

# Submission Form

## Marine Consents and Marine Discharge Consents Application

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SUBMISSION115456

Submitter Name:

Anderson

Peter

The Royal Forest & Bird Protection Society of New Zealand  
Incorporated

Hard Copy Form

Incomplete Submission

## Marine Consents and Marine Discharge Consents Application

**Application Name:** Trans-Tasman Resources Limited iron sand extraction and processing application

**EPA Reference:** EEZ000011

**Applicant:** Trans-Tasman Resources Limited

**Notification Date:** 17 September 2016

**Submissions Close:** Extension of submission period to 5:00pm, Monday 14 November 2016  
Originally submission period was to close 5:00pm, Friday 14 October 2016

### 3. Electronic correspondence

You will receive information by email. If you are unable to receive emails, please indicate below:

I cannot receive electronic copies of information and updates

### 4. Do you wish to speak to your submission at the hearing?\*

I / We **do not wish** to speak about my / our submission at the hearing.

OR

I / We **wish** to speak about my / our submission at the hearing.

If you **wish to speak** at the hearing, tick as many as apply to you:

If others make a similar submission, I / we will consider presenting a joint case with them at the hearing.

I / we wish to present in Te Reo Māori.

I / we wish to present in New Zealand Sign Language.

I / we intend on having legal representation (i.e. a lawyer speaking on your behalf).

I / we intend to have expert witnesses to support my / our submission.

## 5. What decision do you want the EPA to make and why?\*

If you require more space, please attach additional pages. Please include your name, page numbers and *Trans-Tasman Resources Limited iron sand extraction and processing application* on the additional pages.

- Grant
- Grant with conditions
- Neutral
- Decline

### My reasons for seeking this decision are:

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Please see attached PDF document for full submission with reasons.

## 6. Do you have an existing interest that may be affected by what is proposed in this application?

- Lawfully established existing activity, whether or not authorised by or under any Act or Regulations, including rights of access, navigation and fishing
- Any activity that may be undertaken under the authority of an existing marine consent
- Any activity that may be undertaken under the authority of an existing resource consent granted under the Resource Management Act 1991
- Settlement of a historical claim under the Treaty of Waitangi Act 1975
- Settlement of a contemporary claim under the Treaty of Waitangi as provided for in an Act, including the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992
- Protected customary right or customary marine title as recognised under the Marine and Coastal Area (Takutai Moana ) Act 2011

### What is your existing interest and how may it be affected by this application?

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If you would like to attach any supporting documents please do so below.



Forest and Bird TTRL  
submission.pdf  
Adobe Acrobat Document  
209 KB

**Only ONE PDF or Word document with a maximum size limit of 15MB can be attached to this submission form. Please forward larger files or file types other than PDF or Word, or multiple documents directly to the EPA on a CD or DVD or USB stick.**

**Email Address**

I wish to receive a copy of my completed submission via email.



14 October 2016

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Dear Sir/Madam

**SUBMISSION ON APPLICATION BY TRANS TASMAN RESOURCES LIMITED**

1. The Royal Forest & Bird Protection Society of New Zealand Incorporated ("Forest & Bird") submits in opposition to the application to undertake iron sand seabed mining in the South Taranaki Bight by Trans Tasman Resources Limited ("the application", "the activity" and "TTRL").
2. The area of the South Taranaki Bight has many important features and values which the proposed application will have significant adverse effects on. The activity will have significant irreversible adverse effects, particularly through the disturbance of the seabed and the deposited sediment which will cause significant and irreversible effects on the benthic environment over vast areas of ocean floor with impacts from suspended sediment over an even wider area.
3. The information provided is inadequate and uncertain in a number of key areas, including relating to the sediment plume, the benthic ecology and the effects on the wider ecosystem and foodweb, and also on the ability of impacted areas to recover. Adaptive management is not appropriate given the lack of information, lack of trigger points and the irreversible adverse effects.
4. TTRL have underestimated the value of the region to marine mammals, and so the impacts on marine mammals will be of much greater consequence than they suggest. They have ignored important data on species that may be present in the region. They have also failed to adequately describe the sources of anthropogenic noise and associated output levels or the impacts these may have on cetaceans, particularly with respect to persistent added sound in the environment.

