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TTR Ltd Application
Environmental Protection Authority
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Trans-Tasman Resources Limited: Submission on application for marine consents

Introduction

1. The Taranaki Regional Council (the Council) thanks the Environmental Protection Authority (EPA) for the opportunity to make a submission on the application by Trans-Tasman Resources Limited for marine consents under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act).

2. The Council makes this submission in recognition of the purpose of local government set out in the Local Government Act 2002, and the role, status and powers, and principles under that Act relating to local authorities. In particular, the Council has prepared this submission in recognition of its:

    - functions and responsibilities under the *Resource Management Act 1991* and its
    - regional advocacy responsibilities whereby the Council represents the Taranaki region on matters of regional significance or concern.

3. The Council has also been guided by its Mission Statement *'To work for a thriving and prosperous Taranaki'* across all of its various functions, roles and responsibilities, in preparing this submission.

Background

4. Trans-Tasman Resources Limited (TTR) has lodged an application for marine consents to undertake an iron sand extraction project in the South Taranaki Bight inside New Zealand's Exclusive Economic Zone.

5. The project area covers 65.76 square kilometres located between 22 and 36 kilometres off the coastline of South Taranaki in water depths ranging from 20 to 42 metres. TTR proposes to extract up to 50 million tonnes of seabed material per year, targeting the recovery of iron sand deposits. Of the extracted material, approximately 10% by volume will be processed into iron ore concentrate for export. The remaining de-ored

sediment (up to 45 million tonnes per year) will be redeposited on the seabed within the previously excavated area via a controlled discharge system.

6. The South Taranaki Bight is characterised by an exposed high energy environment.

7. TTR lodged their first consent application with the EPA for the sand mining operation off the South Taranaki coast in 2013. The Council made a comprehensive submission to the application in January 2014 on matters that were of interest or concern to the Council at the time. A hearing was then held, at which the Council presented its submission to the Decision Making Committee (DMC) of the EPA. The application for marine consents was subsequently declined by the EPA because of a lack of information. TTR chose to undertake further work and to resubmit fresh marine consent applications in September 2016.

8. The Council considers that the substantial new work carried out by TTR between the 2013 and 2016 applications means that:

    - the effects of the mining operation on the marine environment are now better understood and are significantly less than the potential effects of the 2013 application i.e. more robust scientific information is now available;
    - as a result there is the ability to set limits in conditions on the marine consent;
    - where uncertainty remains there are better processes for dealing with it through an adaptive management type approach.

9. Senior Council resource management and scientific staff have been engaging with TTR for the last two years and this engagement has involved expert conferencing, the production of a meeting paper, and the exchange of information. TTR have provided the Council with further information when requested and areas of agreement have been identified. The consultation process has proved highly valuable. This has resulted in the current application which addresses many of the concerns that the Council had with the 2013 application.

10. The Council draws to the attention of the DMC that consent conditions have been developed with key stakeholders, including the Council. This is akin to a pre-hearing type process used frequently and successfully by this Council in the resource consent process under the RMA and the Council respectfully suggests that should the decision be made to grant consent the considerable input into consent conditions be given due consideration by the DCM.

11. The Council also acknowledges the consultation that has been undertaken by TTR and its efforts to engage with the wider community. Feedback that the Council has received from the community is that TTR has engaged positively and informatively on the proposal. The level of consultation that has been undertaken has been to a much higher and more comprehensive level than for the previous application. TTR representatives have been more available in the community to consult with stakeholders.

12. Where possible, consultation with iwi has been undertaken, but the Council notes there have been difficulties in this area. Ngāti Ruanui Iwi is tangata whenua with

manuwhenua for the project area. If consent is granted, consideration should be given to conditions that give adequate recognition to the tangata whenua status of Ngāti Ruanui.

13. The Council submits that suitable economic work has now been undertaken to identify the positive regional economic benefits of the proposal. The proposed consent conditions seek to cement these in place for the benefit of the local and regional community. Again, should consent be granted, due consideration should be given to the proposed consent conditions to ensure that the local and regional community benefit economically from the proposal.

14. Finally, by way of background, the Council has a particular interest in the current marine consent application given the potential effects of the mining operation on the coastal marine area (CMA) of the Taranaki region i.e. that area where the Council has regulatory duties and responsibilities. However, the first hearing determined the activity required consent from the EPA and not this Council as the point of loss of control of the sediment discharge is in the EEZ not in the CMA.

15. Our remaining key issues are to do with uncertainty about the cumulative effects of the sediment plume on primary productivity and increased smothering within the broader marine environment (including potential effects on sensitive benthic habitats) and how the mining operations, if consented, would be regulated and monitored given that the mining proposal would give rise to potentially significant cross boundary effects in the CMA of the Taranaki region.

16. Before addressing these issues however, the Council wishes to outline for the benefit of the DMC, the policy framework under the RMA that the Council has developed for managing activities within the CMA.

Policy framework under the RMA

17. Under section 59 (2) (h) of the EEZ Act, the EPA is required to take into account 'the nature and effect' of the Resource Management Act 1991 (RMA), and therefore any planning documents prepared under the RMA, when considering an application for a marine consent under the EEZ Act. This is one of thirteen important matters the EPA is required to take into account when considering an application for a marine consent and submissions on an application under the EEZ Act.

18. The *Regional Policy Statement for Taranaki 2010* (RPS) and *Regional Coastal Plan for Taranaki 1997* (RCP) are the Council's guiding statutory planning documents prepared under the RMA.

19. Of particular relevance to the current application are the following objectives and policies in the RPS:

    - to recognise the role of resource use and development in the Taranaki region and its contribution to enabling people and communities to provide for their social, economic and cultural wellbeing (UDR Policy 1);

- to protect the natural character of the coastal environment (CNC Policy 1, CNC Policy 2, CNC Policy 4);
- to maintain and enhance coastal water quality in the Taranaki region by avoiding, remedying or mitigating the adverse effects of discharges of contaminants to the coastal marine area (CWQ Policy 1, CWQ Policy 2)
- to maintain and enhance the indigenous biodiversity of the Taranaki region; with an emphasis on ecosystems and habitats that have significant indigenous biodiversity values (BIO Policy 2, BIO Policy 3 , BIO Policy 4, Bio Policy 5);
- to protect the outstanding natural features and landscapes of the Taranaki region from inappropriate development and to appropriately manage other natural areas, features and landscapes of value to the region (NFL Policy 1, NFL Policy 2, NFL Policy 3); and
- to recognise and provide for the cultural and traditional relationship of Māori with their ancestral lands, water, air, coastal environment, wāhi tapu and other sites and taonga within the Taranaki region (REL Policy 4, REL Policy 8).

