

Kenepuru & Central Sounds



Kenepuru & Central Sounds Residents Association Inc.

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16 December 2019

Dear Sir/Madam

Kenepuru and Central Sounds Residents' Association - New Zealand King Salmon Co. Limited – Resource Consent Application U190438 – North of Cape Lambert

I write in my capacity as President of the Association.

Introduction

1. The Association was incorporated in 1991 and currently has over 270, mainly household, members whose residents live full time or part time in the Kenepuru or Central Pelorus Sounds. The Association's objects include, among other things, to coordinate dealings with central and local government on matters of interest to members.
2. The Association is active on a wide variety of issues. These range from: attempting to maintain the security and reliability of the rather stressed local roading network; advocating with Council for the installation and/or maintenance of essential public services; lobbying central government in support of retaining the local school bus service and advocating (with some success) on conservation and environment matters concerning adverse impacts on our much valued marine space of the Sounds. For more detail see our web site (www.kcsra.org.nz).

Background

3. **Board of Inquiry:** In 2012, New Zealand King Salmon Company Limited and its various subsidiaries (NZKS) sought to acquire space in the Sounds via a Board of inquiry process (BOI) for some nine new fish farms - supposedly in carefully selected high flow cool sites- most of these in the Pelorus Sound area. Once up to speed the Association (and many other community groups) quickly realised the significant adverse impacts of these proposals on the public space making up the iconic Sounds marine environment. After

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due process – involving ground breaking litigation at the Supreme Court - NZKS was granted three large high flow sites. Two of these BOI sites were in the Pelorus.

4. NZKS, significantly assisted by the Ministry of Primary Industries (**MPI**), almost immediately sought to make up the shortfall of six sites by a new “relocation proposal”. This proposal sought six new farm sites but carefully avoided any real scrutiny via a Board of Inquiry or Environment Court process. That process has yet to play out. In any event the applicant makes no attempt to address how this and its other expansionary ambitions in the Sounds will interact (or not) with this application if successful. This is not acceptable.
5. **Impact of rising Sea Temperatures:** From the onset it quickly became apparent to the Association that salmon farming as practiced by NZKS in the Pelorus faced an intractable physical problem. Too often and for too long water temperatures in the Pelorus equal or exceed the 17 degrees threshold at which farmed King (Chinook) salmon become stressed and start to die in unacceptably large numbers.
6. Sadly for NZKS (and its fish) their gamble on water temperatures behaving does not appear to be paying off. For a recent NZKS farm extension consent application hearing (November 2018) involving one of the BOI high flow farms (**Waitata**), the Association, in the absence of farm specific mortality data being available, calculated mortality in the 2018/2019 monitoring year as over 40% by biomass! This is not sustainable environmental management, nor is it acceptable for animal health, disease risk, Biosecurity risk/management and other issues.
7. **Sea Temperatures at the Site:** Part of the NZKS story with this application is that this site will likely avoid the sea temperature issue by being located in deeper open waters.¹As far as we can ascertain, the NZKS fairly scanty actual sea temperature data from site monitoring is incomplete and seems to omit the likely warmer months. So this premise appears to be very debatable on the evidence supplied. Further, NIWA has publically confirmed seas are warming around New Zealand at a fast rate.² We also understand that the Tasman Sea is warming exceptionally rapidly and supplying warm sea currents in New Zealand’s direction. Accordingly, we see the NZKS site as more likely to be predominately exposed to warm Tasman Sea currents for long periods. We cover the importance of sea temperatures in the context of disease later in our submission.
8. It is likely, we submit, NZKS has, from a sea temperature viewpoint, once again picked the wrong site.
9. It is extraordinary to the Association that in less than a year NZKS moved from talking of a monitoring time frame of up to ten years to deciding the time and area was ripe for this application. After only a year of sea based monitoring the applicant seems supremely confident the areas undoubted high environmental values can be suitably discounted in pursuit of its economic aspirations.
10. Hopefully this rapid change of corporate mindset just reflects aggressive corporate optimism rather than underlying corporate desperation.

¹ See page 5 of the NZKS application.

