

Trans-Tasman Resources Limited 2016 application to extract and process iron sand within the South Taranaki Bight

Hearings Statement by Catherine Cheung, 7 March 2017

I've been an environmentalist all my life. I've worked for a wide range of environmental groups, government and inter-governmental agencies, to develop, manage and assess projects for biodiversity conservation, environmental protection and sustainable development.

The Trans-Tasman Resource Ltd (TTRL) proposal goes against what I know is right and all that I believe in.

Sustainable management?

Seabed mining is an extractive industry that kills marine life, threatens marine ecosystems and disrupts the basis of food chains on which our fisheries depend. Minerals like iron sand, rare earths and fossil fuels are not renewable resources, at least not in the timescale that humans operate on. Therefore, unlike fisheries, agriculture or tourism, mineral mining cannot possibly be managed sustainably. The government recognises this, but rather than prohibit or strictly limit mining for the sake of sustainable resource management, it excludes minerals from the purpose of sustainable management in the RMA and the EEZ-CS Act¹ (section 10). So next time you hear or read about mining companies working to sustainably manage natural resources, you know they don't have to, under the NZ law, and they can't possibly do it anyway.

However, the EEZ-CS Act does (as does the RMA), in its purpose, require the government and resource users to safeguard the life-supporting capacity of the environment; and avoid, remedy or mitigate any adverse effects of activities on the environment (Section 10(2)(b) and (c)).

Transboundary effects – Noise

Being a marine ecologist by training, I am acutely aware of the transboundary effects of human activities, especially in the coastal and marine environments. It is simply not possible to confine the negative impacts of mining within the boundary of the mine, with ocean currents and dynamic weather conditions, not to mention the species themselves which traverse across the depths and widths of the ocean and coastal habitats, at different stages of their life cycles, and at different times of the year. This transboundary nature of the marine environment is one reason why well-managed, no-take marine reserves benefit nearby fisheries, while marine parks that are not well designed or managed are continuously being encroached and impacted by polluting or extractive activities outside the parks.

The impacts of noise underwater on marine mammals illustrate strongly the importance of considering transboundary effects in assessing proposed activities. According to expert evidence from Dr Leigh Torres², data indicate that the globally endangered Blue whale use the South Taranaki Bight regularly throughout the year, and may even be part of a distinct NZ population. In her most recent survey this year³, a total of 9 sightings of 16 blue whales were recorded within 50 km of the proposed mining site, the closest of which was sighted just 29 km away. The nearest hydrophone located <19 km from the site detected blue whale calls almost daily (89% from Jan to June 2016).

Dr Torres' evidence states:

“Evaluation by TTR regarding noise impacts from mining operations on low frequency marine mammals (baleen whales) is poor, misleading, and disregards the potential to disturb blue whale behavior, distribution and physiology (stress levels). Noise produced by the mining operations may directly disrupt blue whale

foraging, cause blue whales to move out of important feeding areas, interfere with blue whale communication causing loss of feeding or mating opportunities... and induce increased physiological stress that compromises blue whale health. All of these responses by baleen whales to elevated noise have been scientifically demonstrated elsewhere; it would be imprudent to allow such potential impacts on a newly documented, distinct New Zealand population of blue whales."

Now the proponent might argue that there is inadequate scientific evidence to show that the proposed mining operations in particular would cause significant harm to the blue whale population specific to the South Taranaki Bight.

Precautionary principle

However, the EEZ-CZ Act S61(2) clearly states:

*"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.**"*

This is in line with 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 evidence shall not be used as a reason for postponing cost-effective measure to prevent environmental degradation."*

Expert evidence by Catherine Iorns and Dale Scott (24 January 2017)⁴ explains that the precautionary principle came about:

"...in order to facilitate a wider paradigm shift ... away from a permissive and reactive approach for environment regulations... towards an approach that anticipates and acts in advance of harm."

