



**Submission on the
Sea Bed Mining Application by
Trans-Tasman Resources
By
Raglan Sport Fishing Club Inc.**

Introduction

The Raglan Sport Fishing Club was founded in the year 2000 and we currently have over 500 members with another 400 angler contacts who fish the area. Although the club was only founded 15 years ago. Our fishing club is the largest club of its kind in the Waikato.

It is a known fact that only 10% of recreational fishers belong to any fishing or boating club, so the Raglan Sport Fishing club undertakes the responsibility of

representing all fishers by default, who fish out of Raglan. This includes those who visit from other areas.

Trans Tasman Resources Limited (TTR) wants to mine iron sand in the South Taranaki Bight for the next 35 years. It has applied for marine discharge consents to extract and process iron sand within 65.76 square kilometres (km²) of seabed. TTR proposes to extract and export up to 5 million tonnes of iron ore per year.

The applicant's consultation has been incomplete, insufficient and lacking integrity in the sharing of information. The information shared at meetings held by the applicant has been selective and inadequate. Despite, opposition from local fisherman, TTR has failed a second time to adequately engage. This has led to great difficulty for interested and affected parties to form an understanding of the total proposal and effects of the application.

The time frame for the submission process is too short. The Assessment of Effects alone is 320 pages long and its appendices 514 pages. There are over forty other reports attached to the application. Four weeks is simply an unrealistic timeframe for anyone who holds down a family and a full time job to read through and understand this volume of information in order to put forward a comprehensive submission.

The Applicant has attempted to further reduce public scrutiny by applying to keep important environmental information secret. This is totally unacceptable behavior.

The EPA must apply the precautionary approach to this application and apply the provisions of s10, s59(2) and 61 of the EEZ CS Act to ensure that the marine environment is protected.

This is the second application; the first was quite rightly declined in 2014. This is for the same activity and is just as damaging. It is unacceptable that the recreational fishers must oppose such applications, especially where industry continue to fund repeat applications in the hope that the outcome will be different.

We oppose the application in full as the proposed mining will devastate the marine environment within the mining area and have significant and unacceptable negative impacts on the surrounding marine area. The application does not satisfy the purpose of the 2012 Act. As with the first application, the uncertainties in the scope and significance of the potential adverse environmental effects mean it should be denied. Uncertainties and effects related to primary productivity and benthic effects and consequent ecosystem effects as well as the impacts on existing interests, notably

recreational fishers mean the application should again be denied. Taking into account effects on marine environment the importance of protecting rare and vulnerable ecosystems and the habitats of threatened species, the lack of clarity about economic effects, it is clear that the life-supporting capacity of the environment would not be safeguarded and that the adverse effects of the proposal could not be adequately avoided, remedied or mitigated.

We have worked hard to have a rebuilding Snapper fishery in Snapper 8 which is from Wellington to North Cape. We do not see Seabed mining being compatible with the ongoing health of this fishery. What is the expected rate of fish stock decline for this area if seabed mining is permitted? What is the limit of catch decline has been set before sand mining has to stop to protect this fishery? We do not want our bag limits reduced through the ignorance of marine science. The fishing information supplied is not collaborated by fishers who fish the immediate area. These fishers refer to the area as having an abundance of fish. There is no adequate assessment of the impacts of the cumulative effects of mining the sea floor.

The scale of the application is massive and the amount of seabed that will be removed from the sea floor cannot be considered to be benign, this will be removing all living life from this area and damage the benthic environment. Bearing in mind that the ocean contains 90% of the living space on the planet.

