

**Before Commissioners  
Delegated by the Marlborough District Council**

**Under** the Resource Management Act 1991  
**In the matter of** Application U190438 by The New  
Zealand King Salmon Company Limited  
for Coastal Permit (Marine Farm) – North  
of Cape Lambert, North Marlborough

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**OUTLINE OF LEGAL SUBMISSIONS FOR THE MCGUINNESS INSTITUTE  
14 OCTOBER 2021**

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## **Introduction**

1. This outline of legal submissions is provided on behalf of the McGuinness Institute.
2. The institute maintains its submission in opposition to the application, and in addition to the matters covered in its written submission and this outline, the Institute is providing evidence from Ms McGuinness, and Professor Slooten.

## **The Aquaculture Strategy**

3. The Aquaculture Strategy is not an RMA instrument, but it sets some relevant context for considering the project against the broader aspirations for aquaculture growth in New Zealand. It may be taken into account under s 104(1)(c).
4. Of particular relevance, the strategy identifies four outcomes to be achieved in relation to growth in the sector: Productive, Inclusive, Sustainable and Resilient.
5. Notably, the evidence from Mr Lees (at [7.2]) is that MPI supports the proposal only in respect of two of those outcomes: *Productive* and *Inclusive*. MPI does not support the proposal in relation to the *Sustainable* outcome.
6. Conversely, the evidence for the Department of Conservation is not supportive of the proposal.
7. MPI (Mr Lees) is that From one Government department — MPI — you have evidence from Mr Lees, whose view is that the project will

## **Emissions**

8. Emission of greenhouse gases, and their contribution towards climate change, is within the scope of your assessment in accordance with ss5 and 104(1)(c).
9. However, despite the long-term consent NZKS is seeking (which will, if granted, continue beyond the current goal of net zero emissions by 2050), no assessment of the emissions associated with the activity is provided.
10. NZKS could have prepared an emissions profile for the proposal accounting for both upstream and downstream emissions (see Figure 6 in Ms McGuinness's primary statement of evidence), but has not done so. Emissions profiles are used as a tool to identify emission intensive areas of the economy and to benchmark progress against commitments.

11. Notably, NZKS obtained a complete Life Cycle Analysis (LCA) report from Dr Robert Parker in 2020.<sup>1</sup> The intent, NZKS said, was to “measure our own carbon footprint, which we will use to guide our future carbon minimisation steps”.
12. The McGuinness Institute acknowledges LCA is a common tool that can be used to determine the sustainability of a food production system. Common indicators used in an LCA include energy use and greenhouse gas emissions. The methods for doing LCAs are standardised under the International Organization for Standardization (ISO14040).<sup>2</sup>
13. NZKS also stated that its LCA “contributed to the GHG emission requirements of the Aquaculture Stewardship Council (ASC) Salmon Standard.<sup>3</sup> The Aquaculture Stewardship Council (ASC) is an independent non-profit organisation and labelling organisation that establishes protocol on farmed seafood while ensuring sustainable aquaculture.
14. However, the LCA report has not been made public. Nor does it appear to have been provided to any of the experts giving evidence in support of NZKS’ application.
15. Further, the Institute does not consider that meeting the emission measurement requirements for ASC certification is any reliable indicator of environmental impacts.
16. A study titled *Life Cycle Assessment of Aquaculture Stewardship Council Certified Atlantic Salmon (Salmo salar) (2020)* aimed to determine if salmon raised under the ASC certification standards achieved the intended reductions in environmental impact.
17. The study, through using LCAs, found that ‘environmental impacts, such as global warming potential, do not decrease with certification’.<sup>4</sup>
18. Furthermore, it was found that ‘salmon feed, in contrast to the on-site aquaculture practices, dominates the environmental impacts of salmon

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<sup>1</sup> New Zealand King Salmon (NZKS). (2020). *Annual Report 2020: Stronger Together*. Page 30. Retrieved 14 October 2021 from <https://www.kingsalmon.co.nz/reports-and-results/>

<sup>2</sup> International Organization for Standardization (ISO). (2016). ISO 14040:2006 Environmental management - Life cycle assessment - Principles and framework. Retrieved 13 October 2021 from <https://www.iso.org/standard/37456.html>

<sup>3</sup> Above n 1.

<sup>4</sup> Sherry, J.; Koester, J. (2020). *Life Cycle Assessment of Aquaculture Stewardship Council Certified Atlantic Salmon (Salmo salar)*. See Abstract. Retrieved 13 October 2021 from <https://www.mdpi.com/2071-1050/12/15/6079>

aquaculture and contributes to over 80% of impacts in ozone depletion, global warming potential, acidification, and ecotoxicity'.<sup>5</sup>

19. While the Institute supports the intent behind NZKS commissioning an LCA it is concerned there is a risk of "green washing" if such reports are not made public. The Institute submits the LCA ought to be, at the very least, available to the Commissioners to assess (if need be, subject to appropriate restrictions to protect commercially sensitive information it seems likely to contain).
20. As matters stand, there appears to be no basis on which the Commissioners could make any robust assessment of the emissions associated with NZKS' proposal.

