120336

[redacted]

SUBMITTER DETAILS

[redacted]

AUTHORITY TO ACT

Malibu Hamilton
14 .10.2016

Environmental Protection Authority
P.O.Box 131
Wellington 6140
TTRLApplication@epa.govt.nz

Re: EEZ000011
TTR Email : EEZSubmissions@ttrl.co.nz

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
Submission Close:	5:00pm,Friday14October 2016

Trans-Tasman Resources Limited, (TTR) proposal to undertake iron sand seabed mining in the South Taranaki Bight. The application covers an area of 65.76 km2 within the Exclusive Economic Zone (EEZ) at approx 12 nautical miles off the coast of Hawera and Patea. The proposal is to mine iron ore from the seabed and process it aboard a floating production, storage and offloading vessel prior to export.

- **TE NGARU ROA ā MAUI OPPOSES THE APPLICATION IN ITS ENTIRETY**
- **TE NGARU ROA ā MAUI WISH TO SPEAK TO OUR SUBMISSION**
- **TE NGARU ROA ā MAUI WISH THE EPA COMMITTEE TO REFUSE THE APPLICATION IN ITS ENTIRETY**

INTRODUCTION

Te Ngaru Roa ā Maui is a surfing organisation situated in Whaingaroa Raglan based on Tangata Whenua values. Our environmental unit was established to address issues pertaining to adverse effects to waterways, harbours and coastal waters. Our organisations core values are to protect surf breaks from adverse effects of inappropriate subdivision and development and to protect the hydrodynamic character of the swell corridor, seabed morphology and aquatic lifeforms.

We campaign for clean, safe recreational waters, free from adverse effects of sewage effluents, toxic chemicals and promote a solution based argument of viable and sustainable alternatives. Te Ngaru Roa ā Maui networks with our National organisation Surfbreak Protection Society, Lost Waves Aotearoa and Whangamata Bar Association.

OVERVIEW

The applicant is intending to extract iron ore off the seabed floor and abandon the sites without any mitigation or restoration. The scale and rate of the exploitation take of the mining sites without appropriate mitigation or restoration is unjustified.

Profits will be directly exported overseas while potential ecological collapse will impact on all New Zealanders. Royalty rates will not deliver economic gains to NZ. Minimal employment opportunities will result from this application and the economic benefits to New Zealand have been overstated by TTR.

The acoustic disturbance and noise of extraction and vessel traffic will impact on migratory mammals and fish species for several decades. The applicant has

underplayed the adverse effects and has failed to undertake independent robust peer review of the scientific and expert's reports adequately.

TTR are seeking to gain approval to exploit the seabed, and then start a monitoring program and investigation for two years as a part of an adaptive management approach.

The proposed environmental triggers/limits and the adaptive management approach is flawed. The extensive sediment plume effects will smother the seafloor and create adverse impacts throughout the whole exploitation area. The exclusion area will restrict commercial and existing interests along with coastal recreational fishers and users. The economic benefits are overstated.

SUBMISSION

Te Ngaru Roa ā Maui (TNRM) opposes the application on the grounds below.

TANGATA WHENUA EXISTING USE RIGHTS

The seabed mining extraction will have significant adverse effects to the fisheries and in turn has a high potential to disrupt the 253,000.00 tonnes of commercial fisheries existing use rights in the northern sector. Fish species such as Jack Mackerel, Skipjack Tuna, Blue Mackerel, Barracuda and Frost Fish are part of the fish species along with other species.

This application breaches Te Tiriti o Waitangi and fails to provide active protection of Maori interests and taonga as afforded in Section 12. Maori are large shareholders in the commercial fisheries sector and have existing use rights along with other commercial fishers.

The effects on Maori existing interest will be significant. Nga Ruahine, Ngati Ruanui, and Ngaa Rauru customary fisheries will be directly impacted upon. The strip mining will result in effects entering into areas that Māori have statutory acknowledgements. The Commercial fisheries interests of Maori and others are at significant risk.

The non-commercial interests of tangata whenua are also recognised in the Fisheries Act 1996, which requires the input and participation of tangata whenua into all decisions regarding the setting of sustainability measures for the fisheries in their area. Those rights will be impacted upon; particularly as large scale open cast strip seabed mining over large areas for several decades has a high probability to sever the bottom of the food chain and create adverse effects throughout the food web.