5. Given the known significant adverse effects, the inadequate and uncertain information, and the inappropriateness of adaptive management, the application does not serve the purpose of the EEZ Act and should be declined.

#### **EXCLUSIVE ECONOMIC ZONE AND CONTINENTAL SHELF (ENVIRONMENTAL EFFECTS) ACT 2012**

6. The purpose of the EEZ Act is :<sup>1</sup>

*“to promote the sustainable management of the natural resources of the exclusive economic zone and the continental shelf”*

7. Sustainable management is defined in section 10(2) as follows:

*sustainable management means managing the use, development, and protection of natural resources in a way, or at a rate, that enables people to provide for their economic well-being while—*

- (a) sustaining the potential of natural resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) safeguarding the life-supporting capacity of the environment; and*
- (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

8. Section 10(3) provides criteria for decision making providing

*In order to achieve the purpose, decision-makers must-*

- (a) take into account decision- making criteria specified in relation to particular decisions; and*
- (b) apply the information principles to the development of regulations and the consideration of applications for marine consent.*

9. Section 59 sets out the matters to be considered.<sup>2</sup> Critical considerations include:

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<sup>1</sup> section 10(1)

<sup>2</sup> **59 Environmental Protection Authority's consideration of application**

(2) *The EPA must take into account—*

- (a) any effects on the environment or existing interests of allowing the activity, including—*
  - (i) cumulative effects; and*
  - (ii) effects that may occur in New Zealand or in the waters above or beyond the continental shelf beyond the outer limits of the exclusive economic zone; and*
- (b) the effects on the environment or existing interests of other activities undertaken in the area covered by the application or in its vicinity, including—*
  - (i) the effects of activities that are not regulated under this Act; and*
  - (ii) effects that may occur in New Zealand or in the waters above or beyond the continental shelf beyond the outer limits of the exclusive economic zone; and*
- (c) the effects on human health that may arise from effects on the environment; and*
- (d) the importance of protecting the biological diversity and integrity of marine species, ecosystems, and processes; and*

- (a) include the importance of protecting the biodiversity, including vulnerable and threatened species.
- (b) The adverse effects of the activity.

10. Sections 61(2) and (3) provide direction where there is uncertainty or the information provided is inadequate:

- (2) *If, in relation to making a decision under this Act, the information available is uncertain or inadequate, the EPA must favour caution and environmental protection.*
- (3) *If favouring caution and environmental protection means that an activity is likely to be refused, the EPA must first consider whether taking an adaptive management approach would allow the activity to be undertaken*

11. In order to assess this application it is necessary to consider the South Taranaki Bight marine environment, relationship with the wider marine environment and the actual and potential adverse effects that this application will have. It is also necessary to consider whether there is inadequate or incomplete information such that caution and environment protection should be favoured, including an evaluation of the appropriateness of adaptive management.

### **New Zealand Coastal Policy Statement**

12. Section 59(2)(h) of the EEZ Act sets out that the nature and effect of other marine management regimes are to be taken into account by the EPA in considering an application. The New Zealand Coastal Policy Statement (NZCPS) is a marine management regime that provides direction to achieve the purpose of the Resource Management Act 1991 (RMA) in relation to the coastal environment of New Zealand. The coastal environment extends from mean high water springs to the 12 nautical mile limit. The north-eastern extent of the proposed site extends approximately 5 kilometres<sup>3</sup> adjacent to the 12 nautical mile limit<sup>4</sup> off the South Taranaki Bight. As such effects of the activity on the adjacent coastal environment, such as the sediment plume, need to be considered in terms of the NZCPS.

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- (e) *the importance of protecting rare and vulnerable ecosystems and the habitats of threatened species; and*
  - (f) *the economic benefit to New Zealand of allowing the application; and*
  - (g) *the efficient use and development of natural resources; and*
  - (h) *the nature and effect of other marine management regimes; and*
  - (i) *best practice in relation to an industry or activity; and*
  - (j) *the extent to which imposing conditions under section 63 might avoid, remedy, or mitigate the adverse effects of the activity; and*
  - (k) *relevant regulations; and*
  - (l) *any other applicable law; and*
  - (m) *any other matter the EPA considers relevant and reasonably necessary to determine the application.*

<sup>3</sup> Figure 1.1 TTRL Application Area, Impact Assessment, 23 August 2016

<sup>4</sup> Figure 3.1 The South Taranaki Bight (STB) showing the Sediment Model Domain (SMD), TTRL Impact Assessment, 23 August 2016.

