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14 October 2016

## **NZ Sport Fishing Council submission on the Trans-Tasman Resources Marine Consent Application**

### **Recommendation**

1. The Environmental Protection Authority decline the Trans-Tasman Resources Limited marine consent application to mine iron sand in the South Taranaki Bight.

### **Hearing**

2. The New Zealand Sport Fishing Council would like to be heard if a panel is convened to consider public submissions on this application.

### **NZ Sport Fishing Council - LegaSea**

3. The New Zealand Sport Fishing Council (NZSFC) appreciates the opportunity to submit on the Trans-Tasman Resources Ltd (TTR) application for a marine consent to undertake an iron sand mining project in the South Taranaki Bight, within New Zealand's Exclusive Economic Zone. TTR submitted their application on 23 August 2016 with submissions due by 14 October 2016.
4. The NZ Sport Fishing Council is a national sports organisation with over 32,000 affiliated members from 56 clubs nationwide. The Council has initiated LegaSea to generate widespread awareness and support for the need to restore abundance in our inshore marine environment. Also, to broaden NZSFC involvement in marine management advocacy, research, education and alignment on behalf of our members and LegaSea supporters. [www.legasea.co.nz](http://www.legasea.co.nz).
5. We are committed to ensuring that sustainability measures and environmental management controls are designed and implemented to achieve the Purpose and Principles of the Fisheries Act 1996, including "maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations..." [s8(2)(a) Fisheries Act 1996]
6. NZSFC representatives are available to discuss this submission in more detail if required. We look forward to positive outcomes from this review and would like to be kept informed of future developments. Our contact is Dave Lockwood [secretary@nzsportfishing.org.nz](mailto:secretary@nzsportfishing.org.nz).

## Background

7. Trans-Tasman Resources Ltd (TTR) has lodged an application with the Environmental Protection Authority (EPA) to mine the seabed for iron sand off the coast of Patea, South Taranaki, pursuant to the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012.
8. The EPA is a Crown agent responsible for deciding marine consents. The EPA Board has appointed a committee of experts to decide on the TTR marine consent application.

## NZSFC - LegaSea submission

9. The New Zealand Sport Fishing Council (NZSFC) submits **the EPA decline the application.**
10. The EPA advises Trans-Tasman Resources Ltd has applied to extract a maximum of 50 million tonnes of the seabed each year for a period of 35 years, in depths ranging from 19 to 42 metres. The proposal area covers 65.76 square kilometres of seabed between 22 to 36 kilometres offshore of Patea. TTR will process the extracted material, remove then export up to 5 million tonnes of iron sand per year, for up to 35 years.
11. We are awed at the scale of this project and we advocate this enormity needs an equal measure of precaution when considering the potential risks to the environment. If 50 million tonnes of the seabed is extracted each year and mining is carried out 24 hours a day, every day throughout the project, this equates to:
  - a 130,000 tonnes excavated per day.
  - b 5,700 tonnes excavated per hour.
  - c 95 tonnes excavated per minute; or
  - d 1.6 tonnes per second.
  - e 90% of the extracted material is deposited back into the marine environment.
12. The role of the EPA is to uphold the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012. The purpose of this Act is<sup>1</sup>-
  - a To promote the sustainable management of the natural resources of the exclusive economic zone and the continental shelf; and
  - b In relation to the exclusive economic zone, the continental shelf, and the waters above the continental shelf beyond the outer limits of the exclusive economic zone, to protect the environment from pollution by regulating or prohibiting the discharge of harmful substances and the dumping or incineration of waste or other matter.

In this Act, **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 the natural resources (excluding minerals) to meet the reasonably foreseeable needs of future generations
  - b Safeguarding the life-supporting capacity of the environment; and
  - c Avoiding, remedying, or mitigating any adverse effects of activities on the environment.
13. The NZSFC does not believe this application meets the above requirements for the following reasons, but not limited to:
  - c The possible discharge of harmful substances into the marine environment.
  - d This project may damage the potential for other natural resources such as fish stocks.

