

**BEFORE THE BOARD OF INQUIRY
TAMARIND DEVELOPMENT DRILLING APPLICATIONS**

EEZ100016

IN THE MATTER

of the Exclusive Economic Zone and
Continental Shelf (Environmental
Effects) Act 2012

AND

IN THE MATTER

of a Board of Inquiry appointed under
s52 of the Exclusive Economic Zone
and Continental Shelf (Environmental
Effects) Act 2012 to decide on
Tamarind Taranaki Limited's marine
consent and marine discharge consent
applications

**SUMMARY STATEMENT OF EXPERT EVIDENCE OF
SIMON JOHN CHILDERHOUSE FOR TAMARIND TARANAKI LIMITED**

Dated: 6 November 2018

Govett Quilliam
THE LAWYERS

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MAY IT PLEASE THE BOARD

1. In this summary statement of evidence I summarise my primary evidence dated 20 July 2018 and set out the key conclusions made.

Summary of the key findings of my primary evidence

2. My primary evidence provides a review and discussion of the existing environment with respect to marine mammals, including their distribution, abundance and status in the Taranaki region and the Area of Interest (“AOI”). I also review and assess potential impacts on marine mammals resulting from the proposed activities and conditions proposed by the applicant.

Existing environment

3. There is a reasonable amount of information available about marine mammals in the greater Taranaki region, although there is little specific information available about the AOI. Overall, over forty different marine mammals have been reported from the greater Taranaki region while only two species have been reported from within the AOI. There are at least seven threatened¹ marine mammal species occurring in the greater Taranaki region, including Antarctic blue whale, killer whale, Māui dolphin, Hector’s dolphin, bottlenose dolphin, southern right whale and Bryde’s whale. The summaries provided in the Impact Assessment (“IA”) for Tamarind’s application and additional material I have considered, provide a description of marine mammals that may potentially be found in the greater Taranaki region.
4. Overall, the AOI is not thought to represent an important feeding or breeding area for any marine mammal species. However, blue whales have been reported as feeding within the AOI. In addition, parts of the South Taranaki Bight are recognised as important feeding areas for blue whales, but these locations are likely to be highly variable in both location and extent due to natural variability in the Kahurangi upwelling system, which drives localised productivity in the area. However, these feeding areas are generally considered to be further south and west of the AOI.

¹ Based on Baker et al. (2016) Conservation Status of New Zealand Marine Mammals 2013.

5. The nearest Hector's/Māui dolphin sighting to the AOI is approximately 12 km to the south-east and, based on our knowledge of the biology and ecology of these dolphins, neither sub-species is likely to occur within the AOI, and if they do, it will be very rarely.

Potential impacts on marine mammals from the proposed activities

6. The IA identifies a range of activities that have the potential to impact on marine mammals, including both planned (e.g., underwater noise and vibration, turbidity, seabed deposition, artificial light, physical disturbance) and unplanned (e.g., accidental spills, loss of well control, dropped objects, vessel incidents) aspects. In addition, potential deck discharges are also considered, as are cumulative impacts.
7. With respect to underwater noise from the operation and assuming a precautionary scenario of noise production, modelling indicates that: behavioural disturbance is possible out to 1250m from the rig; there is no evidence of Permanent Threshold Shift in hearing at any distance from the rig; and Temporary Threshold Shift in hearing is possible within 50m distance of the rig but individuals must remain within this area for 10 minutes or more to potentially be affected.
8. The IA provides an assessment of the impact of a range of activities on marine mammals with residual impact assessments (i.e., incorporating appropriate mitigation and management) ranging from negligible to minor. These assessments are reasonable given the available information, our understanding of marine mammals and their ecology within the region, and the nature of the activity.

Proposed conditions and mitigation measures

9. I reviewed the proposed consent conditions proffered by Tamarind as part of the Applications. Given the assessment of minor or negligible residual risk posed by all the potential impacts assessed, the conditions and mitigation measures discussed in section 11 of the IA are adequate based on the level of risk to marine mammals from the Proposal.

Conclusion

10. I confirm my overall conclusion that the likely impact on marine mammals from the proposed activities is negligible to minor.

A handwritten signature in black ink, appearing to read 'S Childerhouse', with a long horizontal flourish extending to the right.

SIMON JOHN CHILDERHOUSE

1 November 2018