforded to them by UNCLOS. There is a benefit to New Zealand and for further iterations of regulations as foreign marine scientific researchers supply information to us about our marine environment. Additionally, given that when our researchers are not charged to undertake research in EEZs internationally, and the rights afforded to foreign researchers under UNCLOS, we consider it would be inappropriate for us to cost recover for this function. Domestic marine scientific research benefits New Zealand through the information it gains, which in time will lead to an ability to fine tune the regulatory framework.	5,000-20,000	10,000-220,000

Costs of monitoring submarine cables and foreign marine scientific researchers, not cost recovered because of international obligations. Costs of monitoring publicly funded domestic research not cost recovered because one part of government would effectively being paying another, leaving less money for research.	As above	10,000-70,000	20,000-770,000
Setting up business systems and processes	Benefit doesn't accrue to a particular operator.	N/A	2,000,000-3,000,000 NB: this would be a first year cost only and ongoing maintenance would be much less
Appeals and judicial review	It is uncertain where the benefit of an appeal or judicial review lies until the decision has been made, either way, the EPA will need to fund its costs of defending appeals and judicial review, as this cannot be cost recovered.	150,000-300,000 NB: where an appeal is unsuccessful, the Crown will seek to reimburse its costs.	150,000-600,000
20% of the cost of receiving, reviewing analyzing and investigating information, as required by **marine consents** (the remaining 80% is covered by the operator)	Monitoring has both public and private benefits. Further detail can be found in the mixed benefit table.	2,500-18,000 NB: this is 20% of the estimated cost of this function, 80% will be cost recovered from the operator. The large variance covers the potential need for investigations in light of monitoring reports.	5,000-72,000
20% of the cost of receiving, reviewing analyzing and investigating information, as required by **permitted activity conditions** (the remaining 80% is covered by the operator)	Monitoring has both public and private benefits. Further detail can be found in the mixed benefit table.	2,000-14,000 NB: as above.	10,000-280,000
Total cost covered by the EPA			**3,420,000 - 8,742,000**

Function	Rationale for/impact of the benefit classification	cost per activity/event ($)	Estimated cost per year ($)
Table 13: Private benefit functions			
Processing and deciding marine consents (this includes pre-application assistance)	The outcome of a decision-making process could result in a financial benefit for an applicant. The EPA's role in processing would not occur if the application was not made.	250,000-700,000	500,000-2,800,000
Transferring a consent	Benefit to the parties the consent is transferred between.	1,000-10,000	0-10,000
Cancellation of marine consent	A consent holder can apply to have a marine consent cancelled. The benefit of this accrues to the operator.	1,000-10,000	0-10,000
Reviewing the duration and/or conditions of marine consent	The outcome of a decision-making process could result in a financial benefit for an applicant. The EPA's role in processing would not occur if the application was not made.	15,000-300,000	0-300,000
EPA rulings required under the grandfathering provisions.	The outcome of the process could result in a financial benefit for an applicant. The EPA's role in processing would not occur if the application was not made.	5,000-20,000	5,000-80,000
Receiving and reviewing impact assessments or any other documentation required under the transitional arrangements	As above.	50,000-100,000 NB: this will only be a cost for the first 12 months of the regime while the transitional provisions are operative.	50,000-600,000
Receiving, reviewing and certifying information associated with permitted activities (this includes advice on whether an activity is a permitted activity)	Required as a condition of the operator's permission to undertake the activity in the EEZ. Providing the necessary information is a condition with which an operator must comply to undertake their activity and access the financial benefits of the resource.	5,000-200,000	25,000-400,000

Function	Rationale for/impact of the benefit classification	cost per activity/event ($)	Estimated cost per year ($)
80% of the cost of receiving, reviewing analyzing and investigating information, as required by **marine consents** (the remaining 20% is covered by the EPA)	Monitoring has both public and private benefits. Further detail can be found in the mixed benefit table.	9,500-72,000	19,000-288,000
80% of the cost of receiving, reviewing analyzing and investigating information, as required by **permitted activity conditions** (the remaining 20% is covered by the EPA)	Monitoring has both public and private benefits. Further detail can be found in the mixed benefit table.	8,000-56,000	40,000-1,120,000
Total private benefit estimate - total EPA will cost recover across all Operators			**639,000 - 5,608,000**

Conclusion

133. The EPA's functions associated with the EEZ regime can be classified as either public, private or mixed as follows:

134. Public – estimated cost per year of $1,640,000-$6,210,000:

1. Education and public awareness
2. Reporting
3. Enforcement action (including investigations)
4. Investigations which do not amount to an enforcement action
5. Additional monitoring (e.g. for cumulative effects)
6. EPA functions associated with submarine cables
7. EPA functions associated with foreign research vessels (which are not able to be charged for under UNCLOS).
8. Setting up business systems and processes

135. Private – estimated cost per year of $605,000-$5,910,000:

9. Processing and deciding marine consents
10. Transferring a consent
11. Reviewing the duration and/or conditions of marine consent
12. Cancellation of marine consent
13. EPA rulings required under the grandfathering provisions.
14. Receiving and reviewing impact assessments or any other documentation required under the transitional arrangements
15. Receiving, reviewing and certifying information associated with permitted activities
16. Pre application work undertaken in relation to any of the above (including considering if an application for marine consent is a joint or separate one, and whether an activity is a permitted activity)

136. Mixed – estimated cost per year of $74,000-$2,400,000:

17. Reviewing monitoring reports for permitted activities
18. Reviewing monitoring reports for marine consents
19. Appeals and judicial review (where an appeal is unsuccessful, the Crown will seek reimbursement of its costs)

CONCLUSIONS AND RECOMMENDATIONS

Managing the effects of activities, and notification, monitoring and reporting conditions

137. The following activities have been assessed to have effects that are minor, or can be managed to ensure they are minor:

- seismic surveying
- submarine cabling
- marine scientific research
- prospecting and exploration for seabed minerals and petroleum (excluding petroleum drilling, which will be considered at a later date).