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<sup>1</sup> [http://legislation.govt.nz/act/public/2012/0072/latest/DLM3955428.html?search=ts\\_act@bill@regulation@deemedreg\\_Exclusive+Economic+Zone+and+Continental+Shelf+\(Environmental+Effects\)+Act+2012\\_resel\\_25\\_a&p=1](http://legislation.govt.nz/act/public/2012/0072/latest/DLM3955428.html?search=ts_act@bill@regulation@deemedreg_Exclusive+Economic+Zone+and+Continental+Shelf+(Environmental+Effects)+Act+2012_resel_25_a&p=1)

- e It will have a considerable effect on the life supporting capacity of a large area.
  - f There are likely to be considerable adverse effects arising from these actions.
14. A report commissioned by Taranaki Regional Council highlighted 11 areas of sensitive habitat existing in the region, under the definition set in *Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012*. This includes some areas within the project zone that will most likely be destroyed if the application is successful.
15. There are nine species of fish of commercial and recreational significance predicted to be abundant within the project area that would be negatively affected/displaced. These are:
- g Snapper
  - h Tarakihi
  - i Red gurnard
  - j Trevally
  - k Leatherjacket
  - l Spiny dogfish
  - m Barracouta
  - n Rig
  - o School shark
  - p Eagle ray
16. Another five species' distributions coincide with that of the mining project. These are:
- q Blue warehou
  - r John dory
  - s Blue cod
  - t Red cod
  - u Kahawai
17. It has been stated in the impact assessment that there are a number of species known to spawn off the southwest coast of the North Island. These include:
- v Lemon sole
  - w NZ sole
  - x Sand flounder
  - y Yellow-belly flounder
  - z Rig
  - aa Yellow-eyed mullet
  - bb Blue mackerel
  - cc Golden mackerel
18. The impact assessment also states that this is likely a breeding area for:
- dd Blue cod
  - ee John dory
  - ff Kahawai
  - gg Kingfish
  - hh Sea perch
19. TTR's application states, "*Conditions should be created whereby if negative impacts are discovered through monitoring on the above sites TTR will undertake all practical steps to determine if its activity is the cause of the effect. If TTR is found to be the cause of any negative impact, then actions must be undertaken by TTR through adjusting its activity to mitigate and lessen the impact on the above sites*".
- ii NZSFC notes that of all the above listed species, snapper is the only one to have a stock

assessment available.<sup>2</sup>

- jj TTR need to identify how they intend to monitor stocks and determine any negative impacts if there are no initial estimates to compare with. NZSFC believe it is reckless to be causing any possible damage to the environment without a credible method of monitoring such damage.
  - kk Monitoring impacts of the mining activity must be conducted by an independent party with results being made publicly available in a machine readable format.
  - ll There can be a long lag time between the time damage is inflicted on the environment and the time it takes to detect environmental changes. With so little baseline information available, and the time it takes to restore productivity of the benthos, the risks to the environment from the proposed activity are unacceptably high.
20. TTR's assessment of effects states, "*While there is the potential for the sediment plume from the project to affect spawning sites, particularly during the earlier phase of spawning, the project area and area potentially affected by the sediment plume is not identified as being an important spawning area or juvenile nursery for any fish species*".
- mm This contradicts earlier statements advising breeding does occur in the wider area. TTR needs to clarify this statement and show evidence of the fact none of these species spawn inside the area.
21. TTR's application states, "*An aerial survey of the STB found that the project area likely had minimal recreational fishing use, with the most frequented areas by recreational vessels occurring around New Plymouth and south of Waiinu Beach. In this regard, the project area is considered to be a very low use recreation setting that is only rarely used for marine fishing due to its distance from the coastline of the STB*".
- nn Evidence of recreational fishing activity gathered by NZSFC demonstrates recreational fishing occurs in the proposed mining area in the South Taranaki Bight.
  - oo NZSFC requests the results and methodology of the aerial survey be released to the public.
  - pp Full consideration must be given to recreational fishing and other non-commercial interests in the proposed area.
22. There have been no surveys into marine mammal interactions. This is a serious omission given that marine mammals are known to use the area, and that the EPA's Decision Making Committee commented further work should have been done during the first application.
- qq TTR only propose to carry out marine mammal surveys as part of later monitoring with no benchmark to compare prior to mining.
  - rr Marine mammals are known to be particularly sensitive to noise, the sounds of the excavator operating 24/7 is likely to deter mammals from the area. This could have serious consequences for their reproduction and long term survival.
23. Benthic regeneration times cannot be known definitively, however, research has shown it can take more than 10 years after such activity has finished for any sign of regeneration to become obvious. The decision makers must act in a precautionary manner when considering the potential loss of productivity associated with benthos degradation.
24. TTR have invested in further sediment plume mapping since their first application two years ago. However, this mapping is still unreliable. The nature of the currents and weather patterns in the area make estimating the sediment plume direction very inaccurate. TTR acknowledge this in their impact assessment stating, "*it should also be acknowledged that the dynamic and complex nature of the*

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<sup>2</sup> Ministry for Primary Industries (2016). Fisheries Assessment Plenary, May 2016: stock assessments and stock status. Compiled by the Fisheries Science Group, Ministry for Primary Industries, Wellington, New Zealand. 1556 p.