13. Specifically the NZCPS adopts a precautionary approach towards proposed activities whose effects on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse (Policy 3).
14. The NZCPS also provides for the integrated management of natural and physical resources in the coastal environment, and activities that affect the coastal environment (Policy 4).
15. At the minimum the NZCPS should be considered as a relevant matter under s59(2)(m) of the EEZ Act.

## **INTERNATIONAL LAW**

16. The New Zealand government functions in the setting of its international obligations, of which there are many concerning the marine environment and therefore being relevant to this application. We consider that the application does not enable the implementation of New Zealand's obligations under the United Nations Convention on the Law of the Sea 1982, the Convention on Biological Diversity 1992 or the Noumea Convention 1986. The activity as proposed will not enable New Zealand to protect and preserve the marine environment, and is not in accordance with New Zealand's duty to protect and preserve the marine environment.

### **The Precautionary Approach**

17. New Zealand has repeatedly signed up to the precautionary approach in numerous international agreements and therefore has an obligation to apply it. Its widely accepted definition is in Principle 15 of the Rio Declaration:

*"In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."*

18. The precautionary approach has been considered a milestone in its ability to reduce environmental risk as it involves an anticipatory preventative action in response to uncertainty.
19. The EPA is obliged to apply the precautionary approach to this application based on international law and the provisions of Sec 10 and s59(2) of the EEZ Act, thereby ensuring that the marine environment is protected in accordance with international law and that Act.

## **NEW ZEALAND'S MARINE ENVIRONMENT**

20. New Zealand's ocean areas include our exclusive economic zone, continental shelf and territorial sea and in total cover an area of over five million square kilometres. New Zealand's vast ocean provides very significant eco-system services, supports our economy, and our wellbeing as a nation.

21. New Zealand's marine ecosystems are highly diverse due to our geological history being a country that has been in isolation for millions of years, having a range of complex habitats and the influence of major ocean currents. New Zealand's oceans are thought to contain between one-third to three-quarters of all the country's indigenous species. The seafloor supports a wide variety of organisms which in turn support a very healthy fishery.
22. Not only are New Zealand's oceans important for supporting marine life, they are also a fundamental part of New Zealanders lives. Eighty per cent of all New Zealanders live on or near the coast. The ocean is a central part of our country's identity and well being with many people feeling personal connections to the sea. The marine environment is used for a variety of recreational activities such as fishing, diving, swimming, surfing, boating and enjoying the beach and coastal views.
23. New Zealand is also an appealing destination for overseas tourists due to its remoteness, small population and its lack of pollution. New Zealand is perceived as a pristine environment. New Zealand's tourism industry is dependent on access to such pristine, natural and untouched environments.
24. New Zealand's marine environment is therefore of fundamental ecological, economic and social value and we should proceed with caution with how we choose to manage it.

#### **THE SOUTH TARANAKI BIGHT**

25. The South Taranaki Bight is a highly dynamic coastal environment with a number of features whose protection is important. The application area supports a healthy fishery through a complex food web. The South Taranaki Bight has recently been established as one of potentially only five Blue Whale foraging grounds in the Southern Hemisphere outside of Antarctica. The area is at the southern end of the range of the critically endangered Maui's dolphin.

#### **ADVERSE EFFECTS**

26. This application will have adverse effects on biological diversity and integrity of the marine environment of the South Taranaki Bight, including effects on the flora and fauna of the benthic environment, the pelagic environment, seabirds and marine mammals.
27. TTRLs Environmental Impact Assessment states that:

*"With regard to the ecological effects related to the project, the key potential impacts are:*

- *Loss of physical disturbance of seabed habitat and the communities associated with these habitats;*
- *Impacts on physiological processes including clogging of respiratory surfaces and feeding structures and processes for animal biota;*
- *smothering of benthic habitats and communities;*



- *Avoidance of areas of disturbance and sediment plumes by fish, birds, and mammals;*
- *Reductions in primary production in the water column (phytoplankton) and on the seabed or reefs (micro-algae living on the seabed and macro-algae) through reduced light availability;*
- *Reduced prey and prey detection for fish, birds and mammals; and*
- *Accidental release of contaminants (nutrients and toxic compounds).<sup>5</sup>*