20. Objectives and policies in the RCP that are of particular relevance to the current application are as follows:

    - recognition of differing coastal processes, natural values and uses of the coastal marine area (Policy 1.1);
    - protection of ecological values (Policy 2.2, and Policy 2.3);
    - protection of social and cultural values (Policy 3.1);
    - effects on areas of outstanding coastal value (Policy 4.1);
    - the relationship of tangata whenua with the coastal marine area (Policy 5.4)
    - adverse effects on the foreshore, seabed and coastal land (Policy 6.5 and Policy 6.6); and
    - adverse effects on water quality (Policy 9.1, Policy 9.3, Policy 9.5, Policy 9.8 and Policy 9.10).

21. The above policies from the Council's RPS and RCP are presented in full in Appendix 1 for consideration by the DMC as it sees fit.

22. The Council notes that in relation to the RMA, there may well be other aspects that will need to be taken into account, including the *New Zealand Coastal Policy Statement (2010)* and the purpose and principles of the RMA itself.

Impacts of sediment plume on primary production

23. The Council agrees that controlling and monitoring sediment concentrations should be the primary tool for managing the potential effects of the sand mining operations.

24. In the first application there was considerable discussion around the uncertainty associated with the sediment plume modelling. The model has been upgraded and international expertise employed to improve its utility. For this second application TTR has proposed a quantitative enforceable consent condition to ensure that suspended

sediment concentrations (SSC) and the size of the sediment plume will be no more than predicted by the sediment plume model.

25. The Council supports the proposal by TTR to use a frequency distribution of SSC limits (e.g. median, 25th, 50th, 80th, 95th), in addition to an absolute SSC limit, in order to maintain SSC within predicted levels.

26. However, if the 80th and 95th percentiles are used as 'response' and 'compliance' limits it is key that this does not result in long-term elevated SSC just below the 80th percentile response limit as this could result in unanticipated environmental effects.

27. One of the areas of uncertainty with the application relates to the impact of the sediment plume on phytoplankton, microphytobenthos (MPB) and macroalgae (seaweed). These primary producers need light to photosynthesise and form the base of the marine food-web. The Council also raises for consideration by the DMC uncertainty over the potential food-web effects occurring downstream of the mining area as a result of reduced primary productivity. Further comment is made on this matter later in the submission.

28. As part of the TTR application Cahoon *et al.* (2015) provide predicted changes to primary production averaged over the Sediment Model Domain (13,300 km^2). Given that the Sediment Model Domain (SMD) covers such a large spatial scale there may be ecological impacts over smaller spatial scales.

29. The greatest impact of the sediment plume on optical properties is predicted to occur to the north-east-east of the mining site over a relatively shallow area within the CMA which forms the Patea Shoals (the shallow shelf area that extends out from Patea township). At the Council's request, TTR provided predicted changes in optical properties and photosynthesis over this area where the median spatial footprint of the plume is predicted to occur. This information has not been included in TTR's main application to the EPA but will be discussed within this submission as TRC believe this is important information when considering potential impacts of the sediment plume within the CMA.

30. In the independent technical review of the application, DHI (2016), commissioned by the EPA, it is recommend that the impact of the decrease in primary productivity downstream of the mining area needs to be assessed:

    '*The predilection to use the SMD [sediment modelling domain] as an assessment framework has also led to a level of discounting in assessment of ESAs [environmentally sensitive areas] or VECs [valued ecosystem components] in terms of impacts and proposed mitigations within the evaluation process. It is best practice to clearly identify these elements as a second step process and to specifically assess impacts on these areas so it is clear in the assessment what the specific impacts might be and how they might be mitigated.*'

31. In addition, information provided as part of the consultation process, TTR has informed the Council that the model predicts a sediment plume that will reduce light in the water column by 10-40% over an area of 704 km^2 when mining at Site A and 282

km² when mining at Site B. Light levels are predicted to be reduced by greater than 40% in a relatively small area (<2 km²) close to the vicinity of the mining site.

Phytoplankton

32. It is difficult to predict the effect these reduced light levels will have on phytoplankton photosynthesis, growth and biomass. The impact will alter depending on a number of complex factors including nutrient availability, photo-adaptation and grazing. It is known, however, that the decrease in photosynthesis will be less than those in optical properties. Cahoon *et al.* (2015) estimates that the decrease in average water column photosynthesis as a result of shading by sediment will be 50% of the change of water column light (Figure 1). The Council considers this to be a reasonable estimate with associated uncertainty.

33. The Council raises the issue of uncertainty about the knock-on food-web effects that could result from predicted decreases in phytoplankton primary productivity within the impacted area of the Taranaki CMA (Figure 1, Table 1).

34. As indicated in the EPA Key Issues Report, which refers to DHI (2016), there are uncertainty issues with the assessment of primary productivity and the DMC needs to be confident, given the predictions provided, that unacceptable adverse effects do not arise as a result of reduced primary productivity. As noted above primary productivity is complex and difficult to measure and should the DMC approve the application, an adaptive management approach will almost certainly be required to address this complexity.

Microphytobenthos (MPB)

35. The impact of the plume on MPB is likely to be significant and the knock-on effects of this within the food-web remain unclear. From predictions provided in Pinkerton and Gall (2015) and Cahoon *et al*. (2015) it appears that the overall impact of mining on MPB over the Patea Shoals could be significant (Figure 6-20 in Pinkerton and Gall, 2015, and Table 3-5 in Cahoon *et al*., 2015). Phytoplankton production in the South Taranaki Bight is likely to be greater than production of MPB, although the role of the latter in the South Taranaki Bight food-web requires further clarification by TTR.