*environment of the STB, the range of habitats and the lack of defined boundaries for most physical and biological processes makes the assessment of effects on the ecosystem particularly challenging”.*

- ss The effects of misjudging this plume could be devastating. Our concern is that the plume will smother local ecosystems and reduce the primary production, which is the basis of the food chain, for long periods of time.
  - tt The EPA decision making criteria states it must take into account any uncertainty, which in this case is higher than can reasonably be allowed. As noted in the GHD report for the EPA, *“the accuracy and reliability of the predicted suspended sediment concentration and optical effect are dependent on the predicted discharges at the overflow and underflow provided by TTRL”*. All the modelling relies on these estimates which are uncertain and as far as we know, not independently verified.
25. The estimates of sedimentation given by TTR, which could be highly conservative, state that the reduction of light caused by the increased sediment could be up to 95%. TTR state this is *“only a very localised effect (an extent of less than 10km of the recovery site)”*.
- uu A 10km area receiving only 5% of the normal light does not seem negligible, this will be restricting a large area of primary production.
  - vv It was stated that this could reduce primary production by 40% in many areas over the duration of the project.
  - ww What does not appear to be taken into account is that the finest sediment will travel furthest, reaching inshore waters of the STB. The models predict it will settle on the seabed. But in this high energy environment, with strong prevailing westerly wind and swell, the sediment will get resuspended in inshore waters every time there is a significant swell. Resuspension is a natural event in this region, but the cumulative effect of months or years of deposition from the mining plume will severely affect the inshore habitats.
  - xx There are large areas of productive habitat off Patea that are less than 15 m deep. Regular resuspension of accumulated sediment in these areas would adversely affect biogenic benthic habitat and increase the impact on fisheries and fishers.
26. Excavating heavy metals from below the surface of the sand, where they are more prevalent, and the subsequent release of these heavy metals into the water column is cause for concern.
- yy An independent review of heavy metal core samples and analysis must be undertaken and made available to the public.
  - zz Heavy metals bioaccumulate up the food chain. Baseline testing of heavy metal concentrations in popular commercial and non-commercial species must be conducted before mining consent can be granted.
27. TTR’s impact assessment states, *“The maximum change should not be over-interpreted in terms of its ecological significance, and the mean change in total light at the seabed averaged over the modelled area is a more reliable measure of the predicted effects of the project on benthic algae”*.
- aaa The NZSFC disagrees, the area that this average is taken over covers ground which the model does not expect the plume to reach. Given a slightly smaller, yet still significant area, this average would be much higher and representative of the damage being caused closer to the project site.
28. TTR repeatedly states throughout the impact assessment that the environmental variations due to the project are not outside of normal environmental variations. While the negative effects arising from the project may not exceed environmental variation, these effects will be additional and constant for the following 35 years. The accumulated effects may in fact cause more damage than predicted.
29. Earlier this year, in response to TTR initial proposal, the EPA recommended that TTR provide a hydrodynamically driven model of primary production that includes phytoplankton and

microbenthos production. TTR responded that:

bbb This approach was not scientifically feasible based on existing knowledge.

ccc It was not reasonable to expect the amount of field research needed to gather the information to be carried out as part of the application process

30. The NZSFC believes that it is the responsibility of TTR to provide evidence of the safety and sustainability of the project, it not the public's responsibility to prove otherwise. If the necessary research is not available, or if TTR are not willing to provide such evidence, then the application must be denied in the interests of protecting our environment.
31. NZSFC acknowledges and supports the submission provided by Kiwi's Against Seabed Mining.
32. **The NZSFC recommend the EPA decline the TTR application** however, in the advent of consent being granted, and given the precedential nature of this application, there must be an associated demand for controlling the terms of operation to mitigate the environmental effects –
  - a. Tight environmental standards must be set as conditions of operation.
  - b. An intense monitoring programme must be funded by TTR and established to ensure these standards are not breached.
  - c. Monitoring must include testing the chemical composition of sands being pumped to the surface, the sand as it reaches the seafloor, and sites 100m, 500m, 1km, 5km and 10km from the discharge point, and at test points along the coastline.
  - d. Real-time gathering of data from these test points and reporting of that data to an independent agency must be pre-requisites to any approved application. Given the advances in available technology real-time monitoring is a cost-effective solution when compared to human observations.
  - e. An ecological assessment of environment effects must be completed at a minimum of 6-monthly intervals, to update the data with real observations and measurements.
  - f. Provision must be made to enable the temporary or permanent suspension of mining activity if serious breaches of permit conditions occur, or serious environmental impacts are detected.