The disposal of what would be referred to as overburden in open cast mining is not acceptable this sedimentation has the ability to smother the seafloor way outside of the area being mined. You need to remember that you are dealing with the turmoil and currents of the Tasman Sea. Is there a paper on the study of the underwater currents and how far it is expected the currents will take this cloud of fine silt? The company make light of the time taken for the recovery of the area as a "few years" This is not acceptable. This recovery needs to be inside of 5 years. We need to see the plan for sediment dispersal. There is a risk of heavy metals being taken and returned suspended in the waste stream. The risks that this contaminated waste poses is not answered in the applicant's papers. We would have thought that this would be crucial in assessing the effect of granting a licence. Fine particles remain suspended in the water column for a long time and can travel great distances especially in such a dynamic marine environment. TTR have not provided full evaluations of the plume modelling and sedimentation disposition effects this is needed before EPA can consider this application. Overseas experiences leave a lifeless desert in its wake and New Zealand does not need to follow along that path. We pride ourselves on having healthy fisheries which are sustainable. In fact most

seabed mining in the world has been suspended until more is known. We suggest that New Zealand follow this lead.

What will be the effect on local beaches with the removal of such large volumes of sea floor? We all know what happens when we dig holes and make sand castles at the beach, they are gone in the morning. The sand came from somewhere else to fill it in and as identified above the releases to the sea from the vessel could be miles away. The West Coast is a high energy environment with a strong onshore drift.

Will fresh water be used in this mining process, if so what studies have been completed in the effect of this discharge. Also the vessels that arrive to take the mined sand will contain ballast. What checks will be undertaken to ensure that this water is not contaminated. It is also noted that this area contains numerous submarine fresh water springs. Have these been identified and locations marked.

The description of how the process they intend to use works is not clear. Describing a reverse osmosis plant then a hydro-cyclone overflow while describing the process uses chemicals then states there will be no discharge of the reverse osmosis treatment chemicals. How will this be possible when chemicals become dissolved in water and there is not a waste water plant in NZ that can remove the endocrine chemicals?

Where is the local or international data on mining the seabed in such a dynamic environment? Or is the proposed area in South Taranaki expected to be the guinea pig operation? Seabed mining will be an ecological disaster if it is allowed to continue within the current application.

What will be the cumulative effect of huge tracts of the ocean floor becoming a desert? Do the economic benefits of mining override those of having a healthy fishery?

Monitoring must include testing of the chemical composition of sands being discharged, this to be done at sites 100m, 500m, 1 km, 5 km, 10 km and at 1 km points along the coastline from the site.

An ecological assessment of environmental effects must be completed at a minimum of 3 monthly intervals this will update the data with real observations and measurements.

The seafloor supports a wide variety of organisms, including plants, mussels and other shellfish, worms and crustaceans, which in turn support an extremely healthy

fishery through a complex food web. The suction dredging crawler will suck up to 8000 tonnes per hour and remove the entire top surface of the seabed to a depth of up to 11 metres. It is certain that any plants or animals living in the sediment from the 65 km² excavation hole will be destroyed during the mining and sorting process, turning the mined area plus a significant area around the mining sites, into a dead zone. Any plants or animals living on the seafloor at the tailing site will be smothered and killed. Regeneration times are unknown, if even regeneration is possible.

Indirect impacts of the seabed mining are more varied and complex and cover a much larger area of the STB - perhaps as much as an order of magnitude larger than the mining zone. Many of these impacts are associated with the sediment plume generated by the mining 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. 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.

Sediment plumes consist of fine sediment that can remain in suspension for days at a time (as opposed to sand, which is heavier and will fall back to the seabed quickly). Sediment plumes are created at the time of mining and when the unwanted sand is dumped back down on the seafloor. The sediment plume will reduce the ability for life to exist in the surrounding area of the mining site. The plumes will impact phytoplankton and zooplankton and light penetration, affecting the food web. The discharged material is also chemically altered and will create adverse effects to the marine life, notably fish and larger marine mammals in the area. In total, the biology will be tremendously altered and recolonisation will be a very slow process. The re-establishment of balanced seafloor biology may take decades.