Macroalgae

36. Effects of the plume on macroalgae will be greater than predicted in the application if there are more reefs in the offshore and midshore areas of the Patea Shoals than indicated in the application.

Impact of sediment plume on sensitive benthic habitats

37. Sensitive benthic habitats within the influence of the plume need to be identified within reason. Representative sensitive benthic habitats should be closely monitored within an adaptive management type framework. Proposed monitoring must be sufficient to identify effects of mining before they become unacceptably adverse. These points are

discussed below in relation to the sensitive benthic habitats identified within the application (bryozoan rubble and the North and South Traps).

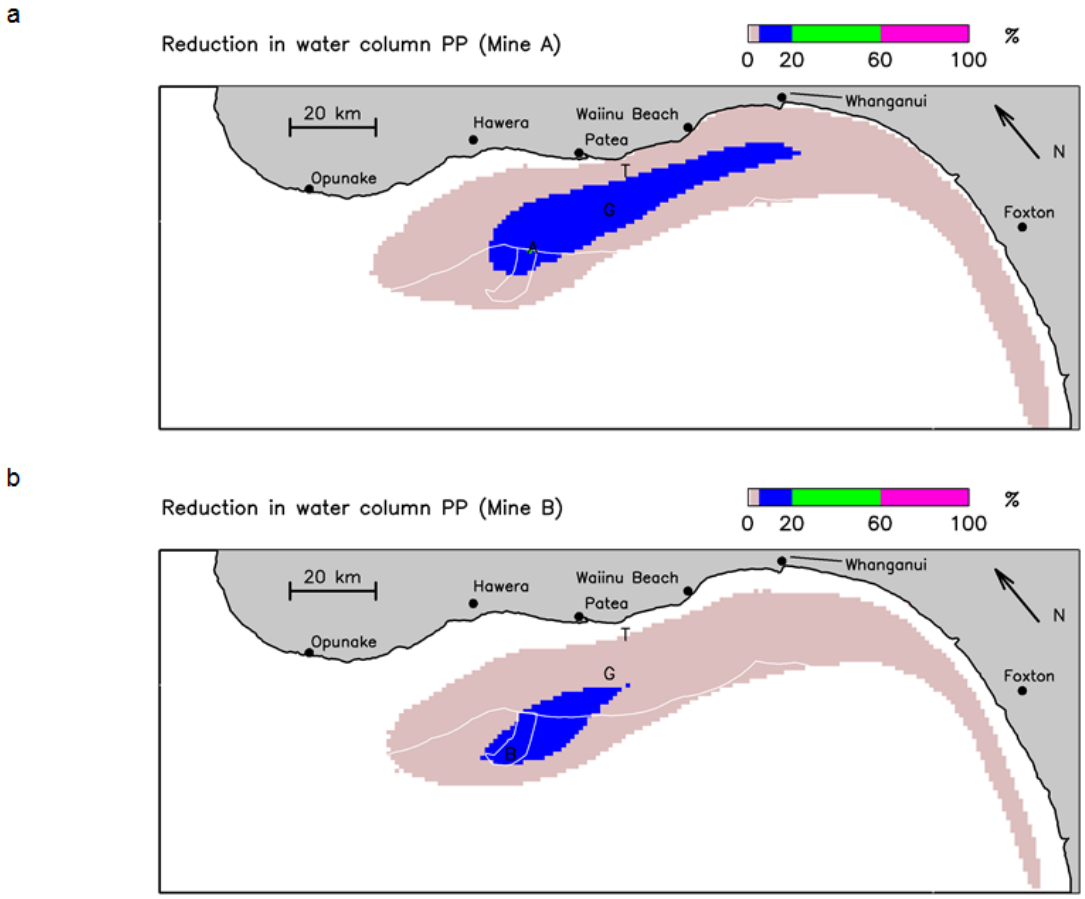

Figure 1 Predicted decrease in phytoplankton primary production (long-term mean) under a) mining at Site A (labelled 'A') and b) mining at Site B (labelled 'B'). Graham Bank is labelled 'G' and the North and South Traps are labelled 'T'. Colour bands showing changes of 1-5% (pink), 5-20% (blue), 20-60% (green) and >60% (magenta).

Table 1 Predicted decrease in phytoplankton primary production due to light attenuation due to mining at Site A and Site B. Changes are shown in terms of the area (km^2) of the seabed with a change in the given range.

Decrease in water column Primary Production (%)	Area affected (km^2)	
	Mining at Site A	Mining at Site B
<1	9,956	10,374
1-5	2,705	2,710
5-20	704	282
20-60	1	0
>60	0	0
Total	13,366	13,366

Source: Meeting Paper from meeting between TTR and Taranaki Regional Council held on 19 April 2016

Bryozoan Rubble

38. In an area further offshore from the proposed mining area Beaumont *et al.* (2015) identified biogenic habitat with diverse benthic communities which the authors termed 'bryozoan rubble'. Accumulation of shell debris below 60 m was found to be heavily encrusted with late stage colonisers, dominated by branching bryozoans along with other suspension-feeding invertebrates including encrusting and erect sponges, foliose bryozoans, ascidians, brachiopods and bivalves. Some of these suspension feeding organisms can be susceptible to relatively small increases in suspended sediment concentrations. Sponge and bryozoan species can have a low tolerance to smothering and slow subsequent recovery time if damaged.

39. In the impact assessment TTR state that

> *'The project generated sediment plume would infrequently go offshore from the extraction area and the sediment plume modelling results indicate that the bryozoan beds offshore at depths greater than 60 m would rarely experience any sediment plume influence and if it did so suspended sediment concentrations would be less than 1 mg/L'.*

40. Given the sensitive and diverse nature of these bryozoan rubble communities appropriate monitoring needs to be undertaken to ensure any damage resulting from the activity can be detected in a timely manner and that this triggers mitigating management responses. This may require a more targeted approach than that currently proposed in the Baseline Environmental Monitoring Plan (BEMP) and Environmental Monitoring and Management Plan (EMMP) using non-invasive monitoring techniques given the fragile and sensitive nature of the benthic assemblages (Beaumont *et al.*, 2015).

