

19 August 2019

Submission on the *Protecting Hector's and Māui Dolphins* consultation document
Department of Conservation
Submitted via email

PEPANZ Submission: Protecting Hector's and Māui Dolphins

Executive summary

- i. Seismic surveying is a well-established technology of critical importance to the discovery and development of petroleum resources.
- ii. Only toxoplasmosis and fishery bycatch are known to have caused deaths of Hector's and Maui Dolphins, i.e. no deaths have been attributed to the petroleum sector including seismic surveying. The communication frequency of Hector's and Maui Dolphins (125,000 Hz) are orders of magnitudes higher than the frequencies produced by a marine acoustic source, which are below 200 Hz.
- iii. DOC has established a Code of Conduct which incorporates the precautionary principle to manage effects of marine seismic surveying, and this allows survey-specific conditions to be imposed.
- iv. Operations in the exclusive economic zone must comply with the DOC Code of Conduct for seismic surveys, and operations in the Taranaki Coastal Marine area will have to comply with that Code under the proposed Taranaki Coastal Plan.
- v. The consultation document proposes extending marine mammal sanctuaries. We consider extension of the West Coast of the North Island Sanctuary to be unwarranted given official documentation shows that there is no evidence of current resident sub-populations in areas outside the current sanctuary.
- vi. We can accept compliance with the Code of Conduct being required in sanctuaries, although this is strictly unnecessary given the Proposed Taranaki Coastal Plan requires compliance anyway, and the prohibition on new petroleum exploration permits means that the only operations in the coastal marine area are located in the Taranaki Coastal Marine Area.
- vii. We oppose proposals for a new permitting regime or a prohibition on seismic surveys. The science does not warrant stricter regulation, and a new permitting regime would impose a clash of regulation under which the Crown has one regulation while the Taranaki Regional Council has a different regime. This is unlikely to be workable and would represent poor public policy, especially in the absence of evidence to strongly justify this.
- viii. We have heard various public references to the "precautionary principle", without adequate definition, as a reason for taking very strict measures to protect Maui and Hector's dolphins. Although we accept the importance of protecting these important species, poorly defined references to the precautionary principle should not be relied upon as justification for making decisions not supported by facts or evidence.
- ix. We understand from an official information request¹ that the "consultation document **does not meet** regulatory impact analysis requirements in relation to outlining the impacts of the seismic and seabed mining proposals". Without an adequate evidence base we oppose moves to increase precaution beyond what is already a highly precautionary approach in the DOC Code of Conduct.

Introduction

The Petroleum Exploration and Production Association of New Zealand ("PEPANZ") represents private sector companies holding petroleum exploration and mining permits, service companies and individuals working in the industry.

¹ Correspondence with the Treasury, received 19 August 2019.

This document constitutes the PEPANZ's submission on *Protecting Hector's and Māui Dolphins* consultation document², for which submissions close on 19 August 2019.

We would welcome the opportunity to discuss this submission with officials.

Submission

Overview of seismic surveying

1. Seismic surveying³ is a geophysical technique used to produce detailed images of the earth's subsurface to deliver information about sub-surface geological structure and stratigraphy. It is used not just by our industry but also for research into seismic fault lines by earthquake scientists.⁴
2. Marine seismic surveys involve a specialised vessel with an acoustic source releasing bubbles of compressed air. When these bubbles collapse, a directionally focused low frequency sound wave is sent towards the seafloor – and the returning soundwave is picked up by hydrophones attached to 'streamers' which are towed behind the vessel.
3. Marine seismic surveying is an established scientific technique that has been used worldwide for seven decades, and has been the subject of many research projects (both in New Zealand and world-wide) to assess environmental effects, particularly those relating to marine mammals. In New Zealand, the industry complies with the Department of Conservation's Code of Conduct for minimising acoustic disturbance to marine mammals, which Greenpeace Canada considers to be global best practice⁵. The Code of Conduct incorporates a precautionary approach and allows survey-specific conditions to be imposed.
4. Under the Code of Conduct, operators undertaking a seismic survey are required to:
 - (a) undertake a Marine Mammal Impact Assessment;
 - (b) have present two independent trained marine mammal observers and two passive acoustic monitoring operators who operate systems to detect marine mammals;
 - (c) record all observations/sightings of marine mammals before and during operations.
 - (d) have regard to the mitigation zones. 1.5km radius for species of concern with young, 1km for species of concern without young, and 200m for all other species. The acoustic source must be stopped if any marine mammals enter the relevant mitigation zones;
 - (e) use the lowest practical acoustic source volume for the survey that will still achieve survey objectives; and
 - (f) conduct 30 minutes of pre-observation prior to commencing the soft-start procedures, which slowly builds up the source volume over a period of 20 minutes.