Many hapu and Iwi on the west coast have Rohe Moana boundaries registered and gazetted with the Ministry of Fisheries that go 200 nautical miles off the coast for their customary rights.

The seabed strip mining operation will also displace set net catch and effort for school shark and in doing so, interfere and disrupt commercial fisher's families that are reliant on that income. The potential loss to people's economic wellbeing and impacts to the local and regional area will create adverse effects to those communities.

The applicant acknowledges impacts to commercial fisheries in the local area will take place and states that is still working with that sector.

TTR has failed to consult effectively with Hapu including with Ngati Ruanui and engaged Te Tai Hauauru Fisheries Forum to undertake a cultural assessment. Additionally, TTR acknowledges that Ngati Ruanui has stated that Te Tai Hauauru Fisheries Forum does not endorse the report. On that basis, it is imperative that the DMC hold a hearing on a Marae to allow Tangata Whenua to exercise their tikanga and mana as accorded in Te Tiriti o Waitangi.

STATUTORY REGIME

This application breaches Te Tiriti o Waitangi and fails to provide active protection of Maori interests and taonga as afforded in Section 12. Tangata Whenua has extensive commercial and customary fishery rights in the immediate and regional area.

The application does not satisfy the requirements of the Exclusive Economic Zone and Continental Shelf Act 2012. Additionally, it fails to satisfy the legislative tests set out in Section 10, 11, 12 of the Act.

The application has failed to address satisfactorily New Zealand's international obligations to the United Nations Convention on the Law of the Sea 1982 in Article 192 and Article 193 where NZ has an explicit duty to protect and preserve the marine environment.

The Crown has an obligation to Principle 15 of the 1992 Rio Declaration on Environment and Development – the "precautionary principle" which provides:

> *"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*****."{bold emphasis added}**

International law requires the implementation of both best practice and a precautionary approach. The Decision Making Committee (DMC) will have to be mindful to apply the provisions of s59 (2) and s61 and apply the precautionary approach. Furthermore, as a country we cannot afford to place at risk existing use rights based on economic gains for the mineral resources only.

METHODOLOGY – SCIENCE

TTR is still relying on previous studies despite undertaking more research since the last application. The methodology used to determine the recolonisation of benthic organism communities is flawed. There were no in situ studies undertaken; only studies in quiet backwaters well away from the subject site. The study also focused on iron ore content. The baseline study undertaken has been relatively short in terms of scientific testing to adequately ascertain the time scale of recolonisation in the dead zones left in the wake of extraction areas.

Additionally the baseline study is based on assumptions from small scale extraction points and not 50 million tonnes annually. Nor has it satisfactorily taken into account the cumulative effects of several decades of extraction spread over a large area. The baseline studies undertaken should be reproducible and verified, yet minimal peer review has taken place.

Key scientific reports were based on overseas lab studies, assumptions, and potentially flawed methodology and computer numerical modelling programs only with minimal site specific data. Of real concern is that the model is combining inputs from the river systems in an attempt to include background levels. Of further concern is that TTR are now stating that suspended sediment concentrations and the plume effects are near to background level due the river systems and to a highly active coastal area.

TTR is stating there has been a breakthrough in reducing the extensive plume impacts. And yet, it is really problematic that TTR conveniently now hides behind a wall of confidentiality in the very areas that are supposedly going to achieve those results. The large amount of documents that have been redacted/blacked out severely restricts submitters from being able ascertain the potential for adverse effects.

TRNM maintain there is uncertainty that what is proposed will be avoid or remedy the adverse impacts to the marine ecosystem. TNRM maintain the TTR are leaving the seabed destroyed and have no mitigation measures.

The amount and volume of the technical reports gives an appearance that the application is based on a solid scientific approach but without robust verifiable peer reviews of those reports it may be viewed as window dressing.

TTR is relying on the EEZ & CS Act 2012 provision of providing the “best available information”. The challenge then is to provide for robust scrutiny of those reports and information. TNRM argues that TTR has not provided for that oversight.

It is up to the EPA committee to grant discretion or give permission for submitters, or their experts to allow cross examination of the applicant’s expert witnesses to provide for rigorous testing of the applicants evidence. Without robust cross examination and testing of the applicant’s evidence, there is the potential adverse effects are not adequately avoided, remedied or mitigated from a community point of view.