North and South Traps

41. These reefs are located within the direct influence of the sediment plume 6 km offshore from Patea. The North and South Traps are identified as outstanding natural features (under section 6 of the RMA) in the Council's RCP notably for their value as an unusual pinnacle feature on the sandy coast and abundant and diverse marine life.

42. The Traps are located at the interface between highly turbid inshore waters and clearer offshore waters. At the Traps the number of days with more than 1% light at the seabed is predicated to decrease by 23% when mining at Site A and 8% when mining at Site B.

43. The Council welcomes the inclusion of the Traps within the BEMP and EEMP. The Council agrees that the Traps are an appropriate location for fixed moorings, water quality and benthic monitoring stations and subtidal monitoring sites proposed within the BEMP and EMMP.

Offshore and Midshore Reefs of the Patea Shoals

44. The Council understands from recent consultation with the South Taranaki Underwater Club (STUC), in relation to the review of the Regional Coastal Plan, that additional reefs are present within the offshore and midshore region of the Patea

Shoals and Graham Bank. Members of the STUC are submitting on the application and can provide further information on the reefs and impacts of the plume assessed by the DMC.

45. The effects of the plume on optical water quality around Graham Bank are predicted to be significant (Table 6.2 in Pinkerton and Gall, 2015). The TTR impact assessment shows that sedimentation on Graham Bank may be more than minor (page 105). The effects of the sediment plume on reefs within the Graham Bank area and on the Patea Shoals closer to the project area need to be assessed. Reef-dwelling suspension feeding invertebrates, including sponges and bryozoans, are susceptible to smothering from sediments. In addition, *Ecklonia radiata* and other large canopy-forming kelp species have been shown to be susceptible to the effects of sedimentation (refer to Connell, 2005; Schiel et al., 2006). The early life stages of kelp are particularly sensitive to the effects of sedimentation, with only a light dusting of sediment required to substantially reduce (> 70%) the attachment of kelp zygotes to hard substrates, an essential step in kelp recruitment (Schiel *et al*., 2006).

46. In order for an adaptive management plan to be effective, sensitive benthic habitats that have the potential to be impacted by the sediment plume, need to be identified and representative reefs selected for continued monitoring.

Knock-on food-web effects

47. Mention has already been made of the potential food-web effects occurring downstream of the mining area as a result of reduced primary productivity and increased smothering. These effects could include for example, avoidance of areas of disturbance and sediment plumes as well as reduced prey and prey detection for fish, birds and mammals, smothering of benthic habitats and communities and loss or physical disturbance of seabed habitat and the communities associated with these habitats.

48. One example of a bird species which could be potentially affected by the mining activities is the little blue penguin. Little blue penguin have a threat classification status of 'at risk – declining'. It has been found that little blue penguins from the Marlborough Sounds make foraging trips over to South Taranaki. Little blue penguin on Motuara Island, Marlborough, were tracked using GPS loggers during the incubation period in September and October 2015 (Te Papa, 2015). Many of the birds tracked followed a similar foraging trip across the Cook Straight to coastal waters off South Taranaki.

49. If the Patea Shoals are used for feeding by little blue penguin, the birds could be impacted by decreased prey concentrations and a reduced ability to visually detect prey as a result of the sediment plume.

50. Currently no monitoring of seabirds is proposed as part of the BEMP or EMMP.

51. The benthic community within the proposed mining area is dominated by polychaete worms. In particular, the tubeworm *Euchone* sp A occurs in high densities. The proposal will result in the destruction of 'wormfields', within the mining area which

are also likely to be negatively impacted by the high suspended sediment loads. Within the application there is only limited information on their relevance/role within the marine food-web of the South Taranaki Bight.

Adaptive management

52. The Council submits that given the nature of the marine environment and any uncertainty or inadequacy in the information available, should consent be granted, a type of adaptive management is almost always required. It is a matter of achieving an acceptable level of scientific certainty within an adaptive management approach.

53. The latest consent conditions provide for an adaptive management type approach to be applied to the activity. The Council supports such an approach.

54. A number of improvements in the adaptive management plan have been made following the initial application which include:

    - A two year baseline monitoring programme is proposed to establish baseline environmental monitoring data. Prior to commencement of sand mining activities 'Response Limits' and 'Consent Limits' will be reviewed.
    - The proposed conditions allow for the Operational Sediment Plume Model to be calibrated and validated at set time intervals.
    - The conditions allow for feedback whereby the Technical Peer Review Group (TPRG) will review the monitoring data and make recommendations regarding the appropriateness of the 'Response Limits' and 'Consent Limits'.

55. However, in order for this approach to be more fully effective:
    - representative environmentally sensitive areas need to have been identified; and
    - the TPRG must be able to identify effects of mining from the results of the monitoring before they become unacceptably adverse.

56. As noted earlier in this submission, the Council and other regulators have had the opportunity to input to draft consent conditions. This efficient process is supported as stakeholders and the applicant can identify issues and seek solutions through agreed consent conditions. Should consent be granted then the conditions arising from a collaborative process should be recognised and included in the permit.

Monitoring and enforcement

57. Although the proposal is intended to be situated beyond the CMA and therefore outside of the jurisdiction of the Council, a number of the impacts of the sediment plume will occur within the Taranaki CMA. Accordingly, the Council considers that should consent be granted, a collaborative approach between the EPA and the Council should be undertaken for monitoring and enforcement of the activities. The reasons for this are outlined below.

58. The Council is very much an active, on-the-ground regulator of industry in Taranaki. Fundamental to the Council's approach is a rigorous and integrated compliance monitoring, inspection and enforcement regime. This includes regular site inspections

and sampling (including chemical and biological), for consent compliance purposes, consent investigations, incident investigations, and advice and information to industry. Compliance monitoring results and enforcement action by the Council are transparent with regular public reporting to the community. There is also an extensive state of the environment monitoring programme to inform policy review and the public of the state of the Taranaki environment. For the CMA, this has largely focused on the intertidal zone.

59. The Council already undertakes consent compliance monitoring and state of the environment monitoring within the area potentially influenced by the proposed mining activity. Current monitoring undertaken along the area of the South Taranaki coast relative to the proposal include rocky reef intertidal, soft sediment infauna, shellfish trace metals, shellfish microbiology, seawater quality and coastal structure (integrity and erosion) monitoring.