The emergence of the precautionary principle followed the realisations that:

- *"the ecological harm caused by human activities is often **much graver and pervasive** than previously thought, difficult or impossible to undo, and above all else, capable of being long-term or **irreversible** in nature..."*

- *science has a very **limited ability** to detect, predict, understand, and ultimately prove the nature, gravity and probability of human impacts..."*

Furthermore, we must shift away *"from an environmental management approach that focus on determining acceptable levels of insult that receiving ecosystems [or species] can assimilate... given science's limited ability to accurately determine and predict what harm receiving ecosystems [or species] can assimilate (especially harm generated by **cumulative and synergistic effects**)..."*

Cumulative effects

The definition and requirement to assess and consider 'Cumulative effects' are clearly stated under the EEZ-CS Act (sections 6, 28, 33, 39 and 59). Section 6(1)(d) specifically includes, in the meaning of effect, *"any cumulative effect that arises over time or in combination with other effects"*.

In my experience, the way that EPA assesses effects from a proposed activity **in isolation**, such as with the Shell Todd Oil Services Maui gas field and OMV Maari oil field marine consent applications, and the present TTRL seabed mining application, is flawed. None of the assessments has properly assessed the cumulative effects of these activities on the marine environment, especially on threatened and endangered marine mammals. The reality is that these species are exposed to a multitude of impacts from everything that occurs in and around the areas they inhabit, not just the impacts from the proposed activity. Even though

the effects from a single proposed activity may be minor, the addition of impacts from that activity to those from the suite of existing, concurrent and envisaged activities on an endangered species, such as the Maui's dolphin of New Zealand or the distinct South Taranaki Bight population of Blue whales, could be devastating. Remember extinction is irreversible!

The lack of awareness of cumulative effects among decision-makers is shown clearly when the committee asked Dr Torres why the noise impacts from the sand mining proposal should be considered when seismic surveys produce noise many times louder. Here's a snippet of Dr Torres' answer to the question:

*"...Seismic surveys noise is an impulsive noise (a loud bang every ~8 seconds), while the mining operation will produce non-impulsive (continuous) sound. Also, the mining operation will likely be continuous for 32 years. Therefore, these two sound sources are hard to compare. It's like comparing the impacts of listening to pile driving for a month, and listening to a vacuum cleaner for 32 years. What's important here is to **consider the cumulative effects** of both these noise sources occurring at the same time: pile driving on top of vacuum cleaner."*

Moreover, it is not just the noise impacts on marine mammals that are of concern. The proposed mining site and surrounding areas are overlaid with numerous petroleum and mineral prospecting, exploration and mining permits, destined for seismic blasting, oil and gas drilling, minerals extraction, and waste discharge and dumping. These include both operating and proposed projects, in the EEZ and within the coastal marine area nearshore (See figures 1-3).

Notably, Origin Energy's expert evidence from Owen Hobbs⁵ states that he is "particularly concerned with the potential environmental damage that would follow from a [TTRL] vessel colliding with the Kupe platform" and "the DMC should note that the consequences of an uncontrolled hydrocarbon release are potentially catastrophic".

It is absolutely critical that EPA and the Decision-making Committee respect and implement the EEZ-CS Act properly, by thoroughly examining the cumulative effects of all these operations on marine species and ecosystems, then make a decision on the application based on the precautionary principle.

Adaptive management NOT for marine discharge consents

The EEZ-CS Act Section 87F(4) states that the DMC may issue marine discharge consents subject to conditions under section 63, but not under section 63(2)(b). The EPA Conditions Report⁶ points out that "this appears to preclude conditions that together amount or contribute to an adaptive management approach..."