² Scientists confirm warming seas around New Zealand – NIWA – Dr Philip Sutton
<https://niwa.co.nz/coasts-and-oceans/making-waves/making-waves-april-2019/youre-not-imagining-it-our-seas-really-are-warming>

11. **A Trade off:** Some have expressed the view that if the likes of this so called “offshore” application is the price to pay for seeing NZKS exit its unsustainable Pelorus Sound sites then that might not be such a bad trade off. NZKS has made **no such** commitment. Rather it has recently commenced a process with MPI to try and secure a large mid Waitata reach site – an area within the Pelorus Sound that even the Salmon Advisory Board did not recommend to the last government.
12. **Location, Location:** We also noted in our 8 October 2018 submission¹ concerning the original monitoring application for this site, that from a conceptual viewpoint it was good to see NZKS taking steps to investigate moving out of the Sounds. Equally we made it clear that the Association would vastly prefer NZKS was looking much further south instead of apparently so close inshore to the Sounds and in such a sensitive and high value, from an environmental perspective, area.
13. In other words, we had serious concerns about the suitability of this site in terms of significant adverse environmental impacts. The Association formally reserved its position as to any future farming application accordingly.
14. **Marlborough Salmon Working Group:** In this context we also note the NZKS application makes much of the report from the Marlborough Salmon Work Group. We had representatives at that MPI convened work group and they found it a grueling process. Community representatives wrote to MPI on several occasions (and at least once to the then Minister) raising concerns at deficiencies in the process and that it was neither open or fair. Indeed in our paper of 13 October 2016 we proposed a different set of recommendations to that pushed forward by MPI.²
15. Accordingly we have real difficulty with the inferences NZKS has drawn from that compromised exercise. We know that if NZKS had suggested at that time that its view as to what was an offshore farm was in fact a site near shore and in an environmentally important and sensitive area then we would have pointed out very quickly (as we did in our submission of September 2018) that at best this was a near shore farm with some 60% of the area within the Marlborough Harbour line. Hardly offshore in the usual sense of what is offshore - beyond the 12 NM zone.
16. **Lessons from the recent Waitata Farm extension application:** The recent NZKS Waitata farm extension application referred to in paragraph 6 above has been most useful in shining a spotlight on the many trials and tribulations NZKS is clearly struggling with in an existing, but relatively sheltered, high flow site. As with the Waitata application this current application highlights serious information shortfalls and an inadequate description of the adverse effects arising from the proposed activity. The Association submits that this means the applicant is unlikely to satisfy the requirements of Section 88(2) of the RMA. We also note Policy Three of the New Zealand Coastal Policy Statement (**NZCPS**) as to when the precautionary approach should be adopted and submit this application is such a situation.
17. **Management Framework:** It is clear NZKS has also been giving some thought as to revisiting the monitoring and other aspects of the BOI imposed consent structure. In this regard we note that it appears NZKS wishes to drop the carefully relatively independently

¹ See KCSRA Submission - Resource Consent U180499 - New Zealand King Salmon Co. Limited. Go to www.kcsra.org.nz, click on the tab labeled Public documents and then click on the folder labeled “New Salmon Farms”.

² See www.kcsra.org.nz, click on the tab labeled “Public documents”, click on the folder labeled “New Salmon Farms”.

developed “Best Practice Management Guidelines for Salmon Farming “ for this site. The justification NZKS argues both in its application and in public “ information“ releases is that the Best Practice Guidelines are not appropriate for high flow sites like this one. This is **nonsense** – the Best Practice guidelines have been developed with high flow sites squarely in mind.

18. Too conveniently, NZKS seems to be envisaging that they be replaced with more “*tailor made for the conditions*” series of management plans. Unfortunately as far as we can ascertain there is no real detail in the application as to what these management plans might look like. In other words, like a number of important aspects of this proposal, they are still works in process. We find this approach of “*trust us; we know what we are doing and will sort matters like this, once we have a consent, as we go along*”, completely unacceptable.