### **Benthic ecology impacts**

28. The most significant adverse effect in terms of impacts on the biological diversity of the marine environment relates to the benthic environment. The benthic area in the proposed mining site will be significantly disturbed through the suction dredging process, with near total mortality of benthic fauna within the 65 km<sup>2</sup> dredging area and deposited sediment returned to the seafloor. The suction dredging crawler will suck up to 8000 tonnes of seabed sediment per hour, removing the entire top surface of the seabed up to a depth of 11 metres.
29. The sediment deposition will smother the seafloor, causing stress and a lowered ecosystem health and resilience. While the effects of the sediment deposition may not be immediately lethal, overtime sediment induced stress will result in lowered species diversity and abundance of benthic organisms, which form a vital part of the food web.
30. The effects of sediment deposition will occur over a much wider area than the mining area. This is because the sediment will be transported and deposited over a wide area by ocean currents. The effects of deposited sediment on the benthic environment may be irreversible, and will, at best take decades to recover.

### **Pelagic impacts**

31. The activity will result in a sediment plume involving unwanted particulates of sediment becoming suspended in the water column, contaminating the clear ocean water and impacting on the pelagic environment.
32. Impacts on the pelagic environment occur when the sediment clogs the feeding apparatus of key planktonic filter-feeders, such as copepods and euphausiids. A potential effect is a significant degree of zooplankton mortality in the dredging area, preventing the oceanic food-web from operating efficiently, and it will also likely cause some downstream mortality of zooplankton predators (fish, squid, birds, baleen whales), as these key food sources become rarer. Subsurface noise may also affect pelagic species.

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<sup>5</sup> Page 106 TTRL impact assessment

33. Another concern with the plume impact is the presence of heavy metals released in the mining process which can bioaccumulate in fish species, thereby potentially harming marine and human health through the food chain.

### **Seabird impacts**

34. New Zealand has been termed the 'seabird capital of the world' due to its vast seabird population. There are eighty-four species of seabirds that breed in New Zealand, thirty-five of which are endemic species. There are three species listed as nationally critical that are likely to occur in the South Taranaki Bight. They are Salvin's albatross, the black-billed gull and the fairy tern.
35. The most significant adverse effect associated for seabirds relates to mortality associated with light attraction. Filter-feeding prions,<sup>6</sup> storm-petrels<sup>7</sup> and the small diving-petrel<sup>8</sup> are very vulnerable to light-attraction, young birds, often on their first flight to sea find lights even more irresistible.
36. The options for addressing light associated mortality are limited. The vision spectrum of prions is not dissimilar to humans. For that reason no-one has yet designed lights that do not attract these birds into colliding with vessels. Seasonal stoppage of mining operations can help protect young birds, although not adults. This is an extremely challenging technical problem with no clear solution except not to operate at night.
37. Bird mortality may also occur as the result of entanglement in dredge equipment. Albatross are attracted to vessels, and may become entangled with dredge equipment. Albatross are also surprisingly proficient divers, down to 50-150 m at extremes and can also become entangled with equipment underwater, as happens with trawlers.
38. The sediment plume may also affect seabirds through an increase in water turbidity and a corresponding reduction in foraging efficiency in visual predators such as shag species. This may lead to seabirds being displaced from the areas affected by the sediment plume.
39. There has been no attempt by TTRL to quantify the effects of light and surface noise from operations on seabirds. The only research that has been done took place in an estuary, rather than in the open sea.

### **Marine mammal impacts**

40. TTRL's activity will have effects on marine mammals. TTRL's impact assessment acknowledges this stating:

*"The potential effects of the project on marine mammals include:*

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<sup>6</sup> Including Broad-billed prion (*Pachyptila vittata*), Antarctic prion (*Pachyptila desolata*), Chatham fulmar prion (*Pachyptila crassirostris pyramidalis*)

<sup>7</sup> Including Grey-backed storm-petrel *Garrodia nereis*, White-faced storm-petrels *Pelagodroma marina maoriana*, Black-bellied storm-petrel *Fregetta tropica*