TNRM recommend that DMC give permission to allow cross examination of the applicants expert witnesses to provide for rigorous testing of the applicants evidence.

ADVERSE EFFECTS FROM MINING AND DISCHARGE MATERIAL

The adverse effects from extracting annually 50 million tonnes of seabed for just 5 million tonnes (10%) of iron ore cannot be avoided, remedied or mitigated adequately. The applicant acknowledges that all living organisms will be destroyed during the extraction process. The applicant is relying on recolonisation of the area only and leaves the damage to nature to mitigate.

Furthermore, the adverse effects from 45 million tonnes (90 %) being discharged to sea annually will compound those adverse effects. The grinding process discharged material is chemically altered in an attempt to try to “sink” it to the seafloor. TTR are intending to combine the discharge material in an attempt to mitigate the adverse plume effects. The discharge of sediment either from the underflow or the overflow process will still create a significant adverse effect to the marine environment resulting in a net loss to the ecosystem.

The crawler operation will create adverse effects from powerful water jet streams that will mobilise seabed sediments that will create plume effects both on the seafloor and into the water column. After processing on the IMV, the de-ored sediment will be discharged 4m above the seafloor combining with the powerful water jet stream plumes from the crawler mining operation. The combined plumes will smother the sea floor and will rise up the water column creating adverse impacts to the ecosystem. Plume effects will also be caused by drilling activities and monitoring processes.

There will be further impacts from the discharge from the hyperbaric pressure filter aboard the FSO vessel which will be discharged just below the water surface. The fine sediment will further add to the sediment plumes effects and cause impacts to

light penetration. The reverse circulation drilling operation will use high water pressure to create a slurry mix that will be sucked up the pipe systems. The slurry mixed water will discharge into the surface water adding cumulatively to the other plumes impacts.

The dissolved concentrations of copper and other trace metals in the hydro-cyclone plant discharge are well above the ANZECC & ARMCANZ guidelines and will create adverse effects. The plume will traverse inside the 12NM mark and cause cross boundary issues. There is a risk to human health from the heavy trace metals that would be part of the extensive plume effects. The seabed strip mining will cover an extensive area of the STB and has the potential to impact on fish species and kaimoana.

A desalination plant will be used as part of the process. Fresh water and a brine mix will be part of the de-watering process that will be carried out to separate the seawater from the mineral material and dispose of it outside the ship. The desalination plant and discharge will consist of concentrated brine mix salinity and is toxic to aquatic species and out of keeping with the surrounding environment.

Discharge of the waste water from this process will add to the euphotic zone large volumes of water with different physical and chemical characteristics. The waste water would comprise of benthic biota from the seabed, seabed water, sediments, fragments of nodules, and along with a range of chemical additives and trace elements. The buoyancy of the fresh water content from the discharge will create adverse effects from the vertical upwelling to surface water. Fresh water sits on the surface water as it is lighter than seawater; therefore there is high potential that a fresh water wedge of sediment will stay suspended for long periods of time. Additionally there is potentially a significant temperature change from the ocean floor to surface water effects.

The suspended fine particles of sediment will create vast plumes and increase turbidity in the water column due to the suspension of discharged material.

That turbid plume will alter large areas of the ocean areas negatively changing the habitat for all aquatic species. Large-scale increases in water turbidity are likely to significantly impact on benthic communities as the particles settle. The plumes will impact phytoplankton and zooplankton and light penetration, in turn affecting the food web.

The open cast strip mining will kill surface and subsurface organisms directly. Fish will also be sucked up by the crawler arm and powerful suction unit as it moves from side to side processing 8,000 tonnes/hour of seafloor.

The discharge sediments dumped to the ocean floor from the mining ship will cloud up the water and reduce photosynthesis for marine organisms. The discharge

dumped into the seabed will be pressurised and create vast plumes and large disturbance to the seafloor, in turn impacting on marine lifeforms.

The robotic 450 tonne crawler, during extraction will disturb the seafloor to depths of 10 m or more creating sediment plumes that are likely to remain suspended for long periods. There will be discharge of extraction slurry 'mud's' that would contribute to the adverse effects. The slurry mud's will smother not only the benthic fauna and marine life in the local underwater area, but traverse large areas as it up wells to the surface waters. These types of plumes can travel large distances and cover many kilometres.

The constant anchor placement and removal will disturb the physical seabed and subsoil of the areas resulting in significant damage to seafloor and create plumes impacts and smothering of the benthic environment.