The science of seismic surveying

5. The scientific data in the consultation documents weaken any perceived justification for increased restrictions on seismic surveying. Official documents⁶ acknowledge that Māui and Hector's dolphins communication is classified as a high-frequency. Although many other species of dolphins communicate with whistles, Māui and Hector's dolphins use short, high frequency clicks, at a frequency of around 125 kHz⁷ (i.e. 125,000 Hz). These frequencies are orders of magnitudes higher than the frequencies produced by a marine acoustic source, which are below 200 Hz. For this reason, official documents refer to research showing that the probable frequency-specific sensitivity of Hector's dolphin means that the risk of auditory impairment from seismic surveys is low.
6. After many decades of seismic surveying and countless research projects (both in New Zealand and world-wide) there is no clear evidence that sound from exploration activities in normal operating circumstances has permanently harmed marine mammal species.
7. The *Protecting Hector's and Māui Dolphins Supporting Information and Rationale*⁸ document makes some unscientific statements which contradict the research referenced elsewhere in the documentation, including:

² <https://www.doc.govt.nz/get-involved/have-your-say/all-consultations/2019/hectors-and-maui-dolphins-threat-management-plan-review/>

³ PEPANZ established a dedicated website to provide information about seismic surveys in New Zealand: <http://www.seismicsurvey.co.nz/>. We also discuss seismic surveying in our broader information resource: <http://www.energy.govt.nz/our-process/seismic-surveys/>

⁴ See, for example <https://www.stuff.co.nz/science/108930908/kiwi-earthquake-scientists-prepare-for-explosive-start-to-2019>

⁵ <https://www.greenpeace.org/usa/wp-content/uploads/2015/08/A-Review-of-the-Impact-of-Seismic-Survey-Noise-on-Narwhal-and-other-Arctic-Cetaceans-.pdf?81457d>

⁶ *Spatial risk assessment of threats to Hector's and Māui dolphins*. 'Seismic survey and vessel noise', p20 <https://www.fisheries.govt.nz/dmsdocument/35007>

⁷ Material provided by Otago University's Associate Professor Steve Dawson at <https://www.doc.govt.nz/nature/native-animals/marine-mammals/dolphins/maui-dolphin/facts/>

⁸ <https://mpigovtnz.cwp.govt.nz/dmsdocument/34974>

- (a) "Information about the biology and predicted hearing sensitivities of the species and the effects of seismic surveying on other cetaceans, means we can be confident seismic surveying poses a threat to the dolphins"⁹. This statement ignores the frequency-specific sensitivity of the Hector's and Maui's dolphins outlined in paragraph 5 above.
- (b) "Noise produced by seismic surveying is loud enough that it poses risks to marine life, and because marine mammals use sound to communicate, navigate, and find food, they are particularly sensitive to effects from noise"¹⁰. This statement fails to account for:
 - (i) the statement that "with the exceptions of toxoplasmosis and fishery bycatch, no other anthropogenic causes of death were identified"¹¹; and
 - (ii) the acknowledgement that frequency-specific sensitivity of Hector's dolphin means that the risk of auditory impairment from seismic surveys is low.

Threats to Hector's and Māui dolphin

8. The supporting information and rationale document states that "*with the exceptions of toxoplasmosis and fishery bycatch, no other anthropogenic causes of death were identified.*"¹² There is therefore no justification for any further restrictions on seismic surveying (given that operations in the Exclusive Economic Zone and Taranaki Coastal Marine Area must comply with the Code of Conduct).
9. The consultation document¹³ makes the important acknowledgement that no deaths have been attributed to the oil and gas industry. It also acknowledges that toxoplasmosis is the main cause of mortality (94% for Maui's and 85% for Hector's), not fishing.
10. The consultation document¹⁴ states that medium-term goals include management of known human-caused threats and improving knowledge of poorly understood threats. Efforts to protect Hector's and Māui's dolphins should be proportional to the causes of mortality, which means the bulk of effort should be directed to reducing deaths by toxoplasmosis. Effort should not be wasted on mitigations (such as restrictions on seismic surveying) that have not caused any deaths.