Expert evidence from Catherine Iorns, Thomas Stuart and Dale Scott (6 March 2017)⁷ confirms that:

*"TTRL's proposed conditions contribute to an adaptive management approach as defined in section 64(2)(b) of the EEZ Act and are therefore excluded under section 87F(4). ... The limits against which the applicant proposes to assess their conduct are not known values, but rather 'best-guesses' that have been estimated on the basis of plume models and as-yet-unknown baseline data... Having reached the conclusion that TTRL's proposed conditions amount to an adaptive management approach, we propose that the **DMC decline the application for marine discharge consent** in accordance with obligations under section 87F(4) and 61(2)... This additionally serves the purpose envisaged by the EEZ Amendment Act, ensuring a strict approach is taken to marine discharges and dumping, as well as the overall purpose of the EEZ Act generally."*

Conclusion

New Zealand has the international obligation to protect and enhance the recovery of threatened species under the UN Convention of Biological Diversity. We simply cannot allow a flagship species like the Maui's Dolphin to go extinct under our watch!

It is time for the government to stop paying lip service to biodiversity conservation and climate change on one hand, while dishing out more and more permits for destructive and exploitative industries like mineral and petroleum mining with the other.

I believe with the knowledge and technologies that we have today, there is really no excuse for mining any more non-renewable resources, be it iron sand or oil and gas. We should be reducing our consumption, reusing what we have and recycling what's otherwise thrown away. We need to encourage truly sustainable innovations that are kind to the earth, and initiatives that build thriving and resilient communities.

Along with the thousands of concerned individuals and organisations that are opposed to TTRL's application, I sincerely ask that the Decision-making Committee decline this application in full, and advise the government to put in law a ban on all seabed mining activities in the EEZ-CS and coastal marine areas of New Zealand.

¹ Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012.

http://legislation.govt.nz/act/public/2012/0072/latest/DLM3955428.html?search=sw_096be8ed81306b06_cumulative_25_se&p=1#DLM4464017

² Statement of Evidence by Dr Leigh Torres on behalf of Kiwis Against Seabed Mining Incorporated, 23rd January 2016.

http://www.epa.govt.nz/EEZ/EEZ000011/KASM_and_greenpeace_Leigh_Torres.pdf

³ Dr. Leigh Torres, 27 Feb 2017. What it looks like when science meets management decisions.

<http://blogs.oregonstate.edu/gemmlab/2017/02/27/looks-like-science-meets-management-decisions/>

⁴ Expert Evidence of Catherine Iorns Magallanes and Dale Scott in support of Te Kaahui O Rauru, 24 Jan 2017.

http://www.epa.govt.nz/EEZ/EEZ000011/Te_Kaahui_o_Rauru_Iorn_and_Scott.pdf

⁵ Evidence of Owen Richard Hobbs for Origin Energy Resources Kupe NZ Ltd on behalf of the Kupe Joint Venture Parties, 24 January 2017.

http://www.epa.govt.nz/EEZ/EEZ000011/Origin_Energy_Owen_Hobbs.pdf

⁶ EPA Conditions Report: Trans-Tasman Resources Limited Offshore iron sand extraction and processing project – application for marine consents and marine discharge consents, February 2017.

http://www.epa.govt.nz/EEZ/EEZ000011/EPA_Conditions_Report_Final.pdf

⁷ Expert Evidence of Catherine Iorns Magallanes, Thomas Stuart and Dale Scott in support of Te Kaahui O Rauru, 6 March 2017.

Figure 1. Mineral permits in the South Taranaki Bight (Source: <http://data.nzpam.govt.nz>, 6 March 2017)