The argument that direct impacts of the seabed strip mining compared to the larger regional area is fundamentally flawed. So is the proposition that over time (unknown length) the effects will be minimal and somehow the benthic biota will be recovered. The seabed mining area will result in a dead zone for many years. There is no reliable evidence put forward that benthic organisms will recover over time.

The sediment plume and its associated effects will also result in adverse impacts to recreational users, tourism, commercial fisheries, Maori and existing interests.

The seabed strip mining sediments will smother benthic habitats from sediment, reduce primary production, clog respiratory systems of aquatic life forms in the water column and reduce the ability for fish, birds and mammals to survive in the area.

MARINE MAMMALS

The disturbance of the seafloor has potential to mobilise previously settled pollutants such as heavy metals that can bioaccumulate in organisms and fish species. The seabed mining extraction will have significant adverse effects on the food chain that starts from the tube worms and benthic organisms. .

Plus there is a variety of sharks that potentially will be impacted upon along with the Great White Shark which is a protected species under the Wildlife Act 1953. It is illegal to hunt, kill or harm them within NZ waters within the NZ Territorial Sea and Exclusive Economic Zone. The species is listed as vulnerable and is on the International Union for Conservation of Nature and Natural Resources (IUCN) red list.

Furthermore, there is huge potential to alter or disrupt migratory mammal species such as the Southern Right Whale, Bryde's Whale, Humpback Whale, Sperm Whale, Beaked Whales, Blue and Sei Whales and Minke Whales, Orca Whales along with many species of the dolphin family including the at risk Maui and Hectors . These Whales traverse the west and east coast areas during migration from the Pacific Ocean to Antarctic Ocean over the warmer months May to October returning to breed in the Pacific Ocean in May and July. Many of the species are on the IUCN red list.

The Southern Right Whale breeds and calves in the NZ waters during winter periods and traverse to offshore feeding grounds in summer. There are only approximately 900 Southern Right Whales with fewer than a dozen reproductive females remaining in New Zealand and cows with calves inhabit coastal waters. The Southern Right Whale is a nationally critical species.

There is a potential for whale strikes by the vessels moving up the coast as well as the vessel moving to Admiralty Bay for shelter.

Noise travels large distances underwater and the activity from the open cast strip mining has a high potential to damage, alter, disturb or cause the Southern Right Whales and other marine mammals to change or move their migratory patterns forever due to the 24/7 mining operation over several decades. Even if the noise effects can be proven beyond doubt to be localised, the impacts can remain the same.

The crawler extraction units will be fitted with acoustic seabed navigation systems and have the potential for marine mammals to become disoriented, lose their bearings and become confused.

Additionally, marine mammals have the potential to become tangled up in equipment used for offshore mooring and anchor lines by the surface vessels. There potentially will be marker buoy lines as boundary set outs or for equipment. Moreover there will be hydraulic lines and electrical power leads that operate the crawler excavator. Furthermore, there is the potential for marine mammals to become tangled in surface vessel operations that may result from the open cast strip mining operation.

While it may be argued that any potential effects are a low probability; it will have a high potential impact.

Any species that are nationally at risk like the Southern Right Whale that are killed, injured or damaged, would place that species at risk of survival as it would take many years for recovery due to their slow growing and late maturity rates.

Any adverse impacts to the migratory and resident mammal species could be devastating and must be avoided.

SEABIRDS

There is a potential impact of night lighting to marine mammals and the lights has a high potential to attract sea birds which increases the risk of collisions with the offshore vessels. There is the potential that at risk or threatened species such as South Island Pied Oystercatcher (SIPO) Wrybill, Banded Dotterel use the subject site as a flight pathway to migrate to north island shores for feeding grounds. There are several other bird species that migrate to south island shores and then back the northern shores again.

Titi(Sooty Shearwater) are a taonga species to tangata whenua and are known to feed on fish and squid. Titis are highly attracted to night lighting and have the potential to be impacted on. Many of those species are at risk or threatened and any impact on those vulnerable species will potentially have significant impacts on the population.

Niwa has identified several species such as Gibson's albatross, Westland petrel, Sooty shearwater, Red billed gull and Little blue penguin. All those species are on the Union for the Conservation of Nature Red List Classification and New Zealand Conservation Status

The applicant acknowledges that that artificial lighting can cause disorientation in seabirds along with potential for entanglement on rigging lines but maintains that the risk is low. Impacts of sediment and oils spills also can also create adverse impacts t o birds.