60. It is therefore imperative that the Council is able to discriminate between environmental effects resulting from: 1) TTR activities; 2) activities consented by the Council; and 3) natural environmental factors in this high energy environment. In order to assess potential impacts of mining activities on any existing and future Council monitored areas, the Council either requires access to all monitoring data or involvement in the monitoring programme.

61. Additionally, the Council is likely to receive and will have to respond to any public complaints in the area given that it will not know whether the complaint is a result of the TTR operation or not until investigations are carried out, imposing unnecessary costs on the Council and its ratepayers. The Council being in a position to respond rapidly to any complaint or incident, unlike the EPA based in Wellington, adds further weight to a collaborative approach to monitoring and enforcement.

62. Furthermore, because the Council is not the primary regulator there is no provision to recover its reasonable costs of monitoring cross boundary effects that may arise within the CMA. The Council's ability to recover its reasonable costs, on a user pays basis, needs to be addressed.

Summary

63. The Council thanks the DMC for the opportunity to make a submission on the marine consent application lodged by TTR under the EEZ Act.

64. The Council's marine management policy regime has been outlined so that it may be considered with the thirteen important matters the EPA has to take into account under section 59(2) (h) of the EEZ Act in determining the application.

65. The Council acknowledges that substantial further work has been undertaken to address the Council's initial concerns. However, the Council considers that there is still some uncertainty about the cumulative effects of reduced primary production and increased smothering within the broader marine environment, including potential impacts on sensitive benthic habitats, for the DMC to consider. Model predictions indicate effects from the plume will be felt within the CMA, and notably over the Patea

Shoals, including the North and South Traps which are recognised as outstanding natural features.

66. The Council submits that given the nature of the marine environment and any uncertainty or inadequacy in the information available, should consent be granted, a type of adaptive management will be required. It is a matter of achieving an acceptable level of scientific certainty within an adaptive management approach.

67. The Council also submits that should consent be granted, the Council be involved in the monitoring programme given the likelihood of cross boundary effects arising within the Taranaki CMA. The Council submits that the costs of its monitoring be recovered from the consent holder on a user pays basis.

68. The Council notes it is represented on the Technical Peer Review Group, which is important given the acknowledged cross boundary effects of the proposal, and in achieving integrated resource management.

69. The Council notes that it is a regulatory authority with functions and responsibilities for managing the effects of activities within the CMA of Taranaki. The EPA is also a regulatory authority with jurisdiction within the EEZ. The purpose of this submission has therefore been to provide information to be helpful to the DMC in arriving at a decision, rather than the usual submissions that support or oppose the application.

70. The Council **wishes to be heard** in support of its submission.

Yours faithfully

[redacted]

References

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Appendix I - Taranaki Regional Council policies in the Regional Policy Statement for Taranaki (2010) and the Regional Coastal Plan for Taranaki (1997)

Regional Policy Statement for Taranaki (RPS)

Policy Ref	Policy
UDR Policy 1	Recognition will be given in resource management processes to the role of resource use and development in the Taranaki region and its contribution to enabling people and communities to provide for their economic, social and cultural wellbeing.
CNC Policy 1	Management of the coastal environment will be carried out in a manner that protects the natural character of the coastal environment from inappropriate subdivision, use, development and occupation and enhances natural character where appropriate. In determining the natural character of the coastal environment, matters to be considered will include: (a) the degree of modification from a natural state; (b) the amenity values of the environment, which collectively give the coastal environment its natural character including rural amenity value; (c) the importance of landscapes, seascapes and landforms, including visually or scientifically significant geological features and wild and scenic areas; (d) the contribution of Taranaki's historic heritage to the natural character of the coastal environment; (e) the degree to which the coastal environment provides for the continued functioning of ecological and physical processes including consideration of the diversity, productivity, variability and importance of marine ecosystems and marine ecosystems typical or representative of the region, and links between marine and terrestrial ecosystems; (f) the natural quality of water and air; indigenous biodiversity values; the characteristics of special spiritual, historical or cultural significance to tangata whenua; and (g) the degree of integration of human use, development and subdivision with the above components.

Policy Ref	Policy
CNC Policy 2	The protection of the natural character of the coastal environment shall be achieved by having regard to the following criteria in determining appropriate subdivision, use, development or occupation of the coastal environment: (a) the degree and significance of actual or potential adverse effects on the natural character of the coastal environment, including cumulative effects, and the efficacy of measures to avoid, remedy or mitigate such effects; (b) the extent to which the subdivision, use, development or occupation recognise and provide for the relationship of tangata whenua and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga; (c) the degree to which adverse effects on those historic heritage values that can contribute to natural character can be avoided, remedied or mitigated; (d) the need for development or occupation to occur in the coastal environment; (e) where it is likely that an activity will result in significant adverse effects on the environment, any possible alternative locations or methods for undertaking the activity, and where the activity involves the discharge of any contaminant, any possible alternative methods of discharge; (f) the degree to which the subdivision, use, development or occupation will avoid adverse effects at alternative non-coastal locations; (g) the degree of existing modification of the coastal environment from its natural character; (h) the degree to which the subdivision, use, development or occupation will disrupt natural processes or will be threatened by, or will contribute to, the occurrence of natural hazards, particularly coastal erosion; (i) the degree to which the subdivision, use, development or occupation can be accommodated near existing developments and in spatially compact forms and the extent of further modification of the natural character of the coastal environment through sprawling and sporadic development; (j) the provision of adequate services, particularly the disposal of wastes; (k) the need to protect habitat (in the coastal marine area) of species including mobile species and those that are important for commercial, recreational, traditional or cultural purposes; (l) the benefits to the community of the use, development or occupation of the coastal marine area; (m) the degree to which financial contributions associated with any subdivision, use and development can be used to off set potential or actual unavoidable adverse effects arising from those activities; and (n) the benefits to be derived from the use and development of renewable energy sources, including national, regional and local benefits.

