

Memorandum

To: Mr Mike Holm and Vicki Morrison-Shaw
From: Matthew Brown
Date: 5th May 2017
Subject: Spatial data requested in Minute 41

This memorandum relates to the information requested by the DMC in Minute 41 of the Trans-Tasman Resources Marine Consent Hearing in relation to mapping.

GIS Mapping

The GIS mapping has been undertaken by Kenex Ltd on behalf of TTR, and has been produced using ArcGIS and converted into an interactive .pdf file for the DMC, EPA and submitters to view. Given that ArcGIS is specialised software, the use of the pdf file will enable all parties to view and navigate the spatial data and allow users to turn specific information (layers) on or off. The pdf file has two pages. Page 1 is the regional view of the West Coast and page two is a local map which is zoomed in over the area of interest surrounding the proposed project.

The files used to generate the spatial information have been taken, where possible from public domains, such as mining permit boundaries (NZP&M), set net, recreational and commercial fishing boundaries (MPI) and marine mammal sanctuaries (DoC). Other information has been generated and provided by the consultants TTR have commissioned and relate to the relevant technical report(s) and or evidence.

Where possible attribute data (specific information that relates to a point of interest) has been provided as a layer called labels, however it is recommended that the original data source should be referred to when viewing the interactive map.

Plume and Optical Model

The plume and optical modelling layers in the interactive map relate to the modelling undertaken for Site A (nearest to the coast) and show the median and the 99th percentile for the surface and bottom suspended sediments. The plume model layers were provided by NIWA and correspond to the relevant NIWA technical reports, submitted as part of the TTR marine consent application. These include the modelling that was undertaken as part of the original marine consent application (2016) as well as for the recent modelling for the worst-case scenario (2017).

As requested, NIWA have also provided the particle size distribution (PSD) of the plume model. These are separated (as shown in the layer list) into fine sediment (median sizes 0.025mm to 0.031mm) and finer sediment (median sizes 0.004mm to 0.011mm) sediment size fractions.



Please note a separate layer which has the legend so the user can view the values shown in the plume, optics and PSD layers.

Identification of Sites

Where GIS file or co-ordinates have not been provided, TTR have directed Kenex to digitise the information to show the general location of the data point. This was done for the location of recreational fishing sites as provided to the EPA and located on the TTR marine consent application EPA website under response to Minute 30 *“Local knowledge fish dive reefs March 2017”*

TTR has not included fishing effort as we are awaiting the files from NIWA, and need to ensure that the modelling used to undertake this analysis can be converted into a ArcGis compatible file. Also trawl tracks have not been included as we were unable to access this information.

A list of all the layers and source materials is provided in Appendix 1.

Appendix 1:

TTR Data for marine consent map

Layer Description

Layer Description	Source
Reef	NIWA
Currents	NIWA
Bathymetry	NIWA
Seabed and known ecosystems	NIWA
Mammal sightings by species	DoC
Marine mammal sanctuary areas (existing and proposed)	DoC
Set net restriction areas (commercial and non-commercial)	DoC
Fishing effort (not supplied)	NIWA
Fisheries management areas	Public
Recreation fishing (reef) locations	EPA and Public
Customary marine title application areas - Te Kaahui o Rauru, Te Rūnanga o Ngāti Ruanui Trust, Te Korowai O Ngāruahine Trust	EPA and Public
Statutory acknowledgement areas (coastal edge only) - Te Kaahui o Rauru, Te Rūnanga o Ngāti Ruanui Trust, Te Korowai O Ngāruahine Trust	EPA and Public
Plume consent application - Site A	NIWA
Plume worst case scenario - Site A	NIWA
Optics consent application - Site A	NIWA
Optics worst case scenario - Site A	NIWA
Plume and Background PSD data	NIWA
Proposed Monitoring sites	SRL
Origin/Kupe permit and pipeline	Public
Noise Contours	AECOM
NIWA time series location sites used in Plume Report	NIWA
NIWA Monitoring Instrumentation locations used in application data	NIWA
TTR Mining Permit area	Public