The applicant has failed to undertake any studies of at risk or threatened species that emanate from feeding grounds in the south island and traverse up flights paths to the north island (and back again). Most of the attention in the studies was based on the local coastlines and existing oil well data in Taranaki.

TTR have had sufficient time to set in place a mitigation and management plan prior to making this reapplication. It is not good enough to state that there will be minimal impacts after only minor study in 2015. Nor is it good enough to wait for consent to set in place a plan to avoid adverse impacts. That plan should have been provided to ascertain if it is robust.

The mitigation that has been proffered has the potential to not be effective. Pulling the curtains at night does not sound robust.

ADVERSE EFFECTS OF VESSELS

Mooring

The use of deep-sea moorings for stabilising the large extraction and export vessels will create adverse effects and destroy a large area of seabed throughout the exploitation area. The applicant intends to use Admiralty Bay in the South Island to shelter from adverse weather patterns and the anchor systems will impact the benthic aquatic organisms of that bay system. More alarmingly, the applicant is intending to use that bay for transfer from the Integrated Mining Vessel (FSO) to the large Bulk Cape-sized Export Vessel ("CEV")export vessel and by doing so, places significant risk to an otherwise quiet, peaceful and environmentally sensitive area.

While the applicant states that the Admiralty Bay area has been impacted upon by dredging and bottom trawling, the anchors will cause significant damage to the area and the balance of the area is still culturally, ecologically, economically and socially significant.

Oil spills

There is the possibility of oil spills that has the potential to create significant adverse effects, particularly from the crude thick toxic heavy fuel transfer operations from ship to ship. The process would involve a tanker vessel sailing directly from the supply point to the CEV and to the FSO, with refuelling taking place at sea or in Admiralty Bay. Additionally, the CEV is a large ship of approximately 180,000 tonne and has the capacity for 35,000 tonnes of heavy fuel oil or more and the FSO will hold up to 20,000 tonnes.

The MV Rena grounded on the Astrolabe Reef in Tauranga and was carrying 1,700 tonnes of heavy fuel oil and 200 tonnes of marine diesel oil only and pales into insignificance with the heavy fuel holding capacity of the CEV and FSO export vessels. The MV Rena spill has been described as New Zealand's worst maritime Environmental disaster.

The CEV has a length of 330 m, a 55 m beam and a 12 m draft. The CEV will be powered by generators using heavy fuel oil and will consume up to 7,500 t of heavy fuel oil per month. The FSO will require 1,500 t of heavy fuel oil per month .Both vessels will add significant air pollution and impacts to climate change by using cheap low quality grade Bunker-C tar like fuel.

The vessels that TTR are expecting to use are huge!!!

The IMV has an overall length: 345 m; Breadth: 60m and the Cape Size exports ships are so big they cannot go through the Panama Canal.

In comparison, the recently built MV Taharoa Destiny carries NZ Iron sands from Taharoa and has a Dead Weight of 175,522mt and a Gross Tonnage 91000t with a Length x Breadth of 290m x 46m**.** The Taharoa iron sand large offshore vessel only docks to load and leaves, and yet, in recent times the previous Taharoa vessel only just avoided a near disaster and nearly grounded on the west coast.

The applicant's extraction and processing of the minerals and loading of the large export ship will be undertaken over a longer time period therefore increasing the risk. Any oil spill could have adverse impacts on mahinga kai, customary fisheries, and on cultural and historical values for tangata whenua in coastal and marine areas. Additionally an oil spill inside the embayment of Admiralty Bay of any reasonable size could be devastating.

The New Zealand Marine Oil Spill Response Strategy adopts a three-tiered approach for dealing with marine oil spills. Tier One, Tier Two, and Tier Three. For areas beyond the 12 nautical miles or too large for Regional Councils to handle; the Maritime NZ or Maritime Safety Authority takes control. Certainly there is an awareness that the NZ authority's response to oil spills of any large nature is inadequate and will again rely on caring volunteers.

The applicant maintains that the operation will be carried out with a focus of avoiding spillage but has failed to develop a contingency plan and failed to account for any potential effect of low probability that has a high potential impact.

Furthermore there is minimal risk assessment by the applicant on availability of resources for managing risk at sea or from the land.