Role of Council

19. The clear aspiration of NZKS is that this new farm model will be rolled out in numerous locations along the South Island East Coast. Further, this is the first very large-scale finfish development into much more testing waters and currents.
20. Accordingly, we would have thought the Council would have recognized the application’s national importance and would have been keen to have this large and complex matter “called in” and heard before an Environment Court Judge and supporting panel. This would have freed up the Council to take a more involved stance. However, it is clear from MDC correspondence with the Environmental Protection Agency (**EPA**) that the Council is confident it has the resources, experience and funding (with funding assistance from the applicant) to process this large and complex matter.
21. Be that as it may, this leaves concerned but under resourced community groups with little or no access to legal or outside expert assistance. Accordingly, our role is very much one of pointing to obvious “gaps/deficiencies” in the applicant’s application and hoping that Council will, as matters unfold, cover the same.
22. In this regard we are comforted that the Council has commissioned 11 external experts to peer review the application. We have concerns at that narrow relatively constrained focus but “it is what it is”. The Council is also confident a panel of “highly competent” commissioners can be pulled together. Then there is the important safeguard of the Council reporting via section 42 A of the RMA on the information supplied. In the unfortunate Waitata application we were pleased to find that the Council’s section 42A report to be fairly frank and hard hitting. Given the similar information gaps and uncertainties inherent in this application we await the Council section 42A report for this application with some anticipation.

The Application – Level of discharges sought

23. The applicant seeks a salmon fish farm site of 1792 hectares partially within Marlborough Harbor Limit line (about 60%) and approximately 6km north of Cape Lambert. Stage one is for a maximum feed discharge of 20,000 tonnes of feed or roughly 10,000 tonnes of production (more than double NZKS current production).

24. As we understand it, within Stage one a “pilot” production area of some eight surface cages utilizing 4000 tonnes of feed discharge is first envisaged. We note the relative scale of this pilot representing a 25% increase in salmon production for NZKS over current production. Not small. The applicant is silent as to how and when the pilot moves to the full Stage One (20,000 tonnes). However, the applicant’s suggested consent conditions envisage that after three years of monitoring it will be entitled to lift its feed discharge limit by another 20,000 tonnes on a non-notified basis and so on. A very disturbing factor for the Association is that there seems little assessment by the applicant of the adverse effects from ramping up discharges in the manner sought. This stifles more informed review, discussion and debate.
25. As far as we can ascertain there is no upper limit on the amount of feed discharge although the application suggests that up to 80,000 tonnes is envisaged. The applicant has proved equivocal as to its envisaged upper limit and needs to be pinned down by Council. The applicant wishes to retain the ability to shift production areas within the site as it sees fit, hence the relatively large area sought. It is unclear if this would require an “uplift” of the production area cages and associated anchoring systems (and resultant risk and benthic disturbance) or not.
26. The Association submits that, if the application is to proceed, the staged approach currently envisaged by the NZKS suggested consent conditions be revised so that the so-called “Pilot” becomes Stage One. If that level of feed discharge is achieved in fact and pre set-monitoring and other performance indicators suggests all is well the applicant must apply, on a notified basis, to move to the next stage. This will better protect the environment (and indeed the applicant) from the likely significant adverse consequences of excessive ambition/capitalization if things do not go to plan.
27. Some thought needs to be given to the feed discharge limit for a revised Stage Two but at this point we suggest a more modest increase (but still a very significant uplift) to a total of 10,000 tonnes of feed discharge.
28. In this regard we also strongly submit, based on the Waitata experience, that where the applicant fails to meet consent conditions as to feed discharge levels **in fact** but still wishes to move to the next stage that any “variation application ” to achieve this be on a notified basis. The public needs to be confident that NZKS cannot, as it has done with the Waitata farm, carefully and slowly behind closed doors unpick the agreed consent conditions.
29. As an overview high-level comment, the control as to the rolling out of the discharge stages seems to rest too firmly with NZKS and not enough with the regulator. We query the legal efficacy of this approach.

The Site – Outstanding Natural Character and Landscape Values

30. The notified Marlborough Environment Plan quite rightly labels this area as of outstanding natural character. The area “earns” its outstanding natural character designation for many reasons. For example, there are at least three areas labeled as ecologically significant marine areas in close proximity to the site and its likely depositional footprint. The closest at about 1.5 km distance is the renowned McManaway Rock area. Further, the sites’ benthic area clearly contains vibrant biological communities that appear to have long gone from the Inner Sounds. It is an area that is wild and scenic.