<sup>8</sup> *Pelecanoides urinatrix chathamensis*

- *Avoidance of areas of disturbance and sediment plumes;*
- *Reduced prey and prey detection;*
- *Displacement from habitat;*
- *Risk of collision with project related vessels; and*
- *Noise effects.”<sup>9</sup>*

41. Using limited siting records from 1980 to 2007, 13 different species of whales, dolphins and porpoises in the South Taranaki Bight. In addition to these 13 species, records for the region from the New Zealand whale stranding database suggest as many as 33 species (including subspecies) should be considered. Three of these species are known to be nationally critical or endangered species – killer whale *Orcinus orca*, Hector’s and Maui’s dolphins *Cephalorhynchus hectori* and *C. hectori maui*, and the southern right whale *Eubalaena australis*. There are only 55 Maui’s dolphins remaining in New Zealand. There are only approximately 900 southern right whales with fewer than a dozen reproductive females remaining in New Zealand. The South Taranaki Bight has also recently been recognised as an important Blue Whale foraging ground – possibly one of only five known in the Southern Hemisphere outside of Antarctica. The blue whale is listed by the International Union for Conservation of Nature (IUCN) as internationally endangered and in New Zealand as a migratory species.

42. Any adverse impacts to the migratory and resident mammal species could be devastating and must be avoided. By ignoring the stranding record TTRL have ignored that this region is a potentially important calving area for the pygmy right whale *Caperea marginata*. They have dismissed the area as being of significance to beaked whales (Family Ziphiidae) and other cryptic species or data deficient species (e.g. pygmy sperm whales *Kogia breviceps*) for which live strandings are recorded from the region, which also includes the type locality for Shepherd’s beaked whale *Tasmacetus shepherdi*. The reports on cetaceans TTRL have provided are not adequate to provide a picture of either the species or populations of marine mammals that may inhabit or use the region.

43. TTRL has failed to provide a thorough description of the sources and outputs of anthropogenic noise from their proposed operations making it impossible to assess the potential impacts on cetacean species in the region. No consideration has been given to the effects of persistent added anthropogenic noise and cumulative stress effects on marine mammals in this environment, particularly given that the operation is proposed as 24 hours for 35 years. No appropriate mitigation measures are offered.

### **Plume impacts**

44. The Decision Making Committee in TTRL’s previous seabed mining application, highlighted in their decision that one of their main concerns was about the scale and uncertainties of the

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<sup>9</sup> TTRL impact assessment page 133

effects, and in particular the sediment plume dispersion. The sediment plume is a fundamental component of the proposal.

45. Many of the effects of the proposal and impacts highlighted above are associated with the sediment plume and include changes to the physical, chemical and biological character of the water column and seafloor, which in turn alters ecosystem function and resilience of plants and animals all the way up through the food web, living in both the water column and on the seafloor.
46. Sediment plumes are created at the time of mining and when the unwanted sand is dumped through the tailings pipe back down on the seafloor. The sediment plumes created by the activities of dredging, transferring, washing and dumping of unwanted material (90% of what is mined) 24 hours a day 7 days a week for 20 years, is a chronic stressor or “press” impact.
47. Different sediment sizes will behave differently, with the coarsest sediments dropping out quickly from the plume after discharge while the finer sediments will have a greater range, either spreading across the South Taranaki Bight to depositing in a generally south-eastern pattern from the point of discharge. Finer sediment can remain in suspension for days at a time.
48. Many of the changes caused by the plume may not be immediately lethal, but instead are certain to stress the plants and animals in the water column and on the sea floor causing a reduction in plant and animal species diversity and abundance as well as ecosystem health and resilience over time. These chronic “press” impacts of the constant presence of the sediment plume are not addressed or considered in the application.
49. The sediment plumes will also impact light penetration, which affect primary productivity of phytoplankton and zooplankton, in turn affecting the food web. The reduction of light reduces the production of phytoplankton and kelp, which are the base level of the food web. Reducing phytoplankton in an area will likely reduce all life in that area. Reducing life in one area will likely affect surrounding areas. TTRL acknowledges this in their application stating that:

*“Suspended sediments may affect zooplankton communities by shading phytoplankton thus reducing primary production and the amount of food available to zooplankton grazers.”<sup>10</sup>*