The grounding of the MV Rena on the Astrolabe Reef in Tauranga is a huge wakeup call to the government, regional and district councils. Decision makers throughout Aotearoa therefore have a duty to avoid that same disaster being repeated again by assessing applications such as the applicants with due diligence.

Furthermore, the applicant has been silent on the range of sizes of the export vessels and only discusses the large ship of approximately 180,000 tonne. To achieve the expected 5 million tonnes of net product to market several of the export vessels will need to be in service and in constant transit to cater to that expectation. TTR has not stated how many huge Cape Size export vessels will transit through NZ waters at any given time period.

Depending on economic scale over two decades that has been applied for, the applicant may move to much larger vessel sizes such as the Chinamax ore size ships which are capable of 380,000–400,000 DWT. The Chinamax size vessels are considered common for import and export for the Chinese markets.

Antifouling and Biosecurity

Tributyltin (TBT) is an organotin used since the 1960s as an antifouling additive to paint. TBT is an endocrine disrupter and causes sterilisation and development of male sex organs on females of many types of shellfish even in very low concentrations.

While NZ has banned its use, there is no guarantee that the foreign flagged ships do not contain substances that do not fit into NZ legislative requirements or the recent anti fouling regulations by the EPA.

Of particular concern, are the CEV and FSO vessels which will spend significant time parked just offshore past the 12 nautical mile limit or in sheltered areas in the STB and in Admiralty Bay.

TNRM raise the issue of biosecurity risks from bilge water and vessels sea chests as potential for adverse effects. There is the potential to impact on taonga species of tangata whenua along with impacts to mahinga kai and customary fisheries.
The applicant has not developed any emergency plans for unplanned events.

TNRM raise the issues above on potential adverse effects from vessels and while they may be seen to be effects of low probability, they are potential effects that have a high potential impact and could become significant to major.

The EPA is required to take into account the effects of activities that are not regulated under the Act when considering an application for a marine consent under Section 59(2)(b)(i) of the EEZ &CS Act 2012 along with the matters in s6 of the Act.

TNRM consider that the above issue of adverse effects of vessels and risk, is significant enough for the EPA and the applicant to ensure this subject is paid due diligence to any decision making to give confidence to communities along the affected coastlines that effects are being dealt with appropriately.

ECONOMIC BENEFIT VERSUS COST

TTR are stating that the seabed strip mining will generate NZ$159 million in GDP and employ 1,666 people. TTR appear to be clutching at straws. In their last application TTR got found wanting in their economic assessments. There is significant potential that TTR are overstating the economic gains again.

TTR trumpets the opportunity of providing only 250 jobs from the entire project, and readily acknowledges that the staff will comprise mainly from those who have expertise in the mining industry. Additionally the staff would be from anywhere in

the country and potentially elsewhere plus the majority of workforce will not reside in Taranaki and operate on a “Fly in Fly Out/Drive in Drive Out” program.

The last time TTR were stating they would build a steel mill with huge numbers of jobs and yet it turned out it as was only about 250 jobs. That point has not been lost, by some of the Taranaki people.

This time, TTR are offering a HFO bunkering facility to be placed in either New Plymouth or Wellington.

Again, TTR is offering more training to the smaller communities and somehow that training is going to produce highly skilled technicians to be job ready to use on the exploitation sites. The mitigation packages to Hawera, Whanganui and South Taranaki do not offset the actual potential costs to the local coastal areas.

Royalty rates will not deliver economic gains to NZ. The actual amount of gain from 2% royalty rates and taxation at 28% is minimal in comparison to the country’s export values. TTR is primarily an overseas owned company and profits will be directly exported overseas while potential ecological collapse will impact on all New Zealanders.

In comparison the Food and Forestry sectors generate 70% of New Zealand's merchandise export earnings and around 12% of Gross Domestic Product and Tourism directly and indirectly contributes almost 10% of New Zealand's GDP worth $23bn a year.

There has been no robust environmental economic analysis provided in the application on the natural capital of the wider area, to provide a balanced view to allow decision makers and communities to arrive at a decision pathway that will give confidence that the impending destruction is justified. TTR has failed to take into consideration the natural capital externalities.

The Global natural capital value has been estimated to be in the region of $16 - 54 trillion/yr., with an average of $33 trillion/yr as a minimum estimate.