It is little modified. It seems more likely than not that these communities and values will be significantly adversely impacted by the proposed operation.

31. We assume other submitters will cover off in more detail issues around the impact of the proposal on marine mammals and sea birds to say nothing of wild fish assemblages. At this stage we maintain a watching, albeit concerned, stance.
32. In summary, as we see it the likes of Policy 11 (protection of indigenous biodiversity) and policy 13 (avoid adverse effects of activities on natural character) of the New Zealand Coastal Policy Statement (NZCPS) presents the applicant with real challenges. We submit the applicant has not adequately addressed the same.
33. From a review of the relevant planning documentation, as we understand it, the site sits in an area of outstanding landscape and seascape values. Again, this presents the applicant with real challenges under Policy 15 of the NZCPS. Again, we submit they have not been adequately addressed by the applicant
34. The site is also close to the entrance of the Pelorus Sound and Queen Charlotte Sounds (Te Horiere/Totaranui). It straddles or is close to significant navigation routes for all manner of sea going vessels and recreational craft. The site is a very high current site with the possibility of extreme wave action.
35. In short the site has many high value attributes from an environmental perspective, which suggest this is **NOT** an ideal site in terms of mitigating the likely significant adverse environmental impacts from the proposed activity.

Structural Integrity and Navigation Issues.

36. Given our learning from participating in the recent Waitata extension application we submit the applicant has a real mountain to climb here. It is clear that the applicant has struggled with the more benign version of a high flow relatively lower energy site at its Waitata farm. Here it failed to satisfy the harbormaster that the existing Waitata structure (let alone the proposed extension) was safe and secure¹.
37. As far as we can ascertain, the applicant has not settled on a specific design for its production cages or associated mooring and other infrastructure in this application. Rather the design appears to be conceptual in nature and thus unspecified. We understand the applicant is now considering a one stop Norwegian company design and install. That is encouraging. However no details are given in the application. As a start we feel it is reasonable to be reassured prior to any grant of the application that the firm to be engaged to design, build and install the structures has real experience in high flow, high energy sites and is not learning on the job. We await the applicants hearing evidence with interest.
38. In this context the Association is also very uneasy that the applicant seems to be focusing on the more benign aspects of the site. Their focus seems to be on the 66% of the time the waves will be less than two meters in height rather than the other 34% of the time! In this regard the Association notes we were less than impressed to find that the applicants Appendix R – encouragingly labeled “Engineering detail” - seems to consist of only two very skimpy not that relevant reports from an engineering firm – OCEL. One report

¹ MDC report pursuant to Section 42A of the RMA 1991 re U190357 and U140294 dated 4 November 2019. See Appendix 11 of that report for the Harbourmasters report.

(barely three pages) on the probable path to certification as to structure and the other (two pages) on a small aspect of the surface-mooring plan.

39. However, to be fair, in one report OCEL does throw some light on what might be happening in that other 34% of the time. OCL refers to significant wave height as being 5.5m with a maximum wave height predicted as less than 11 meters! This flatly **contradicts** the applicants more rosy view of two meters being the significant wave height. Not reassuring.
40. Then there is the apparent lack in the application re addressing issues arising from quite strong current flows that would bring their own stresses and strains on the structures.
41. At the very least we submit the applicant needs to be pinned down as to design and construction details prior to the hearing so an independent, suitably qualified and experienced firm of engineers can review, report and sign off over the design and likely stability of the production and associated structures if placed on site. We are shocked to think the applicant appears to be of the view that this is not necessary.
42. We submit that an independent assessment should also be made of the worst-case scenario and what that might mean in terms of any threat to sea goers and the environment generally. We **recommend** and submit that the applicant be required to post a suitably large main stream bank guarantee or similar to ensure that local ratepayers will not be left with the clean up bill should things go awry. New Zealand's recent painful learning experience when a company operating a mid sized offshore oil and gas installation in nearby Taranaki waters suffered an insolvency event should not be lost in the context of this application.
43. In passing, we also note that as far as we can ascertain the applicant has provided very little information about the amount of vessel traffic its own operations will generate.
44. Finally under this section, we note that in the Waitata hearing it emerged that the local harbormaster (**HM**) had been involved in discussions with NZKS for well over two years attempting to progress various matters of concern around the safety and integrity of the structure - albeit with little resolution. When gently asked by the hearing commissioner as to how long this state of affairs might continue, the answer included the HM noting he operated under a different set of legislation to the RMA.
45. The Association has reflected on that answer. Our strong concern is that if that response is code for the HM not having the necessary tool box to act swiftly and decisively should the likes of the applicant drag their feet in responding to oft repeated concerns/questions then, in the context of this application where the stakes are exponentially higher than at Waitata, any such legislative deficiency needs to be clarified by Council and, as appropriate, steps taken to rectify as soon as possible.