Policy Ref	Policy
CNC Policy 4	Areas in the coastal environment of importance to the region will be identified and priority given to protection of the natural character, ecological and amenity values of such areas from any adverse effects arising from inappropriate subdivision, use and development. In the assessment of areas of importance, matters to be considered will include: (a) wetlands, estuaries or coastal lagoons and coastal turf, forest and shrublands of regional, national or international importance; (b) their importance for marine mammals or birds, invertebrates and lizards for breeding, roosting or feeding, or habitats of threatened indigenous bird species; (c) the existence of regionally or nationally outstanding ecosystems or communities or nationally threatened plant or animal species; (d) scenic sites and recreational sites of outstanding or regional or national significance; (e) historic heritage values, including archaeological sites of national or outstanding significance; (f) the existence of nationally significant or outstanding coastal and marine landforms, landscapes, scientific features and associated processes; (g) the cultural and spiritual values of tangata whenua; (h) wāhi tapu and sites of importance to tangata whenua; and (i) the existence of marine protected areas.
CWQ Policy 1	Waste reduction and waste treatment and disposal practices, which avoid, remedy or mitigate the adverse environmental effects of the point source discharge of contaminants to the coastal marine area will be required. In considering policies for plans or proposals in relation to the discharge of contaminants to the coastal marine area, matters to be considered will include*:* (a) the relationship of tangata whenua with the coastal environment; (b) the natural character, ecological and amenity values of the coastal environment, including indigenous biodiversity values and fishery values; (c) the effect on areas where shellfish and other kaimoana are gathered for human consumption; (d) the actual or potential risks to human and aquatic health and amenity values arising from the discharge; (e) the significance of any historic heritage values associated with the coastal environment; (f) the degree to which the needs of other resource users might be compromised; (g) the allowance for reasonable mixing zones (determined in accordance with (a) to (l) of this Policy); (h) the potential for cumulative effects; (i) measures to reduce the volume and toxicity of the contaminants; (j) measures to reduce the risk of unintended discharges of contaminants; (k) the use of the best practicable option for the treatment and disposal of contaminants; and (l) the availability and effectiveness of alternative means of disposing of the contaminant.
CWQ Policy 2	Avoid, remedy or mitigate, to the fullest practicable extent, adverse effects on coastal water quality arising from ship or offshore installation discharges and maintenance.

Policy Ref	Policy
BIO Policy 2	Adverse effects on indigenous biodiversity in the Taranaki region arising from the use and development of natural and physical resources will be avoided, remedied or mitigated as far as is practicable.
BIO Policy 3	Priority will be given to the protection, enhancement or restoration of terrestrial, freshwater and marine ecosystems, habitats and areas that have significant indigenous biodiversity values.
BIO Policy 4	When identifying ecosystems, habitats and areas with significant indigenous biodiversity values, matters to be considered will include: (a) the presence of rare or distinctive indigenous flora and fauna species; or (b) the representativeness of an area; or (c) the ecological context of an area. Once identified as significant, consideration should be given to the sustainability of the area to continue to be significant in future when deciding on what action (if any) should reasonably and practicably be taken to protect the values of the area.
BIO Policy 5	The maintenance, enhancement or restoration of indigenous biodiversity will be promoted in ecosystems, habitats and areas not covered by Policies 3 and 4 above, but still important for the Regional Policy Statement for Taranaki 8383 continuing functioning of ecological processes, including those aspects important for the maintenance, enhancement or restoration of: (a) connections within, or corridors between, habitats of indigenous flora and fauna; (b) ecosystems, habitats and areas that provide buffering of habitats of indigenous flora and fauna; (c) botanical, wildlife, fishery and amenity values; (d) biological and genetic diversity; (e) water quality, water levels and flows; and (f) soils, substrate, minerals, nutrients or other physical factors or processes necessary for the survival of any indigenous flora or fauna species or community

Policy Ref	Policy
NFL Policy 1	Outstanding natural features and landscapes are to be protected from inappropriate subdivision, use and development, including protection of: (a) the special scenic, recreational, scientific and Māori cultural and spiritual values associated with Mount Taranaki; (b) the volcanic landforms and features of regional significance on the Taranaki ring plain; (c) the special scenic, recreational and scientific values associated with the coastal environment and coastal features of regional significance; (d) the natural character and natural features and landscapes of regional significance associated with Taranaki's rivers and lakes and their margins; (e) the rural features and landscapes of regional significance, including the scenic and landscape qualities of the raised marine terraces of south Taranaki and inland Taranaki hill country; and (f) landscape features associated with areas of indigenous vegetation that are of regional significance
NFL Policy 2	Recognition shall be given to the appropriate management of other natural areas, features or landscapes not covered by Policy 1 above, but still of value to the region for one or more of the following reasons: (a) the maintenance of water quality and quantity; (b) soil conservation; (c) the avoidance or mitigation of natural hazards; (d) natural character amenity and heritage values and scientific and educational significance; (e) geological and geomorphological, botanical, wildlife and fishery values; (f) biodiversity and the functioning of ecosystems; (g) 'sinks' or 'pools' for greenhouse gases; and (h) cultural features of significance to tangata whenua.
NFL Policy 3	The protection of outstanding and where appropriate, other natural features and landscapes of value shall be achieved by having regard to the following criteria in determining appropriate subdivision, use and development: (a) the value, importance or significance of the natural feature or landscape at the local, regional or national level; (b) the degree and significance of actual or potential adverse effects on outstanding natural features and landscapes or other important natural features and landscapes, including cumulative effects, and the efficacy of measures to avoid, remedy or mitigate such effects; (c) the benefits to be derived from the use and development at the local, regional and national level; (d) the extent to which the subdivision, use or development recognises or provides for the relationship of tangata whenua and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga; (e) the need for use or development to occur in the particular location; (f) the sensitivity or vulnerability of a natural feature or landscape to change, and its capacity to accommodate change, without compromising the values of the feature or landscape; (g) the degree of existing modification of the natural feature or landscape from its natural character; (h) the degree to which financial contributions associated with any subdivision, use and development can be used to offset actual or potential adverse effects arising from those activities.

Policy Ref	Policy
REL Policy 4	The protection and enhancement of mahinga kai within the region's water bodies will be provided for and the restoration of degraded water bodies, which are of concern to iwi, will be promoted.
REL Policy 8	The protection of areas or characteristics of the Taranaki coastal environment, which have special significance to iwi will be provided for in a manner respectful of tikanga Māori.