TTR have proposed use of flocculation, which we believe is adding chemicals to the water to enable fine sediments combine with other materials to sink faster, to reduce the projected effects of the plume from what was modelled in the previous application. There is great uncertainty around the ability of TTR to maintain sediment particle size, and around whether or to what extent the mitigation effect will be achieved. TTR in its first application ignored flocculation; now it relies on it as a primary mitigation technique. As the first DMC found, the proposed mining

would have effects on the primary productivity of the STB, there would be decreases in both water column (phytoplankton) and benthic primary productivity that could result in a reduction of total primary production in the STB in the order of 10% and a reduction in energy input into the seabed ecosystem of up to 36%, there are likely to be significant effects on benthic productivity in areas under the sediment plume, and there is considerable uncertainty in predicting effects on the wider ecosystem and food web of the STB. What are the effects of these chemicals on life in the ocean? We are all trying harder not to put harmful chemicals into our water ways.

The covering of a few millimetres of sediment on the seafloor can cause the plants and animals living on and in the seafloor to be smothered, causing stress and resulting in a lowered ecosystem health and resilience. Although these effects are not always immediately lethal, they are still important. Over time sediment induced stress will result in lowered species diversity and abundance of these small (but very important) species at the base of the food web. The EPA Review of sediment mobilization and transport states that some of the predicted effects are dependent on information provided by TTR and notes that commonly required information on the extent and duration of this smothering effect is missing. The application shouldn't have been allowed to proceed with such vital information missing. It is likely that coral in the area will be smothered, but surveys have not been undertaken to identify them. This is an important effect which has been all but ignored. The extent of rocky reef habitat in the area is not fully documented. The applicant has failed to adequately map all the rocky reefs in the area that may be affected by the activity. Again, the data in the application is unreliable. The reefs are biologically significant for the South Taranaki coast, providing habitat for encrusting and sessile fauna.

The South Taranaki Bight is a dynamic region with large plankton and zooplankton communities which are vulnerable to effects from the plume.

The higher the heavy metal content of the substrate the greater the effects from the plume as the higher volume of heavy metals released in the mining process would lead to a more toxic plume. Individual organisms need to be tested for tolerance to toxic metals, and independent review of heavy metal core samples and analysis should be undertaken and shared with the public so that the public is aware of what heavy metals could potentially be exposed and harm marine and human health, including through bioaccumulation and concentration through the food chain, following the proposed mining.

Large scale mining of the Tasman seabed will remove non-renewable sand resources that supply west coast beaches up to Cape Reinga. It will cause increased coastal erosion both up and downstream from where any mining takes place. The South Taranaki area already has severe coastal erosion issues and this mining activity has potential to exacerbate the erosion.

There have been no required surveys of marine mammals in the area. This is despite the first DMC finding that more baseline work should have been undertaken prior to the application being lodged. They also said that “We consider comprehensive and longer-term baseline studies of the presence of marine mammals in the STB would have assisted us to understand the importance of the STB to various species and what they use this area for (e.g foraging, breeding, calving, migrating etc.). The absence of this information leaves us uncertain as to the significance of the proposed mining area and the wider area of the STB affected by the mining operation to cetaceans.” The Department of Conservation has said numerous times that we cannot have one loss of a Maui Dolphin from human interaction.

TTR only propose to conduct marine mammal species surveys as part of the later monitoring programme. This is unacceptable as the public and contrary to the findings of the first DMC, and the Committee will not have information about marine mammals that are or may be in the area. Marine mammal species such as blue whales and southern -right whales have a high potential to be impacted along with orca whales plus the highly at risk Maui and Hectors dolphins. Southern right whales are nationally endangered and are known to pass through the area. We also already know that the area is an important blue whale foraging area. Any adverse impacts to the migratory and resident mammal species could be devastating and must be avoided. Marine mammals will be particularly sensitive to effects from the large underwater and heavy metal content of the plume. Marine mammals are also particularly sensitive to noise from the activity. Noise and the plume will drive marine mammals away from the area.