Restrictive exploration legislation means concern about seismic effects in the coastal marine area is only relevant in the Taranaki

11. In terms of context, it is important to be aware of the significant change given effect to through the *Crown Minerals (Petroleum) Amendment Act 2018* ("the Amendment Act"). The Amendment Act prohibits the issuance of petroleum exploration permits outside onshore Taranaki, but does not affect the rights of existing permits¹⁵. The effect of this also means that petroleum prospecting (i.e. an activity that uses seismic surveying) will never occur in areas outside existing exploration and mining permits boundaries¹⁶, because the data obtained can no longer be utilised (as subsequent exploration is prohibited).
12. The Amendment Act means that seismic surveys will only be associated with existing permits. All existing permits in the coastal marine area are located in the Taranaki region (except for Waikato-located Petroleum Exploration Permit 38479, which is due to expire in September 2019). Concern about the effects of seismic surveys on Hector's and Maui dolphins should therefore be constrained to the Taranaki region alone.

The Proposed Taranaki Coastal Plan will require compliance with the Code of Conduct

13. Given the context outlined in the previous section, the Taranaki Coastal Marine Area is effectively the sole jurisdiction in which seismic surveys can take place. How the Taranaki Regional Council manages seismic surveys in its Coastal Plan is therefore highly relevant to the considerations in DOC's consultation document.
14. Taranaki Regional Council's Proposed Coastal Plan states that seismic surveying must comply with DOC's Code of Conduct. PEPANZ and its members support this proposal, and such a rule will therefore certainly be the minimum standard arrived at in the Decisions Version of that plan.

DOC proposals to extend Marine Mammal Sanctuaries

15. DOC proposes to extend the West Coast North Island Marine Mammal Sanctuaries. We are not convinced there is justification for extending the Marine Mammal Sanctuary, as an official document states "*there is no evidence of current resident sub-populations in the TAKA (Taranaki to Kapiti) or*

⁹ p87 iBid.

¹⁰ p86 iBid.

¹¹ p106 iBid.

¹² p106 iBid.

¹³ p6 Table A "Hector's and Māui dolphin annual deaths from various causes", <https://www.mpi.govt.nz/dmsdocument/34971>

¹⁴ Page 9, <https://www.mpi.govt.nz/dmsdocument/34971>

¹⁵ The Prime Minister's press release states "We are protecting existing exploration and mining rights." <https://www.beehive.govt.nz/release/planning-future-no-new-offshore-oil-and-gas-exploration-permits>

¹⁶ We note that seismic surveys can be shot from slightly outside the permit boundary.

'North Island other' areas"¹⁷. Also, given that toxoplasmosis is the greatest cause of deaths across all of New Zealand, extending the MMS will not influence toxoplasmosis at all.

DOC proposals for the management of seismic surveys

16. DOC has expressed concern that regulation in Marine Mammal Sanctuaries is not strong enough, and has accordingly proposed three options to increase the level of regulation. We address each option below.

Option 1 - we can accept Option 1 if regulation is to be increased

17. We can support the first option which is to require compliance with the Code of Conduct within marine mammal sanctuaries. We note that the only seismic surveys that can occur in the territorial sea are in the Taranaki Coastal Marine Area and they will already require compliance with the Code of Conduct, meaning Crown regulation is arguably unnecessary.
18. We are not convinced that the scientific evidence warrants a more restrictive regulatory regime beyond the DOC Code of Conduct. Given the significant benefit of petroleum activities and the low risk, especially given no new permits can be granted, using the existing regulatory framework is most appropriate. A very thorough risk analysis and cost benefit analysis would be required to justify a new and more restrictive regime.

Option 2 - this inappropriately clashes with the Proposed Taranaki Coastal Plan

19. We oppose option 2. If DOC imposed Option 2 (a new permitting regime) this would directly clash with the impending Taranaki Coastal Plan's requirement for compliance with the DOC Code of Conduct. Two different regulatory regimes for the very same activity with potentially conflicting consent conditions, one administered by the Crown and the other by local government, would put operators in the difficult situation of requiring two consents for the same activity. In the interests of sound public policy alone, such a situation should not be allowed to occur.
20. The consultation document asserts that under option 2 "*Industry and researchers would incur costs in preparing an application, but these are expected to be similar to what is already required in the EEZ under the Code.*"
21. The view that new permitting regime would have similar costs to complying with the current Code of Conduct is unfounded, and unlikely to be untrue. As well as the additional application fee for the permit, we are advised that additional consultation fees are expected to be in the order of \$45,000 to \$120,000 depending on the survey location.
22. Putting aside the matter of two different regulatory regimes in the same geographic area, option 2 presents another issue. Several of the permits in the Taranaki region are primarily located in the adjacent exclusive economic zone but straddle the boundary and cross into the coastal marine area. This fact means that, should Option 2 be imposed, an operator must comply with one permitting regime in the EEZ (the Code of Conduct) and another regime in the Coastal Marine Area despite only encroaching slightly into the Coastal Marine Area.