Regional Coastal Plan for Taranaki (1997) (RCP)

Policy Ref	Policy
1.1	Management of the coastal marine area will be carried out in a way that recognises that: (a) areas of outstanding coastal value exist in the coastal marine area, and that each of those areas includes one or more of the following values: (i) it includes, or borders on, outstanding natural features and landscapes in the coastal environment; or (ii) it is a significant habitat of indigenous marine flora, fauna or birdlife, or makes a significant contribution to maintaining local and regional ecosystem viability and biodiversity; or (iii) it is an area with significant natural character or intrinsic value; or (iv) it includes, or borders on, a protected area; or (v) it contains features of historic significance; or (vi) it contains an important estuary, wetland or coastal lagoon. (b) Estuaries within the coastal marine area that are permanently open to tidal movements (in particular, those estuaries which derive from catchments based in the eastern Taranaki hill country or the uplifted marine terraces of north Taranaki and south Taranak: (i) have significantly different and more complex natural processes than the open coast, because they exist at the interface between river and coastal processes; (ii) provide habitats, migrating paths, breeding areas and nursery areas for marine life and birdlife; (iii) are a pathway for nutrients and sediment to move from land to the coastal marine area; (iv) provide natural focal points for human activity and, in some cases, are surrounded by urban or extensively modified environments; (v) will be the subject of pressure for use and development, and for protection, and that an appropriate balance will need to be found between these pressures to achieve the purpose of the Act; (vi) in some cases, have outstanding coastal value. (c) Port Taranaki is a highly modified environment: (i) that enables people and communities to provide for their economic wellbeing; (ii) that has a low level of natural character; (iii) that provides some natural habitat and supports some marine species which, however, are generally less significant than the amount of similar habitat, and populations of such species, found outside Port Taranaki; (iv) within which port development and port-related activities are, from the Crown perspective as land owner, appropriate uses of the coastal marine area; (v) that can have significant effects on areas outside of the Port, including contributing to coastal erosion along New Plymouth foreshore; (vi) that is valued for recreation; (vii) within which occupation rights to the foreshore and seabed are held until the year 2026; (viii) within which a `Port Air Zone' is defined to regulate discharges to air that result from port-related activities. (d) The open coastline: (i) is subject to a high energy westerly wave environment and the coastal land behind the foreshore is generally eroding;

Policy Ref	Policy
	(ii) includes areas that are valued for recreation, particularly the beaches adjacent to urban areas or to which vehicle access exists; (iii) includes reef systems that provide habitat to marine life, and are valued by Maori for kaimoana gathering; (iv) includes a large proportion of the total foreshore area, which is mostly unmodified by human activity except in the vicinity of the New Plymouth urban area, and generally is under no significant pressure for use, development or protection; (v) includes some areas of outstanding coastal value; (vi) contains fisheries that are both recreationally and commercially valuable; (vii) is utilised for defence purposes in accordance with the Defence Act 1991.
2.2	Use, development and protection of open coastal areas (area C) should avoid, remedy or mitigate adverse effects on: (a) known fish spawning areas, and in particular the snapper-trevally spawning area in the North Taranaki Bight; or (b) hard rock habitat in parts of the coastal marine area where the seabed is predominantly sandy; or (c) marine mammal breeding and haul-out sites; or (d) areas where seabirds congregate to feed or breed.
2.3	Use, development and protection of all parts of the coastal marine area (areas A, B, C and D) should: (a) safeguard the life-supporting capacity of coastal ecosystems by: (i) avoiding the release of contaminants that have significant adverse effects on marine life; (ii) where it is not practicable to avoid the discharge of contaminants, remedying or mitigating the effects of that discharge; (iii) avoiding the release of hazardous substances; (iv) avoiding, remedying or mitigating smothering of marine ecosystems, such as reef systems, that are not adapted to frequent or large-scale sediment disturbance; (v) avoiding, remedying or mitigating long-term or significant short-term adverse effects on spawning and nursery areas of marine life, feeding and roosting areas of birdlife, and seal haul-out areas; (vi) ensuring that where an area of any particular habitat type is under pressure from resource use and development, appropriate areas of such habitat remain undisturbed elsewhere in the region; (vii) maintaining natural biodiversity. (b) not (either on its own or in combination with other uses and developments of the coastal marine area): (i) risk a significant regional or national decline of an indigenous species by adversely affecting populations (particularly breeding populations) of that species; nor (ii) cause a regionally or interregionally significant decline in fish or shellfish population numbers, species diversity or quality for human consumption.

<table>
<tr><th>Policy Ref</th><th colspan="2">Policy</th></tr>
<tr><td>3.1</td><td colspan="2">Use, development and protection of the coastal marine area should:

(a) allow existing established community uses, including utility structures, of the coastal marine area, and other lawfully established uses of the coastal marine area, that are consistent with the policies of this plan, to continue to be conducted;
(b) not duplicate a function for which existing public facilities are adequate;
(c) integrate, as appropriate, with the form and colour of the coastal environment (which in this case means the sea, foreshore and land backdrop and the way that these interact to provide the individual character of an area);
(d) avoid, remedy or mitigate adverse effects on sites or areas of historical or cultural significance;
(e) maintain or enhance the amenity values of the coastal marine area.</td></tr>
<tr><td rowspan="6">4.1</td><td colspan="2">The following areas are areas of outstanding coastal value and shall be managed in away that gives priority to avoiding adverse effects on the outstanding coastal values of each area:</td></tr>
<tr><td>Area</td><td>Outstanding Coastal Values</td></tr>
<tr><td>Waitotara Estuary</td><td>• Unmodified, representative estuary;
• Adjacent to existing conservation area which is the habitat of threatened australian bittern, NZ shoveller, black swan;
• Stopover for migratory wading birds (royal spoonbill, banded dotterel) and international migrant birds (eastern bar-tailed godwit);
• Sub-fossil totara stumps in estuary;
• Whitebait spawning area in Waiau Stream</td></tr>
<tr><td>Waiinu Reef</td><td>• Limestone rock outcrops extending from mean high water springs to 500 m offshore;
• Hard rock platform contains many well-preserved fossils;
• Abundance of marine life forms.</td></tr>
<tr><td>Waverley Beach</td><td>• Outstanding natural landscape;
• Eroding stacks, caverns and tunnels produce unique landforms at land/sea interface;
• Blow holes.</td></tr>
<tr><td>North and South Traps</td><td>• Large seaweed (Ecklonia) forests, diverse and abundant marine life;
• Unusual feature on sandy coast</td></tr>
<tr><td>Whenuakura Estuary</td><td>• Relatively unmodified estuary;
• Habitat of threatened caspian tern and rare variable oyster catcher;
• Part of route for migratory birds;
• Whitebait spawning on northern bank</td></tr>
</table>