Surface noise and light from operations that run day and night will negatively affect seabirds and other wildlife. No attempt has been made to quantify these effects, and the only research has been done in an estuary, rather than open sea. As the first DMC found, there is a “lack of any field surveys undertaken and an understanding of the potential significance or not of birds in the STB. Given this, we find that we are still lacking an understanding of how important the STB is for seabirds and therefore the significance of the potential effects.”

There are important recreational and commercial fisheries that will be indirectly affected by the proposal. The direct and indirect damage to the benthos and marine environment including sedimentation and downstream effects will affect fisheries and the food web. The noise, light and seafloor disturbance has a high potential to place the commercial, recreational and customary fisheries at risk. Disturbance of the seafloor may also mobilize previously settled pollutants, such as heavy metals, that can bio-accumulate in fish species. As the first DMC found, there is particular concern for human health around copper and nickel.

The use of deep-sea moorings for stabilizing the large extraction and export vessels will create adverse effects and destroy a large area of seabed. Oil spills have the potential to create significant adverse effects, particularly from the crude thick toxic heavy fuel transfer operations from ship to ship. There is no contingency plan as part of the application and instead TTR proposes to supply such plans later. This does not enable any analysis of risk to be properly undertaken because TTR itself is yet to undertake such analysis.

Waves in excess of 4 metres are routinely measured and have been in excess of 7 metres. These are extreme conditions for vessel management and a safety plan needs to be provided. The use of Admiralty Bay in storm conditions is not an adequate plan. Admiralty Bay is an important feeding ground for about 200-300 male dusky dolphins each winter. DOC has expressed concern about habitat fragmentation in the bay and it appears that existing developments are already causing a decline in dolphin numbers. Bottlenose and common dolphins, NZ fur seals, gannets, shearwaters and king shags also use the area, which has commercial importance for mussel farms as well. There is a risk that spillage will occur during the transfer. It is not satisfactory that the Admiralty Bay risks are to be considered in a separate Resource Consent application, rather than looking in total at the impact of this application.

The applicant only intends to provide insurance cover of NZ\$100m for environmental restoration of any “an unplanned event” during the term of seabed mining operations. Two issues arise from this. One is the definition of unplanned event, and the other is the amount. Even the in comparison relatively minor Rena disaster cost about \$130m. Such an oil spill could be among the lesser effects arising from this application.

A substantial Bond would be needed to counter the minimal vague insurance cover utilizing Section 65 of the EEZ/CS Act to bring effective risk management.

New Zealand's clean green image and tourism will be undermined. As the first DMC found, any effects of the proposal on New Zealand's tourism brand would be difficult to measure. Most of the workforce will be taken up by overseas personnel and the "fly-In Fly out" majority of workforce will not reside in Taranaki but come from elsewhere.

The impact to recreational has not been adequately addressed. The applicant acknowledges that impacts to commercial fisheries in the local area will take place and has not provided any evidence that compensation will be paid to that sector. Nor is there an economic analysis of the loss to the recreational fishing sector. The potential loss to people's economic wellbeing and impacts to the local and regional area who rely on Kaimoana and the sea for their day to day lives will create adverse effects to those communities.

If EPA chooses to ignore our request to stop this proposal there must be controls put in place to ensure that environmental standards are set high and that there is intense independent monitoring be established to ensure that these standards are not breached. The applicant has not provided a robust application proving that their proposal is safe for the marine environment and poses no threat to future sustainability. Taking a precautionary approach to major projects of this nature is internationally recognised and legally required. EPA must be able to stop mining if the standards set are breached.

We look forward to EPA addressing our concerns and answering all questions asked throughout this document. We wish to speak to our submission. Raglan Sport Fishing Club want to speak to our submission and we request that hearing venues are set in place in regional areas other than Wellington and Taranaki and that a hearing should take place on a Marae.

This application should be declined in full.

Yours faithfully,

RAGLAN SPORT FISHING CLUB

Sheryl Hart

Secretary