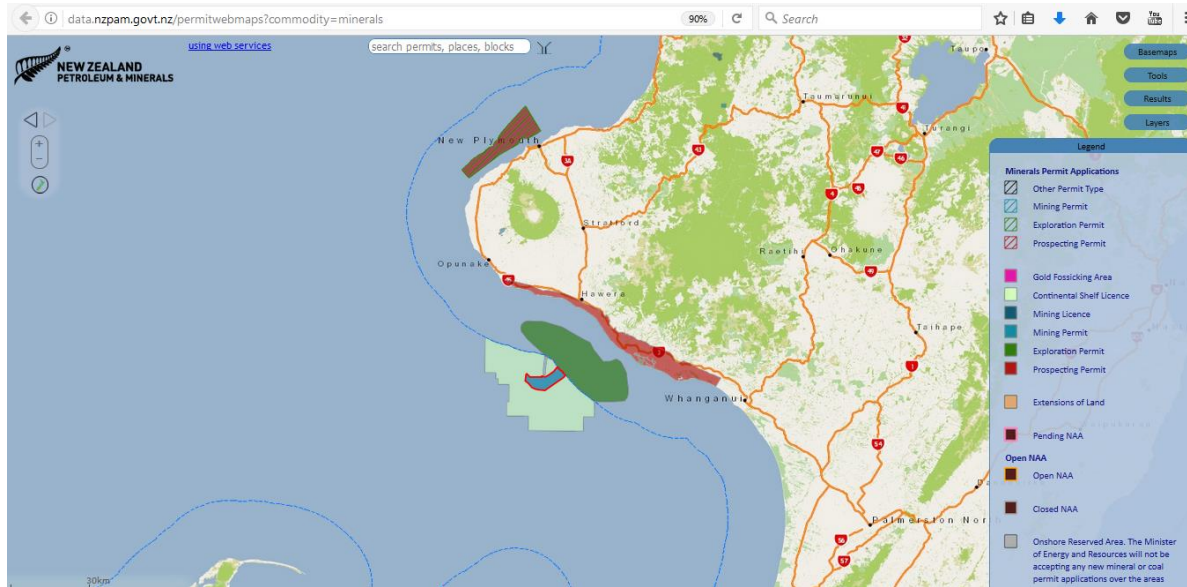


Figure 2. Petroleum permits in the South Taranaki Bight.

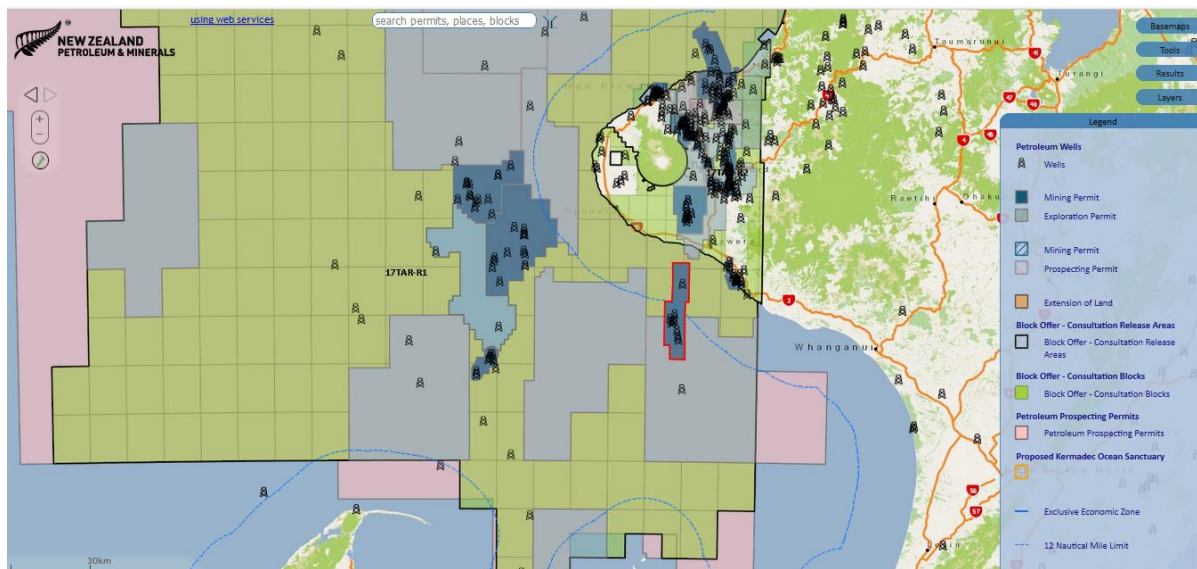


Figure 3. Mineral and petroleum permits in the South Taranaki Bight.