Policy Ref	Policy	
	Sugar Loaf Islands Marine Protected Area	• Oldest volcanic formations in Taranaki; • Islands provide important nesting habitat for 27000 seabirds per year; • Moturoa and Motumahanga islands are free of exotic predators; • Vulnerable indigenous plant species (Cook's Scurvy Grass) on islands; • New Zealand fur seal breeding ground; • Diverse range of underwater habitats; • Marine urupa (Motukuku reef) of Ngati-te-whiti hapu; • Diverse and abundant marine life.
	Mimi Estuary	• Tidal mudflats, saltmarsh and sand dune habitat, uncommon in north Taranaki; • Habitat of migratory and wading birds; • Whitebait spawning area in upper estuary; • Feeding ground for snapper and trevally; • Nursery area for juvenile marine species and flounder; • Blue penguin breeding site (periodic).
	Pariokariwa Point to Waihi Stream	• Fur seal haul-out and seabird roosting area on Opourapa Island; • Offshore reef connected to Opourapa Island contains abundant marine life; • Outstanding natural landscape at White Cliffs; • White Cliffs walkway uses the foreshore between Pukearuhe and Te Horo stock tunnel; • Shipwreck (`Alexandra') in shallow water offshore; • Fluttering shearwaters breed on cliffs and northern blue penguins burrow near stream mouths; • Outstanding natural features and landscape at Tongaporutu, particularly offshore stacks, cliffs and caves; • Breeding area for grey-faced petrels on offshore stacks; • Tongaporutu Estuary contains abundant shellfish with high species diversity; • Coastal marine area surrounds Te Kawau Pa Historic Reserve; • Mohakatino Beach Conservation Area adjacent to Mohakatino Estuary; • Australian bittern and caspian tern roost on sandflats and in wetland adjacent to the estuary; • Mohakatino Estuary supports whitebait, flounder and shellfish
5.4	The adverse effects of activities on mahinga mātaitai and kaimoana shall be avoided or mitigated to the fullest extent practicable.	

Policy Ref	Policy
6.5	Disturbance of the foreshore or seabed should: (a) not remove such quantities of sediment from the onshore-offshore or longshore drift systems as to materially increase the risk of coastal erosion; and (b) not adversely affect the amenity values of the foreshore; (c) remove material only if that material can be replaced by natural coastal processes, except where it is consistent with the purpose of the Act to do otherwise.
6.6	The deposition of substances to the foreshore and seabed should: (a) not contaminate receiving sediments in the onshore-offshore or longshore drift systems nor lead to circulation or bioaccumulation of contaminants through the food chain; (b) not adversely affect the form of the foreshore (and in this respect, regard should be had to the desirability of a deposited substance being of the same size, sorting and parent material as the receiving sediments); (c) not occur in estuaries other than in minor quantities or for flood or erosion control purposes; (d) not cover rock habitat in areas of predominantly sandy seabed or foreshore (excluding areas where those rock habitats have been exposed by coastal erosion induced by human activities); and deposits for the purpose of disposal of solid waste originating from outside the coastal marine area, other than when the material is clean fill for the purpose of reclamation in accordance with this plan will not be allowed.
9.1	Waste reduction and treatment practices which avoid, remedy or mitigate the environmental effects of the direct discharge of contaminants into water will be required. In assessing proposals to discharge contaminants directly to water (either new discharges or renewals of existing discharges), matters to be considered will include: (a) the need to safeguard the life-supporting capacity of water and aquatic ecosystems of the receiving environment; (b) the allowance for reasonable mixing zones; (c) potential for cumulative or synergetic effects; (d) the effect on areas where shellfish are gathered for human consumption; (e) the degree to which the needs of other water users are, or may be, compromised; (f) the actual or potential risks to human and animal health from the discharge; (g) the actual or potential effects on amenity and heritage values including recreational values of the receiving environment; (h) the effect of the discharge on the natural state of the receiving water; (i) the cultural and spiritual values of tangata whenua; (j) measures to avoid, remedy or mitigate the effects of contaminants to be discharged; (k) the use of the best practicable option for the treatment and disposal of contaminants including, in the case of human sewage wastewater, the use of land disposal or wetland treatment. This policy will also be given effect when coastal permits for discharges of contaminants are reviewed in accordance with Section 128 of the Act.

Policy Ref	Policy
9.3	Discharges of contaminants or water to water should: (a) be carried out in a way that avoids or mitigates significant adverse effects on marine biological community composition; (b) maintain or enhance, after reasonable mixing, water quality of a standard that allows existing community use of that water for recreation, fishing or kaimoana gathering to continue; (c) avoid, remedy or mitigate significant adverse ecological effects on estuaries or intertidal areas; (d) be of a quality that ensures that the size or location of the zone required for reasonable mixing does not have a significant adverse effect on community use of the coastal marine area or the life-supporting capacity of water and aquatic ecosystems.
9.5	After reasonable mixing, no discharge (either by itself or in combination with other discharges) may give rise to any significant adverse effects on habitats, feeding grounds or ecosystems.
9.8	Adverse effects on water quality and sediment quality that arise from ship or offshore installation discharges and maintenance shall be avoided or mitigated to the fullest practicable extent.
9.10	When considering coastal permit applications for reclamations, activities involving structures, disturbances to the foreshore and seabed, or deposits of substances to the foreshore and seabed, the Taranaki Regional Council will consider adverse effects on water quality with respect to the need to safeguard the life-supporting capacity of water and aquatic ecosystems.