Option 3 - we oppose prohibition as unreasonably restrictive

23. We oppose option 3. A prohibition is wholly unwarranted as effects can be managed adequately under the current Code of Conduct. Due to the earlier mentioned Amendment Act, option 3 is unnecessary as no new exploration permits can be granted.
24. We also note that seismic surveys need to be acquired in the area outside of the permits to survey the permit area. This means that limiting seismic surveys strictly within existing permits will have significant impact on benefits of surveys.
25. From a sovereign risk perspective, prohibiting new seismic surveys will further weaken confidence in New Zealand as an investment destination and will amplify the adverse perceptions arising from the law prohibiting new petroleum exploration permits being granted outside onshore Taranaki.

We support the consultation document's assessment of oil spill risk and management

26. The consultation document covers the risks of oil spills¹⁸, and we agree with the assessment in the consultation document that no additional measures are required.

Miscellaneous comments

Research objectives.

27. We have no objections to the vision statement of overall population objectives. However, we recommend that the medium-term goals are reworded to state that effort should be proportional to the quantified risk.

Estimated (winter) spatial distribution of Māui dolphins

¹⁷ p14, *Spatial risk assessment of threats to Hector's and Māui dolphins*
<https://www.fisheries.govt.nz/dmsdocument/35007>

¹⁸ Page 20, <https://www.fisheries.govt.nz/dmsdocument/35007>

28. The plot on Page 15 (Figure 1): is misleading, as it does not indicate when the Maui's sightings occurred. We understand that it has been more than 30 years since a Māui dolphin has been sighted south of Raglan harbor, and would appreciate more information about when documented sightings occurred. It is not realistic to propose a southward extension of the West Coast North Island MMS without this information.

Toxoplasmosis Action Plan

29. This aspect of the discussion document is inadequate. Toxoplasmosis is acknowledged by DOC as the greatest cause of mortality, yet there is just over one page of text discussing the plan.
30. We relate this to discussion on *Management of other non-fishing threats* which states that "a broad management approach needs to be adopted to ensure subpopulations of Hector's and Māui dolphins recover and thrive, weighted towards those activities that are most likely to pose the greatest threat."¹⁹ If Toxoplasmosis is the greatest threat, then an investigation into the problem and possible interventions should be part of the consultation document.

The importance of seismic surveying in relation to energy security

31. New Zealand has less than 11 years of natural gas reserves left, and to bring online new reserves will require either new development of existing fields or new exploration. To inform decisions on development or further exploration, seismic surveys are often needed. The regulatory regime should manage environmental and social effects while enabling responsible development, which is essential for secure and affordable domestic energy and electricity²⁰.
32. Under the Crown Minerals Act 1991, petroleum operators must comply with work programmes imposed on permits. This obligation should be recognised by other regulatory agencies.
33. Maximum economic recovery is an important concept in field management, and seismic surveys are a key part of this. Surveys also allow operators to manage existing reserves more efficiently and may allow resources to be developed with fewer wells and less risk (because of better information). In terms of environmental management, seismic surveys can also gain site information for jack-up rigs and installation of pipelines to ensure that those activities are safe and have minimal environmental impact.

The 'precautionary principle'

34. We have heard various public references to the "precautionary principle", without adequate definition, as a reason for taking very strict measures to protect Maui and Hector's dolphins. Although we accept the importance of protecting these species, the precautionary principle should not be relied upon as justification for making decisions not supported by facts or evidence. We note an excellent contribution from then Chief Science Advisor Sir Peter Gluckman in 2015²¹, who points out that the Precautionary Principle is "being wrongly framed as a reason for abstention and inaction" when it "was initially intended as a framework FOR ACTION in the face of scientific uncertainty – that is, not using the absence of evidence as reason not to act."
35. We understand from an official information request²² that the "consultation document **does not meet** regulatory impact analysis requirements in relation to outlining the impacts of the seismic and seabed mining proposals", so without an adequate evidence base we oppose moves to increase precaution beyond what is already a highly precautionary approach in the DOC Code of Conduct.

¹⁹ Page 85 *Management of other non-fishing threats*

²⁰ Briefly in relation to greenhouse gas emissions, the Interim Climate Change Committee found in its 2019 *Accelerating Electrification* report that natural gas keeps electricity affordable and this in turns promotes decarbonisation through the electrification of transport and process heat.

²¹ See page 5-6 *The place of science in environmental policy and law*. Peter Gluckman. 2015.

https://www.pmcsa.org.nz/wp-content/uploads/Salmon-Lecture_Final.pdf

²² Correspondence with the Treasury, received 19 August 2019.