### **Operational impacts**

50. There is the possibility of oil spills that have the potential to create significant adverse effects on the marine environment. The grounding of the vessel the Rena on the Astrolabe Reef in 2011, which resulted in a substantial oil spillage, has raised concerns over the risks of oil spillage and the fundamental importance of having regulatory provisions that manage those risks. Of particular concern for this project is the heavy fuel transfer operations from ship to ship, which as the Impact Assessment states, will typically occur in the project area

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<sup>10</sup> Page 18 NIWA assessment of the scale of marine effects

located within the EEZ.<sup>11</sup> TTRL is required by Maritime New Zealand to complete a Spill Contingency Management Plan however this has not been provided as part of the impact assessment. The contingency plan is a critical part of analysing the risks to the environment. Not being able to view the contingency plan means not being able to fully analyse the risks.

51. A report of field measurements of oceanographic conditions (waves, tides, currents and suspended sediments) by MacDonald et al for TTRL 2015 stated that “*the STB is a high wave energy environment*” with waves in excess of 4 metres routinely measured.<sup>12</sup> The largest wave measured was 7.1 metres during a weather bomb in March 2012. These are extreme conditions for vessel management and a safety plan needs to be provided.

## **ECONOMIC AND OTHER CONCERNS**

52. The economic impact analysis suggests that the project will employ 1,666 people in the New Zealand economy each year for the duration of the project, with 705 of those jobs being local to the Taranaki/Whanganui area. We however fail to see how these jobs are to be created when the project operations all take place on off-shore vessels. We are therefore sceptical about the employment opportunities from the project and consider them to realistically be minimal.
53. The economic impact analysis suggests that the project will generate NZ\$159 million in GDP. When put against the economic risks of the project however, for example through potential damage to the New Zealand’s ‘clean green’ reputation, tourist industry and marine and coastal environment, we consider that the economic benefits are insignificant.
54. The profits from the project are expected to be directly exported overseas. There will be no adding of value to the resource in New Zealand as it is directly exported to Asia without coming ashore. Royalty rates from the project are estimated at low levels that will not deliver economic gains and will not provide economic benefits relative to economic losses resulting from the applicant’s activity.
55. Tourism is one of the largest export industries in New Zealand. It directly employs 6.3% of the New Zealand workforce. In the year ending March 2015 tourism contributed directly and indirectly to almost 10% of New Zealand's GDP. The economic benefits from this mining application is insignificant when compared against the possible damage to the \$29 billion a year tourism industry and New Zealand’s 'clean-green' image.
56. The impact assessment only focuses on impacts on tourism in the immediate local area and fails to consider cumulative adverse effects to the larger region. The applicant acknowledges that impacts to commercial fisheries in the local area will take place however has not provided any evidence that compensation will be paid to that sector. Additionally, there is no economic analysis of the loss to the recreational fishing sector. In addition, other cumulative effects such as the effects on fish stocks, non-target species, seabirds, pollution and noise, together with climate change and ocean acidification add stressors to the marine

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<sup>11</sup> Page 29 TTRL Impact Assessment

<sup>12</sup> Page 94 Report 12 NIWA Oceanographic Measurements November 2015

environment which must be considered as cumulative effects under section 6(1)(d) of the EEZ Act.

## **INSURANCE AND BOND**

57. TTRL only intends to provide public liability insurance cover of NZ\$100,000,000 for covering the costs of environmental restoration of any unplanned event that occurs as a result of the seabed mining operation. This amount however is minimal when considering what is at stake. For comparison the minor Rena oil spill in 2011 cost NZ\$130,000,000. Another issue with this is that the definition of ‘unplanned environmental event’ is not provided.
58. A substantial bond would be needed to counter the minimal insurance cover utilising Section 65 of the EEZ Act to bring certainty for effective risk management.