138. Officials recommend the following preferred options for regulations under the EEZ Act:

a. The effects of activities to be managed by permitting all activities with minor or less effects but only on condition that:

i. operators notify the EPA of their intention to carry out a permitted activity at least 2 months' prior to carrying out the activity

ii. operators complete an initial environmental assessment (IEA) to determine if their effects are likely to impact a sensitive environment

iii. if the activity is likely to impact a sensitive environment the IEA must outline how they will apply the following mitigation measures:

1. relocate the activity, or
2. reduce the amount of contact with the seafloor, or
3. replace the intended activity with lower impact activities, or
4. refine the methods of operation to lower the impact of the activity on the environment

iv. operators must outline how they will apply the mitigation measures above if they accidently encounter an sensitive environment in the course of their activity

v. operators must complete a logbook while undertaking an activity to record how effects to sensitive environments are being avoided or remedied, and submit that logbook to the EPA weekly while the activity is being undertaken

vi. operators must complete a post-activity report outlining the actual events of the activity including location, time and any mitigation measure that were followed

vii. any material removed from the seafloor is not sold at any point in time

viii. operators notify iwi of their intention to carry out a permitted activity and provide the EPA with an iwi engagement strategy no later than one month prior to conducting the activity, with detail commensurate with the scale and significance of the effects of the activity, relating to those iwi that responded to notification.

139. Further work is being done to determine the costs of requiring random observers to monitor compliance. If costs for this option are low it may be a preferred option because it will help ensure the environmental effects of activities are being minimised.

Cost recovery

140. The Act sets up a cost recovery framework for the EPA but requires the regulations to specify what functions will be cost recoverable.

141. Partial cost recovery, split at 80% of costs to users and 20% to the EPA, is recommended for the following functions because they have a mix of private and public benefit:
    - reviewing monitoring reports for permitted activities
    - reviewing monitoring reports for marine consents

142. Full cost recovery is recommended for the following EPA functions because they have a private benefit:
    - processing and deciding marine consents
    - transferring a consent
    - cancellation of marine consent
    - reviewing the duration and/or conditions of a marine consent
    - EPA rulings required under the Act's grandfathering provisions
    - receiving and reviewing impact assessments or any other documentation required under the transitional arrangements
    - receiving, reviewing and certifying information associated with permitted activities
    - pre application work undertaken in relation to any of the above (including considering if an application for marine consent is a joint or separate one, and whether an activity is a permitted activity)

CONSULTATION

143. Consultation with the public, iwi authorities, regional councils, and persons whose existing interests are likely to be affected has been undertaken in accordance with section 32 of the Act. Public consultation on initial proposals ran from May to June 2012, based on a discussion document *Managing our Oceans – A discussion document on the regulations proposed under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Bill (Managing our Oceans)*. 11,834 submissions were received (of which 326 were individualised submissions).

144. Following this consultation, further involvement from technical industry and Crown Research Institute (CRI) scientists was sought. Scientific expertise from within government was also drawn on. Based on this input the proposals were revised, and an information-sharing session was held at the end of October 2012 to inform key stakeholders (science, industry, environmental organisations) of the revised approach.

145. Further information on this consultation process is provided in the Background and Context section of this RIS. An exposure draft of the regulations will be released for public consultation.

146. The following departments have been consulted throughout the development of the proposals in this RIS, and on the contents of this RIS: Ministry of Business, Innovation, and Employment; Ministry of Transport; Department of Conservation; Department of Internal Affairs; Environmental Protection Authority; Ministry for Culture and Heritage, Ministry for Primary Industries; Ministry of Foreign Affairs and Trade; Ministry of Justice; New Zealand Customs Service; Te Puni Kōkiri; Land Information New Zealand and the Treasury. The Department of Prime Minister and Cabinet has been informed of the proposals in this RIS.

IMPLEMENTATION

147. These proposals will be implemented through regulations made pursuant to the EEZ Act. The regulations will be implemented through informing the public and key stakeholders of the content of the regulations and by providing supporting guidance material on the EPA and MfE websites.

MONITORING, EVALUATION AND REVIEW

148. The EPA will have a role in receiving and maintaining information from operators who undertake activities which are permitted by the regulations or allowed by a marine consent. This information and any other relevant information (such as results of current cross-government marine scientific research) will need to be transferred from the EPA to the Ministry for the Environment. It will feed into the Ministry for the Environment 's work on monitoring and evaluating the regulations to ensure they effectively address the problems identified. Monitoring and evaluation plans will be developed once these proposals for regulations have been approved by Cabinet. However, the preferred option for notification, monitoring and reporting will itself require close monitoring and review to ensure it is being complied with and that it is working to protect sensitive environments.

149. The Act does not specify evaluation periods, as it is intended that the regulations will be updated as information and technologies develop over time. The monitoring and evaluation plans will ensure that any review has the information available to it to make this assessment. A review period of 5 years is proposed.

150. In particular, this review period should be used to scan for new activities that may be likely to take place in the EEZ. As those activities become closer to operating, their environmental effects should be assessed in more detail than is currently possible and regulations drafted accordingly.