### **Climate Change**

21. In addition to the project's potential impact on climate change, addressed above, the Institute is concerned about the projects vulnerability to climate change. New Zealand is in a climate emergency and climate change presents significant risk to New Zealand's fisheries and aquaculture operations. Physical risks include: rising sea levels, more frequent and severe storms, rising water temperatures, and more.
22. Yet, none of NZKS' evidence on risk management (Mr Bermingham) or engineering/structures (Mr Tear and Mr Soreide) seems to have explicitly accounted for risks associated with climate change.
23. Marlborough District Council and Envirolink commissioned NIWA to undertake a review of climate change projections and impacts for the Marlborough region. The report, published in March 2021, 'describes changes which are likely to occur over the 21st century to the climate of the Marlborough region'.<sup>6</sup> The scenarios used to develop details specific for Marlborough within this paper were based off scenarios for New Zealand generated by NIWA from downscaling of global climate model simulations.
24. NZKS could have used this resource to inform how the proposal could be impacted by physical climate-related risks.
25. Alongside many key findings that would have material impact on the operations of NZKS, the NIWA report finds that 'in aquaculture, heatwaves can lead to reduced growth and yields, increased mortality, and an

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<sup>5</sup> Sherry, J.; Koester, J. (2020). *Life Cycle Assessment of Aquaculture Stewardship Council Certified Atlantic Salmon (Salmo salar)*. See Abstract. Retrieved 13 October 2021 from <https://www.mdpi.com/2071-1050/12/15/6079>

<sup>6</sup> National Institute of Water and Atmospheric Research (NIWA) Taihoro Nukurangi. (2021). Providing climate change advice for New Zealand. Retrieved 13 October 2021 from <https://niwa.co.nz/climate/research-projects/providing-climate-change-advice-to-new-zealands-regions>

associated loss in revenue' (p. 11). Also of significance, 'increased water temperature may increase the abundance of algae and algal blooms and cause heat stress for aquatic species' (p. 133).

### **Eutrophication**

26. The McGuinness Institute is not satisfied that eutrophication effects have been sufficiently assessed to enable a decision to be made with confidence about the potential eutrophication effects of the proposal.

### **Effects on Marine Mammals**

27. The McGuinness Institute relies on the evidence of Professor Slooten in relation to potential effects on marine mammals.
28. In particular, Professor Slooten considers more data could have, and should have, been obtained concerning marine mammal presence and abundance in the area. The Institute notes that NZKS had underwater acoustic assessment work undertaken at the site as long ago as August and September 2018.<sup>7</sup> The intervening 3 years would have provided a good opportunity for actively surveying marine mammal activity — but NZKS did not do this.
29. Further, Ms Clement's initial marine mammal assessment was completed in July 2019, and identified the uncertainties arising due to lack of survey data. Since then two years have gone by, in which NZKS has obtained no further survey work.
30. It is therefore not the case that the data is, as Ms Munro puts it, "unavailable"; but that NZKS has not made the requisite attempt to obtain the data. Knowing since July 2019 (at least) that there was a lack of data, and the uncertainty this created for assessing effects on marine mammals, NZKS has elected to take no steps to obtain further data through survey work.
31. Some of the relevant species are endemic and endangered, and in those cases death or injury of even a small number of individuals would, as Professor Slooten puts it, incur a high conservation cost.
32. NZCPS policies 11(a) and 3 are both relevant to this assessment. On Professor Slooten's analysis there is simply a lack of cogent evidence on which to base a conclusion that effects on threatened/at risk species will be avoided, as is absolutely required under Policy 11(a).

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<sup>7</sup> Evidence of Deanna Clement at [40](e).

33. Some comparisons may be drawn between this and other evidence relating to the application of the NZCPS.
34. For example, DOC's position is that concerns relating to effects on marine mammals have been addressed by proposed conditions and management plans; yet Ms Yozin's evidence is that management plans
  - (a) can be useful when the likely effects associated with an activity are known (at [49]); and
  - (b) are not effective where there is significant uncertainty around the potential effects, particularly where those effects may be permanent or long-term [50].
35. The Institute submits the latter is a more apt description of the present situation as regards marine mammals.
36. Likewise, In relation to seabirds and biogenic habitats the s42A assessment by Council advisors (e.g., Mr Johnston at [80],[81]), endorsed by Ms Yozin's planning assessment for DOC (at [58]), is that the effects are uncertain but potentially significantly adverse, and therefore Policy 3 (precautionary approach) is also relevant. the Institute submits the same is true for potential effects on threatened/at risk marine mammals.
37. The significance of the "avoidance" requirement in Policies 11 (a) and (b) is commented on by Ms Yozin: her understanding of Ms Munro's assessment is that the *presence* of habitat meeting the Policy 11 (a) criteria has not been ruled out, and nor has the *level of potential effects* been confidently predicted. In those circumstances Ms Yozin is not confident the conditions to manage/mitigate effects are appropriate. On the basis of Professor Slooten's evidence, very similar conclusions apply to marine mammals: the *presence* of species meeting Policy 11 (a) criteria has not been ruled out (in fact there is an evidential basis to conclude that it is at the very least a possibility), and consequently the level of potential effects not only has not been confidently predicted, but cannot be confidently predicted.
38. Ms Yozin ultimately concludes, in relation to effects on biogenic habitat, "I am not confident that 'avoidance' is possible, when there is a limited understanding of what is being affected and its sensitivity to any particular effect." Based on Professor Slooten's evidence, the very same conclusion should be reached in relation to effects on threatened/at risk marine mammals to which NZCPS Policy 11 (a) applies: there is a limited understanding of their actual presence (though clear evidence that their presence is a possibility) and their sensitivity to the proposed activity. In such

circumstances, the Institute submits the application is inconsistent with Policy 11 in its present form.

39. Furthermore, a precautionary approach has not been applied, as required by Policy 3 of the NZCPS. Ms Munro agrees a precautionary approach is required, and understands there is limited data on some of the relevant values, and the potential effects the project may have on those values (at [4.32(b)]). However, she concludes the approach is precautionary, in part because of the extent of the science that has been commissioned. The Institute disagrees: as outlined above, NZKS has neglected to seek the data (which according to Professor Slooten could have been obtained) that would have resolved the uncertainty.
40. The Institute considers the proposal remains inappropriate for a grant of consent given these issues.

**M J Slyfield**  
Counsel for McGuinness Institute  
14 October 2021