## **UNCERTAIN OR INADEQUATE INFORMATION AND ADAPTIVE MANAGEMENT**

59. As noted above, the purpose of the EEZ Act is to promote the sustainable management of the natural resources of the exclusive economic zone and the continental shelf.<sup>13</sup> The matters that must be achieved at the same time as economic wellbeing is enabled include “safeguarding the life-supporting capacity of the environment”<sup>14</sup> In order to achieve the purpose of section 10(1) and (2) of the EEZ Act, decision makers must take into account decision making criteria<sup>15</sup> and apply the information principles to the development of regulations and the consideration of marine consents.<sup>16</sup>
60. The requirement to favour caution and environmental protection where the information is uncertain or inadequate<sup>17</sup> is critical. This is an explicit statement that, within the context of the EEZ Act, the taking of risks in the environment is not encouraged, and protection is not to be traded off against the attainment of economic wellbeing.<sup>18</sup>
61. It is necessary to consider whether any uncertainties can be adaptively managed. The Supreme Court stated that, before endorsing an adaptive management approach it would have to be satisfied that:<sup>19</sup>
- (a) There will be good baseline information about the receiving environment;
  - (b) The conditions provide for effective monitoring of adverse effects using appropriate indicators;
  - (c) Thresholds are set to trigger remedial action before the effects become overly damaging;

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<sup>13</sup> Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, s 10(1).

<sup>14</sup> Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, s 10(2)(b).

<sup>15</sup> Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, s 10(3)(a).

<sup>16</sup> Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, s 10(3)(b).

<sup>17</sup> Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, s 61(2).

<sup>18</sup> Trans-Tasman Resources Ltd Marine Consent Decision 17 June 2014 at [139].

<sup>19</sup> *Sustain our Sounds Incorporated v New Zealand King Salmon Company Ltd* [2014] NZSC 40 at [133].

(d) Effects that might arise can be remedied before they become irreversible.

62. When the matters set out by the Supreme Court are considered in this case it is evident that adaptive management is not appropriate and that caution and environment protection should be favoured.

63. An adaptive management approach for this application would be inappropriate and should not be implemented. The extent of lack of knowledge and scientific information and of understanding of the effects of seabed mining on the marine environment, inadequate environmental baselines and difficulties of monitoring mean that an adaptive management approach would contravene the precautionary approach.

#### **CONSIDERATION OF KEY ISSUES WHEN DECIDING WHETHER TO GRANT CONSENT**

64. In *Trans Tasman Resources*<sup>20</sup> first marine consent application in 2014 the decision report considered the following four factors were also relevant when considering whether or not consent should be granted:

- (a) The extent of the environmental risk (including the gravity of the consequences if the risk is realised);
- (b) The importance of the activity (which could in some circumstances be an activity it is hoped will protect the environment);
- (c) The degree of uncertainty;
- (d) The extent to which an adaptive management approach will sufficiently diminish the risk and the uncertainty.

65. When these matters are considered in respect of this current TTRL application, it is also clear that consent should be declined.

#### *Extent of the environmental risk*

66. As with the previous TTRL 2014 application, there is considerable uncertainty in the scope and significance of the potential adverse environmental effects.

#### *The importance of the activity*

67. As set out above the royalties from this project are low while the risks of costs to the environment are high.

#### *The degree of uncertainty*

68. As noted above there is considerable uncertainty about many elements of the application.

#### *An adaptive management approach to diminish the risk and the uncertainty*

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<sup>20</sup> Trans-Tasman Resources Ltd Marine Consent Decision 17 June 2014 at [798].

69. Forest & Bird consider there is an inadequate evidential foundation with regard to the existing environment, its temporal variability and the proposed mining to have reasonable assurance that any adaptive management approach will achieve its goals of sufficiently reducing uncertainty and adequately managing any remaining risk.

## **CONCLUSION**

70. The known effects of the activity are very significant, occurring over 20 years over a vast area of the direct mine footprint. Deposited sediment will have significant and irreversible effects on benthic ecology over hundreds of square kilometres beyond the direct mining area. Suspended sediment will occur at biologically significant concentrations over a much wider area again. There are adverse effects on seabirds, fish and marine mammals.

71. The unknowns are equally as important, with uncertainty and inadequate information provided on many matters, including the cumulative and long term effects on habitat of threatened and at risk species, and the wider impacts on the coastal environment and tourism. The EEZ Act directs caution and environment protection where there is inadequate or incomplete information which cannot be adaptively managed. Adaptive management is not appropriate in this case due to the lack of baseline information, lack of effective monitoring, lack of triggers and irreversible effects.

72. In this case, the statutory direction in favour of caution and environmental protection should be accepted and consent declined.

73. Forest & Bird wishes to be heard in support of its submission.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Peter Anderson', is written over a light grey rectangular background.

Peter Anderson

**Royal Forest and Bird Protection Society of New Zealand Inc.**

General Counsel