Benthic Issues- Modeling Methodologies

46. It seems reasonably clear to the Association, after discussion with a local expert, that there are significant ecosystems, habitats and species within and adjacent to the proposed very large site. Some of these may be rare or at risk. For example, within the Sounds horse mussel beds have largely disappeared due to anthropogenic activity. It seems there are significant communities of horse mussels in and around the site. In passing we note

NZKS attempts to suggest that as horse mussels are part of the QMS system they cannot be rare with scepticism.

47. In any event it is unclear from the application as to the likely scale and importance of adverse impacts on these communities from the proposed activity. In particular the discharge of seriously large amounts of nitrogen rich waste both as solid form eg fish feces or soluble form such as fish urine. This truth makes assessing the operations impact around the requirements of policy 11 of the NZCSP and the relevant local planning instruments for the protection of indigenous biodiversity very difficult for the applicant. We submit there is much uncertainty around these issues, which needs to be properly addressed or failing that the application declined..
48. From experience we know that modeling methodologies will play an important role in estimating the likely extent of the footprint of waste from the farm and its intensity/impact in relation to the likes of nearby ecologically sensitive sites, the many and varied important benthic communities clearly present in and around the site and so on.
49. Whilst we accept assessing modeling methodologies is an area that requires detailed input from experienced and competent experts it is well to reflect that even experts find predicting the unknown hard with a high failure rate.
50. At Waitata we discovered that the predictive modeling methodologies used were significantly under predicting what was happening in fact. In the case of Waitata the latest actual depositional footprint exceeded the predictions by nearly 60% with other indicators creeping close to borderline or over. And that was in a historically low discharge year. Here the applicant appears to have advanced a fairly simplified dilution modeling approach without regard to many factors such as wave effects. Accordingly we submit that it is more likely than not that here the predictive modeling will be even more inaccurate (read optimistic). This is a big information gap creating significant and unacceptable uncertainty. We also note our comments at paragraph 53 below.
51. The applicant does concede that there is the possibility of NZKS farm waste flowing back in to the nearby entrances of the Pelorus and Queen Charlotte Sounds. This is extremely concerning. As we see it, the potential adverse effects from such nutrient enrichment on an already beleaguered marine environment are unacceptable and submit accordingly.
52. We have little faith in the NZKS assurance that this “back flow” will be small – in the range of 1 to 3%. As an aside, the concept of a sinking lid adaptive management approach is, in our experience, fiercely resisted – in other words getting a consent holder to reduce their footprint by scaling back their operations is not an easy task.
53. **What Location is being Modeled?:** We also have some technical issues with the confusing presentation of the size of the initial depositional footprint by NZKS. In Appendix A - the location diagram, the 16 circular farm cages are shown as two distinct groups at a three km distance, each in a 2 x 4 cage configuration. The long axis of each farm is in the direction of the current or northwest to southeast. The applied for area is shown as a parallelogram.
54. Compare this layout with Fig 14 of Appendix D – the Benthic report, where **things change** - the circular farm cages are shown as two groups near each other (now only about one km apart) albeit still in a 2 x 4 cage configuration. However, the long axis of

each group is at right angles to the current. Most unhelpfully the actual boundary of the applied for area is not shown rather a shaded area of approx. 7 x 9 km is created, giving we submit the misleading impression that the footprint is within the proposed area. In summary based on this very confusing presentation (and at worst plain wrong) as far as we can ascertain **no modeling** has been done for the “official” farm configuration shown in Appendix A.