The services of ecological systems and the natural capital stocks are critical to the functioning of the earth's life support system and contribute significantly to human welfare and represent a significant portion of the total economic value of the planet.

Environmental Economics has been in use for many years overseas and is used by some local government agencies.
http://www.waikatoregion.govt.nz/Community/About-the-Waikato-region/Our-economy/The-hidden-economy/

- The GDP for the Waikato region in 2009 was $16.89 billion
- The estimated value of ecosystem services in the region was estimated at $9.4 billion in 1997.
- Land–based ecosystem services were calculated at $7.2 billion, or 75 percent of the regional GDP for 1997.
- The value of ecosystem services for New Zealand was estimated at $39.4 billion (about 50 percent of the national GDP for 1994).

The applicant has failed to take into account the ecosystem functions and ecosystem services that any resource take should be balanced on.

TNRM argue that the economic benefits do not stack up to scrutiny.

BOND

The applicant has not volunteered to provide a Bond under Section 65 to remedy or mitigate any adverse effects that may arise. The applicant's insurance cover for any unplanned event or environmental restoration is only NZ$100,000,000.The Rena disaster clean-up is estimated to have cost about $130 million and the potential for an oil spill in the TTR seabed strip mining has a significant risk throughout the term of consent sought.

The EPA has the legislative power by utilising Section 63(2)(a)(i)s65 EEZ&CS Act 2012 to set in place a condition for a substantial Bond to counter the minimal insurance cover to bring certainty for effective risk management.

ADAPTIVE MANAGEMENT

The use of adaptive management in Section 64 in this circumstance is fraught and problematic. The proposed adaptive management process and conditions are based primarily on TTR gaining approval to strip mine the seabed and a two year monitoring program that should have been undertaken before lodging the application.

The proposed environmental triggers/limits and the adaptive management approach is flawed. The setting in place an adaptive management process with trigger limits as proposed will not result in achieving the requirements of avoiding, remedying the adverse impact. The proposed conditions are not robust and do not give TNRM the confidence that they will avoid or remedy the significant adverse effects.

<u>There is no certain mechanism that ensures TTR would stop the process and abandon the site if effects are shown to be adverse.</u>

TNRM do not have the confidence that an adaptive process will be sufficient to protect the life-supporting capacity of the environment would be safeguarded or that the adverse affects of the proposal.

TRNM have concerns that as the strip mining are offshore, it would be problematic for the EPA to undertake effective onsite investigations and the costs will be left to tax payers to pick up the tab rather than to TTR. Additionally it will be problematic setting in place conditions when some of the effects may not show for longer periods of time.

Certainly, TNRM argue that adopting an adaptive management approach by allowing the mineral extraction and exploitation to take place with a casual "we will watch for effects" would be untenable.

SUMMARY

TNRM contend that the TTR proposal will create severe adverse impacts to the aquatic ecosystem and the consent conditions, adaptive management plan will not be sufficient to avoid, remedy or mitigate those impacts.

TNRM seek the decision making committee to pay heed to Section 12, s59(2) (d) (e) to protect the biological diversity and integrity of marine species, ecosystems, and processes along with making sound decisions on protecting rare and vulnerable ecosystems and the habitats of threatened species.

Furthermore to weigh the potential loss to existing users such as the commercial fishers, and natural capital rather than focusing on s59 (2) (f).Section 10 has primacy and the decision will need to reflect the overriding provision for sustainable management and protection of natural resources in a way, or at a rate, that enables people to provide for their economic well-being.

DECISION SOUGHT

TNRM seek that the EPA committee to decline the application in entirety.

- TNRM wish to be heard in support of our submission
- TNRM also request all submissions are placed in full on the EPA website and the Hearings be held in regional areas including Waikato and on a Marae
- TNRM wish to be supplied with the Ngā Kaihautū report.

- The EPA committee to grant discretion or give permission for submitters, or their experts to allow cross examination of the applicant's expert witnesses to provide for rigorous testing of the applicants evidence.

Malibu Hamilton
Environmental Spokesperson
Te Ngaru Roa ā Maui

cleanearth@clear.net.nz

Ko te moana i te wai kau
No Tangaroa ke tenei marae
He maha ona hua e ora ai
nga manu o te rangi
Te iwi ki te whenua
The sea is not any water
It is the marae of Tangaroa
It yields life for many things
The birds in the sky
The people on the land