55. We submit that this is a matter that needs to be taken up by Council with NZKS prior to the hearing and sorted out one way or the other. Once this is clarified then other matters that we have serious concerns with around the issue of the size and extent of the depositional footprint can be canvassed. In the interim we submit that this apparent “confusion” is unacceptable and grounds for the application **to be declined**.

Disease

56. We find Dr Diggle’s report (Appendix L) on this topic most interesting. In essence Dr Diggle seems to agree that the existing NZKS farm sites are high disease risks but this can be somehow mitigated by expanding production into a new suitably remote area that if (we submit when) that too suffers disease issues then hopefully the degree of cross contamination will be mitigated. Dr Diggle’s assessment lacks, of course, an analysis of hydrodynamics to support his assertions. We look forward to NZKS producing evidence on this aspect at the hearing. In any event, we submit one of the papers Dr Diggle cites shows the importance of the adverse effect of sea temperatures on disease risk, which underlines the inherent unsuitability of this site (also see our earlier discussion on sea temperatures in this submission).
57. Dr Diggle refers to a paper from a CL Brosnahan et al¹, which we found most useful as it is an update of the 2015 Marlborough Sounds MPI Disease /mortality investigation. In essence: temperature is one of the most important environmental factors driving the health of farmed fish. Temperature can affect the ability of a pathogen to grow and proliferate as well as affecting the immune response of fish. Salmon stressed by high temperatures will be less able to cope with other stressors including pathogens. Temperatures of 12–13°C minimize the risk of disease in both juvenile and adult Chinook salmon, 14–15°C is associated with an elevated risk of disease, and temperatures of 18–20°C are associated with a high risk of disease². In the Brosnahan study of NZ salmon pathogens it was observed that NZ-RLO grow best at 18°C. It seems NZ-RLO can infect fish at colder temperatures, but may only cause disease and mortality in warmer seawater temperatures.
58. Clearly we have a number of concerns with Dr Diggle’s analysis and “rosy” outlook and look forward to drilling into and advancing this discussion at the hearing.

¹ Brosnahan CL, Munday JS, Ha HJ, Jones JB (2018). New Zealand rickettsia-like organism (NZ-RLO) and *Tenacibaculum maritimum*: Distribution and phylogeny in farmed Chinook salmon (*Oncorhynchus tshawytscha*). *Journal of Fish Diseases* - <https://onlinelibrary.wiley.com/doi/full/10.1111/jfd.12909>

² K Carter - California Regional Water Quality Control Board, 2005. [The effects of temperature on steelhead trout, coho salmon, and Chinook salmon biology and function by life stage.](#)

Recreational Fishing

59. We note that the NZKS evidence showing high levels of recreational charter boat use of the area highlights the importance of this area for recreational users. We are concerned that the significant adverse effects from this proposal on such well established use has not been fairly dealt with by NZKS.

Conclusion

60. Our review of the application, despite being relatively brief given our limited resources, suggests it is significantly deficient in many areas. From an RMA perspective it is **not** a compelling argument that the economic benefits hoped for by the applicant outweigh the possible and obvious significant adverse environmental values from the proposed activity.

61. We have not carried out an intensive legal review. But as we see it the applicant faces real challenges in showing that the application is not contrary to the likes of part two of the RMA, the policies of the NZCPS (eg policies 3 (precautionary approach), policy 11 (protection of indigenous biodiversity), policy 13 (preservation of natural character), policy 15 (protection of natural features and land/seascapes), and policy 23 (discharge of contaminants)).

62. Then there are the relevant chapters of the proposed Marlborough Environment Plan (chapter 6 (Natural Character) 7, (Landscape) and 8 (Indigenous biodiversity)) and of course the relevant chapters of the current Marlborough Sounds Resource Management Plan.

63. Accordingly, bearing in mind the many and varied significant information gaps and uncertainty inherent in this application, we submit that it should be **declined**.

64. The Association wishes to be heard in relation to this submission and intends to be represented at any hearing.



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